Monday Poster Session
ASCB Learning Center, Exhibit Halls A-C

Poster Set Up
Sunday 6:00–6:30 pm

Posters Displayed
Sunday 6:30 pm–8:00 pm
Monday 7:30 am–5:30 pm

Author Presentation
Odd Boards 12:00–1:30 pm
Even Boards 1:30–3:00 pm

Poster Tear Down
Monday 5:30–6:00 pm

Board Numbers	Session Titles
B200-B225	Science Education 2
B227-B253	New Technologies for Cell Biology 2
B254-B263	New Techniques in Genomics
B264-B285	Actin and Actin-Associated Proteins 2
B286-B299	Higher-Order Actin-Based Structures
B300-B314	Actin-Membrane Interactions
B316-B340	Myosins
B342-B366	Microtubule Nucleation and Organization
B367-B389	Cilium Structure, Composition, and Motility
B400-B418	Spindle Assembly 2
B419-B439	G1, G1-S, S, and G2-M Phase Regulation
B440-B454	Kinetochore Assembly and Functions 2
B455-B467	Centrosome Assembly and Functions 2
B468-B489; B500-B508	Cancer Therapy 2
B509-B530	Oncogenes and Tumor Suppressors 2
B531-B548	Migration and Metastasis
B549-B568	Tumor Microenvironment 2
B900-B915	Gene Structure and Transcription
B916-B932	Post-Transcription Gene Regulation
B934-B948	The Nuclear Envelope and Nuclear Pore Complexes 2
B949-B967	Nuclear Bodies and Dynamics
B969-B986; B1000-B1007	Endocytic Trafficking 2
B1008-B1024	Endosomes, Lysosomes, and Lysosome-Related Organelles 1
B1025-B1039	Post-Golgi Trafficking
B1041-B1055	Neuronal Protein and Organelle Trafficking
B1056-B1066	Neuronal Degeneration and Regeneration
B1067-B1089	Mitochondria, Chloroplasts, and Peroxisomes 2
B1100-B1116	Lipids and Membrane Microdomains 2
B1118-B1141	Post-Translational Modifications in Signaling
B1142-B1161	Kinases and Phosphatases 1
B1162-B1165; B1200-B1208	Signaling Receptors (RTKs and GPCRs) 1
B1210-B1231	Signaling Networks Governing Cell Migration
B1232-B1247	Cytoskeleton-Membrane Interactions
B1249-B1270	Cadherins and Cell-Cell Interactions
B1271-B1277	Glycoproteins, Invadosomes, and Remodeling
B1278-B1286; B1300-B1307	Structure and Function of the Extracellular Matrix
B1309-B1325	Chaperones, Protein Folding, and Quality Control 2
B1326-B1337	Ubiquitin and Proteasome Function
B1339-B1349	Computational Cell Biology and Bioinformatics
B1351-B1370	Embryogenesis 1
B1400-B1427	Signaling in Tissue Development and Morphogenesis
B1429-B1450	Cell Biology of Protists and Viruses
B1451-B1470	Host-Pathogen/Host-Commensal Interactions 1
B1472-B1485	Cell Signaling in Normal and Diseased Organs
B1486-B1492	Digestive and Excretory Organs

2016 ASCB Meeting Poster Presentation Guidelines

- Presenters should ensure their posters are placed on the appropriate poster board for the duration of their assigned poster session and viewing. Please use the number starting with "B" for your poster board.
- Poster presenters should stand at their poster locations during the appropriate 90-minute time slot—odd board numbers, 12:00-1:30 pm or even board numbers, 1:30-3:00 pm (specific time slot is included in the original poster notification emails sent on November 2). If presenters have to leave early, they should post a note on their boards with contact information or stating when they will be available to answer attendee questions.
- IMPORTANT! Poster presenters are solely responsible for placing and removing their poster according to the schedule provided above. If you are unable to set up your poster the evening before your session, please do so the morning of your presentation.
- Poster presenters should not leave any items unattended at their poster board, including poster tubes, meeting bags, *Programs*, *Poster Guides*, personal items, etc. The ASCB is not responsible for any items left in the ASCB Learning Center.
- Cameras/Photography: Cameras and all other recording devices are strictly prohibited in all session rooms, in the ASCB Learning Center, and in all poster and oral presentation sessions.

Science Education 2

B200/P828 **Preparing for the 21st Century Biomedical Research Job Market: Using Census Data to Inform Policy and Career Decision-Making.** M.L. Heggeness[1], K.T. Gunsalus[2,3], J. Pacas[1], G.S. McDowell[2,4]; [1]U.S Census Bureau, Washington, DC, [2]Future of Research, Abington, MA, [3]Department of Developmental, Molecular and Chemical Biology, Tufts University School of Medicine, Boston, MA, [4]Manylabs, San Francisco, CA

B201/P829 **Targeted career exploration assignments increased confidence level in next-steps in career path for upper-level Biology majors.** L.P. Hammonds-Odie[1]; [1]School of Science and Technology, Georgia Gwinnett College, Lawrenceville, GA

B202/P830 **The great ideas of biology: Exploration through experimentation in an undergraduate lab course.** L. Finch[1,2], C.V. Horii[3], R. Phillips[4], J.S. Bois[4]; [1]Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, [2]ATLAS Institute, University of Colorado, Boulder, CO, [3]Center for Teaching, Learning, and Outreach, California Institute of Technology, Pasadena, CA, [4]Division of Biology and Biological Engineering, California Institute of Technology, Pasadena, CA

B203/P831 **Genome Solver: Evidence for Student Learning in Bioinformatics.** V. Mathur[1], G. Arora[2], A. Rosenwald[1]; [1]Biology, Georgetown University, Washington, DC, [2]Science, Technology, and Mathematics, Gallaudet University, Washington, DC

B204/P832 **Developing course-based undergraduate research experiences (CUREs) through long-term mentorship: The ASCB Mentoring in Active Learning and Teaching (MALT) program.** M.J. Wolyniak[1], A.J. Prunuske[2], M.J. Dobro[3], S.M. Wick[4]; [1]Biology, Hampden-Sydney, Hampden-Sydney, VA, [2]Microbiology and Molecular Genetics, Medical College of Wisconsin, Wausau, WI, [3]Human Biology, Hampshire, Amherst, MA, [4]College of Biological Sciences, University of Minnesota, St. Paul, MN

B205/P833 **Evaluation of pedagogical innovations: a survey of educational research literature in cell biology.** O.M. Kielbasa[1]; [1]Biology Program, Department of Science and Mathematics, Alvernia University, Reading, PA

B206/P834 **Developing a curriculum-wide "Pipeline" CURE that connects PUIs with R1s.** T. Lee[1], B. Carpenter[1], C. May[2], D.J. Katz[1], K.L. Schmeichel[2]; [1]Cell Biology, Emory University, Atlanta, GA, [2]Biology, Oglethorpe University, Atlanta, GA

B207/P835 **Southern Illinois Bridges to Baccalaureate Program promotes the retention of community college students in 4-year university science programs.** J.R. Lucas[1], K. Renzaglia[1]; [1]Plant Biology, Southern Illinois University, Carbondale, IL

B208/P836 **Urban High School Students' Exposure to Authentic Scientific Research: Production of a Recombinant Construct for Mechanistic Studies of Collagen IV Assembly.** I.A. Ero-Tolliver[1]; [1]Biological Sciences, Hampton University, Hampton, VA

B209/P837 **Assessment of a semester-long course-based undergraduate research experience examining zebrafish regeneration.** A.K. Becker[1], P.S. Sickler[1], E.A. Jimenez[2], S. Walsh[1]; [1]Biology, Rollins College, Winter Park, FL, [2]National Human Genome Research Center, National Institutes of Health, Bethesda, MD

B210/P838 **Evaluating Psychosocial Mechanisms Underlying STEM Persistence in Undergraduates: Evidence of Impact from an Intensive 6-Day Pre-College Engagement Program.** R.S. Pollenz[1], D. Findley-Van Nostrand[1]; [1]Cell Biology and Office for Undergraduate Research, University of South Florida, Tampa, FL

B211/P839 **Early impacts on students in two introductory biology course-based undergraduate research experiences (CUREs) at a comprehensive teaching institution.** K. McDonald[1], A. Martin[1], M.A. Johnson[1], A.J. Rechs[1], T.E. Landerholm[1], C.P. Watters[1]; [1]Biological Sciences, California State University, Sacramento, CA

B212/P840 **Fostering student cognitive engagement in a large-class Biology undergraduate module using a question-generation assignment.** F.M. Yeong[1], C.F. Chin[1], A.L. Tan[2]; [1]Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore, [2]Natural Sciences and Science Education, National Institute of Education, Nanyang Technological University, Singapore, Singapore

B213/P841 **When lab leads lecture: redesigning introductory biology experience at a small undergraduate university to engage students through open-ended, lab-based inquiry.** L.M. Alford[1], R.L. Donnelly[1], C. Baube[1], N. Strong[1], K.L. Schmeichel[1]; [1]Biology, Oglethorpe University, Atlanta, GA

B214/P842 **The Promoting Active Learning and Mentoring (PALM) Research Coordination Network.** S.M. Wick[1,2], M.J. Wolyniak[2,3], M. Peifer[2,4], A.J. Prunuske[2,5]; [1]Biology Teaching Learning, University of Minnesota, Minneapolis, MN, [2]Education Committee, ASCB, Bethesda, MD, [3]Biology, Hampden-Sydney College, Hampden-Sydney, VA, [4]Biology, University of North Carolina, Chapel Hill, NC, [5]Microbiology and Molecular Genetics, Medical College of Wisconsin, Wausau, WI

B215/P843 **Sustaining an active research program through classroom undergraduate research experiences.** L.F. Barton[1]; [1]Biology Department, Austin College, Sherman, TX

B216/P844 **Freshman participation in a course-based research experience increases science identity, science self-efficacy, and science value.** D.C. Tucker[1], J.L. March[1], A.K. Challa[2], G. Jones[3]; [1]Science and Technology Honors Program, University of Alabama at Birmingham, Birmingham, AL, [2]Genetics, Genomics, and Bioinformatics, University of Alabama at Birmingham, Birmingham, AL, [3]Office of Undergraduate Research, University of Alabama at Birmingham, Birmingham, AL

B217/P845 **Assessing the efficacy of active learning as a means of improving critical thinking in STEM education.** M.L. Styers[1], P.A. Van Zandt[1], K.L. Hayden[2]; [1]Department of Biology, Birmingham-Southern College, Birmingham, AL, [2]Department of Chemistry and Physics, Birmingham-Southern College, Birmingham, AL

B218/P846 **MAMS – A cell biology rich bridge program to health professional school.** M.A. Taylor[1,2]; [1]Biomedical Sciences, Pacific Northwest University of Health Sciences, Yakima, WA, [2]Science, Heritage University, Toppenish, WA

B219/P847 **Seeing Scientifically: scaffolding scientific observation in a museum setting.** J. Ma[1], E. Shahar[1], B. Dai[2], G. Mehta[2], K. Eliceiri[2], K.R. Yu[1]; [1]Exploratorium, San Francisco, CA, [2]Laboratory for Optical and Computational Instrumentation, University of Wisconsin, Madison, Madison, WI

B220/P848 **Faculty positions in the life sciences: Improving trainees' awareness of hiring criteria.** J.B. Dorman[1], T.A. Nguyen[1], N. Saul[1], R. McGee[2], A.C. Goldfien[3], L. Clement[1]; [1]Office of Career and Professional Development, University of California, San Francisco, San Francisco, CA, [2]Feinberg School of Medicine, Northwestern University, Chicago, IL, [3]Graduate College of Education, San Francisco State University, San Francisco, CA

B221/P849 **Effects of hierarchical peer mentoring within a biology first-year experience course on freshmen retention.** P.J. Cavnar[1], C. Stanny[2]; [1]Biology, University of West Florida, Pensacola, FL, [2]Center for University Teaching, Learning, and Assessment (CUTLA), University of West Florida, Pensacola, FL

B222/P850 **Incorporating community-engaged learning into a summer undergraduate research program: a full CIRCLE approach to undergraduate training.** A.F. ODonnell[1], S.K. Woodley[1]; [1]Dept. of Biological Sciences, Duquesne University, Pittsburgh, PA

B223/P851 **The PULSE Ambassador Program Effectively Promotes Curricular Reform in Life Science Departments.** C.G. Reiness[1], N.P. Jacob[2], M.I. Kelrick[3]; [1]Biology, Lewis & Clark College, Portland, OR, [2]Biology, Oxford College of Emory University, Oxford, GA, [3]Biology, Truman State University, Kirksville, MO

B224/P852 **Pre-Freshman Summer Immersion Programs to Increase Minority Retention in STEM disciplines: Two Different Strategies.** C. Selassie[1], D. Drew[2], C.M. Cheney[3], D. Graves[4], M. Preest[5]; [1]Chemistry, Pomona College, Claremont, CA, [2]School of Education, Claremont Graduate University, Claremont, CA, [3]Biology, Pomona College, Claremont, CA, [4]President's Office, Claremont McKenna College, Claremont, CA, [5]Keck Science Department, Claremont McKenna, Scripps and Pitzer Colleges, Claremont, CA

B225/P853 **S-STEM Scholarship Program at UNC Pembroke: a COMPASS for Science Majors.** M.S. Santisteban[1], R. Bullard-Dillard[2], J.E. Thomley[3]; [1]Biology, University of North Carolina at Pembroke, Pembroke, NC, [2]Chemistry and Physics, University of North Carolina at Pembroke, Pembroke, NC, [3]Mathematical Sciences, Appalachian State University, Boone, NC

New Technologies for Cell Biology 2

B227/P854 **Targeting telomerase for cell therapy.** S. LI[1]; [1]Cancer and Stem Cell Biology, Duke-NUS Medical School, Singapore, Singapore

B228/P855 **Targeted protein degradation with synthetic E3 ubiquitin ligase complexes.** Y. Kee[1], K. Kim[1], B.J. Hwang[2]; [1]Division of Biomedical Convergence, Kangwon National University, Chuncheon, Korea, South, [2]Department of Molecular Bioscience, Kangwon National University, Chuncheon, Korea, South

B229/P856 **HPLC (High performance liquid chromatography) analysis from the secretory fluids of maxillary sinusitis and maxillary retention cyst.** S. Kim[1], M. Eo[1], Y. Cho[1], Y. Kim[2], S. Lee[3]; [1]Department of Oral and Maxillofacial Surgery, School of Dentistry, Dental Research Institute, Seoul National University, Seoul, Korea, [2]Department of Dental Hygiene, Cheongju University, Cheongju, Korea, [3]Department of Oral Pathology, College of Dentistry, Gangneung-Wonju National University, Gangneung, Korea

B230/P857 **Single molecule pathway monitoring of the Argonaute RISC formation process.** T. Komori[1], R. Murakami[1], M. Moriya[1], K.M. Nishida[1], M.C. Siomi[1], S. Uemura[1]; [1]Grad. School of Science, Univi, of Tokyo, Tokyo, Japan

B231/P858 **Analysis of breast and colon tumors using a novel Milliplex Protein Translation multiplex immunoassay.** J. Hwang[1], M. Schluter[1], D. Pepin[1], Q. Xiao[1]; [1]RD, MilliporeSigma, St. Louise, MO

B232/P859 **Project Discovery – Bringing real science to mainstream gaming creates an enthusiastic and fast resource for scientific research.** D.P. Sullivan[1], M. Wiking[1], L. Åkesson[1], R. Schutten[1], M. Hjelmare[1], E. Lundberg[1]; [1]Proteomics and Nanobiotechnology, Science for Life Laboratory (KTH), Stockholm, Sweden

B233/P860 **Programmed cell fate changes in mammalian cells using CRISPR-based synthetic transcription factors.** M.F. La Russa[1,2], M. Torres[2], Y. Liu[2], Y. Gao[3], L.S. Qi[2]; [1]Biomedical Sciences, University of California, San Francisco, San Francisco, CA, [2]Bioengineering, Stanford University, Stanford, CA, [3]Cancer Biology, Stanford University, Stanford, CA

B234/P861 **Systematic gene tagging to illuminate stem cell organization.** R. Gunawardane[1]; [1]Allen Institute for Cell Science, Seattle, WA

B235/P862 **Use of CRISPR to Engineer Stem Cell Lines For Improved Homogeneous Differentiation.** R. Thompson[1], C. Chan[2]; [1]Biomolecular Sciences, Michigan State University, East Lansing, MI, [2]Chemical Engineering, Michigan State University, East Lansing, MI

B236/P863 **Tagging Endogenous TERT protein through CRISPR-Cas9-mediated Genome Editing Enables Tracking Telomerase in Living Cancer Cells.** L. Xi[1,2], J. Schmidt[1], A. Zaug[1], T. Cech[1], E. Fuchs[2]; [1]Biofrontiers Institute, University of Colorado Boulder, Boulder, CO, [2]Rockefeller University, New York, NY

B237/P864 **Development and Optimization of a High Titer Recombinant Lentivirus Production System.** A.S. Storck[1], J.J. Ludtke[1], N.A. Rossi[1], L.K. Juckem[1]; [1]RD, Mirus Bio LLC, Madison, WI

B238/P865 **Efficient mRNA Delivery in difficult-to-transfect cells with jetMESSENGER™ Transfection Reagent.** V. Moreau-Toussaint[1], T. Benchimol[1], J. Havard[1], G. Guerin-Peyrou[1], F. Premartin[1], M.P. Dumont[1], A.M. Nyamay'Antu[1], G. Freund[1], C. Marion[1], C. Croizier[1], F. Stock[1], P. Erbacher[1]; [1]RD, Polyplus-transfection, Strasbourg, France

B239/P866 **Efficient selection of antibody fragments using phage display and exhaustive yeast two-hybrid screening.** P. Tafelmeyer[1], S. Moutel[2], S. Djander[1,2], V. Collura[1], A. Arrial[1], A. Olichon[3], F. Perez[4], J. Rain[1]; [1]Hybrigenics Services SAS, Paris, France, [2]Translational Research Department, Institut Curie, Paris, France, [3]CRCT, INSERM, Toulouse, France, [4]CNRS UMR144, Institut Curie, Paris, France

B240/P867 **Tuning the stem cell microenvironment: oxygen and pressure are key players in iPSC generation and differentiation.** Z. Pappalardo[1], L. Cassereau[2], B. Adams[2], B. Downey[2], B. Feth[2], J. Lim[2]; [1]Biology, San Francisco State University, San Francisco, CA, [2]RD, Xcell Biosciences, San Francisco, CA

B241/P868 **Phenotypic characterization of CRISPR/Cas9 edited cell lines using High throughput, quantitative fluorescence microscopy.** N.J. Dolman[1], K. Chambers[1], B. Samson[1], M.S. Janes[1]; [1]Biosciences, Thermo Fisher Scientific, Pittsburgh, PA

B242/P869 **Use of blastocysts to determine the effectiveness of different sgRNAs and donor DNAs for genomic editing by CRISPR/Cas9 prior to use in mice.** E. McBeath[1], J. Parker-Thornburg[2], C. Smith[2], J. Abe[1], K. Fujiwara[1]; [1]Cardiology, University of Texas MD Anderson Cancer Center, Houston, TX, [2]Genetics, University of Texas MD Anderson Cancer Center, Houston, TX

B243/P870 **Attempt to develop a CRISPR system for use in Dictyostelium discoideum.** M. Al-hejjaj[1,2], D. Watts[1], E.H. Hettema[1]; [1]Molecular Biology and Biotechnology, The University of Sheffield, Sheffield, United Kingdom, [2]Microbiology, The University of Basrah, Albasrah, Iraq

B244/P871 **Footprint-free gene editing using CRISPR/Cas9 and single-cell cloning of edited human iPS cells.** M. Morell[1], T. Garachtchenko[1], H. Matsumoto[1], M. Haugwitz[1], A. Farmer[1]; [1]Takara Bio USA, Inc., Mountain View, CA

B245/P872 **Machine learning-enabled analytical tool for kinetic drug screening of induced motor neuron survival in ALS patient panels.** T. Cheng[1], G.R. Linares[2], H. Sasaki[1], . Lai[1], W. Donaldson[1], C. Huang[1], J. Ichida[2], S.J. Lee[1]; [1]DRVision Technologies LLC, Bellevue, WA, [2]Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research, University of Southern California, Los Angeles, CA

B246/P873 **Inference of survival states in induced motor neurons of neurological diseases.** H. Sasaki[1], T. Cheng[1], M. Jones[1], Y. Li[2], H. Lai[1], C. Huang[1], J. Ichida[2], S.J. Lee[1]; [1]DRVision Technologies LLC, Bellevue, WA, [2]Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research, University of Southern California, Los Angeles, CA

B247/P874 **In vitro analysis of super-active TALE protein.** K. Ikeda[1], Y. Terahara[1], N. Miyashita[2], Y. Okada[1]; [1]Quantitative Biology Center, RIKEN, Osaka, Japan, [2]Faculty of Biology-oriented Science and Technology, KINDAI University, Wakayama, Japan

B248/P875 **Magnetic-microcontact printing based ECM nano-patterning allows homogeneous controlling of cell growth and behavior.** M. Schneider[1], J. Foncy[2], A. Lagraulet[3], B. Berteloite[3], A. Esteve[2], M. Blatche[4], L. Malaquin[2], C. Vieu[2,5]; [1]Innopsys Inc, Chicago, IL, [2]LAAS, Biosoft-CNRS, Toulouse, France, [3]Innopsys SA, Carbonne, France, [4]LAAS, CNRS, Toulouse, France, [5]LAAS, Université de Toulouse-INSA, Toulouse, France

B249/P876 **The effect of maltose on the long-term storage of laminin-pre-coated vessels for iPS cell cultures.** E. Matsumoto[1], K. Suto[2], H. Hanzawa[1], K. Kobayashi[2], S. Takeda[1]; [1]Research Development Group, Hitachi, Ltd., Hatoyama, Japan, [2]New Business Development Headquarters, Hitachi Chemical Co., Ltd., Tokyo, Japan

B250/P877 **Universal extracellular matrix supports toxicology and drug screening in 2D and 3D cell culture models from iPSC derived cells, primary cells, engineered lines and cancer lines.** J. Clinton[1], P. McWilliams-Koeppen[1], L.M. Panicker[1], D. Yin[1]; [1]ATCC Cell Systems, American Type Culture Collection (ATCC), Gaithersburg, MD

B251/P878 **A novel treatment for the prevention of diet-induced cardiovascular disease and metabolic syndrome.** H. Mirzaei[1]; [1]Gerontology, USC, Los Angeles, CA

B252/P879 **In vitro culture of cells up to 15- and 49-days postmortem in bovine skin stored at 25°C and 4°C, respectively.** M. Singh[1], B. Walcott[1]; [1]Animal Science, Fort Valley State University, Fort Valley, GA

B253/P880 **Characterization of Novel Cell Lines for Studying Age-Related Onset of Huntington's Disease.** C. Hung[1], T. Maiuri[1], V. Mattis[2], R. Truant[1]; [1]Biochemistry, McMaster University, Hamilton, ON, [2]Regenerative Medicine, Cedars Sinai Medical Institute, Los Angeles, CA

New Techniques in Genomics

B254/P881 **CRISPulator: a discrete simulation tool for designing pooled genetic screens.** T. Nagy[1], M. Kampmann[2,3]; [1]Integrative Program in Quantitative Biology, University of California, San Francisco, San Francisco, CA, [2]Institute for Neurodegenerative Diseases, University of California, San Francisco, San Francisco, CA, [3]Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA

B255/P882 **Integration deficient lentivirus is a safe and effective gene delivery system for gene editing.** J. Lin[1], X. Sun[1], L. Min[1], Y. Wang[1]; [1]OriGene Technologies, Inc., Rockville, MD

MONDAY

B256/P883 **Peptide based non-viral delivery of CRISPR-Cas9 for efficient genome engineering in mammalian cells.** G. Divita[1], N. Desai[1]; [1]Aadigen LLC, Pacific Palisades, CA

B257/P884 **Highly efficient delivery of potent nucleic acids for modulating gene expression in vitro and in vivo using optimized lipid nanoparticles.** T. Yamagami[1], E. Ouellet[1], R. DeSouza[1], G. Tharmarajah[1], O. Seira[2], J. Liu[2], A. Thomas[1], T. Leaver[1], A. Wild[1], W. Tetzlaff[2,3], P. Deng[4], D.J. Segal[5], J. Nolta[4], K.D. Fink[4], J. Taylor[1], E. Ramsay[1]; [1]Precision NanoSystems Inc., Vancouver, BC, [2]International Collaboration on Repair Discoveries (ICORD), Vancouver, BC, [3]Zoology, University of British Columbia, Vancouver, BC, [4]Stem Cell Program and Institute for Regenerative Cures, University of California Davis Health Systems, Sacramento, CA, [5]Genome Center, MIND Institute, and Biochemistry and Molecular Medicine, University of California Davis, Sacramento, CA

B258/P885 **Genome-scale knockout screening strategy in ancient metazoan cells.** R. Viswanatha[1], Y. Hu[1], B.E. Housden[1], N. Perrimon[1]; [1]Genetics, Harvard Medical School, Boston, MA

B259/P886 **Cell-penetrating antisense GapmeR for functional gene silencing in human primary T-lymphocytes.** F. M H U Turabe[1], J. Low[1], A. Kizakeyil[1], S. Ong[1], M.L. Chalasani[1], D. Kelleher[2], N.K. Verma[1,3]; [1]Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore, [2]University of British Columbia, Vancouver, Canada, [3]Singapore Eye Research institute, Singapore, Singapore

B260/P887 **Elucidating Cellular Trafficking Pathways Controlling Prion-like Spread of Tau Aggregation Using CRISPR interference Screens.** D.L. Nathaniel[1], J. Chen[1], S. Mok[1], J. Gestwicki[1], M. Kampmann[1]; [1]Institute for Neurodegenerative Disease, UCSF, San Francisco, CA

B261/P888 **Reconstruction of a Genetic Pathway Using Transcriptome Mapping in a Metazoan.** D. Angeles-Albores[1], C.P. Robinson[1], B. Williams[1], I. Antoshechkin[1], P.W. Sternberg[1]; [1]Biology and Biological Engineering, Caltech, Pasadena, CA

B262/P889 **Validation of reference genes to study osteoblastic cells using qPCR.** R.P. Flores Abuna[1], H.B. Lopes[1], F.S. Oliveira[1], G.P. Freitas[2], J.I. Reis Ramos[1], M.M. Beloti[1], A.L. Rosa[2]; [1]Morphology, Physiology and Basic Pathology, University of Sao Paulo, Ribeirao Preto, Brazil, [2]Oral Maxilo Facial Surgery and Periodontics, University of Sao Paulo, Ribeirao Preto, Brazil

B263/P890 **A scalable high-throughput method for RNA-Seq analysis of thousands of single cells.** L. Watson[1], K. Taylor[1], L. Frenz[2], D. Greiner[2], R. Lebofsky[2], D. Do[2], P. Priyadarshini[2], P. Chen[2], B. Zhang[2], M. Ma[2], P. Pattamatta[2], L. Javier[2], J. Mopas[2], J. Chew[2], S. Cater[2], E. Wong-Ho[2], F. Schlesinger[1], I. Khrebukova[1], J. Patel[1], C. Lin[1], J. Tsai[1], V. Montel[1], M. Kellogg[1], A. Hartnett[1], A. Yunghans[1], J. Agresti[2], G.P. Schroth[1]; [1]Illumina, Inc, San Diego, CA, [2]Digital Biology Center, Bio-Rad Laboratories, Inc, Pleasanton, CA

Actin and Actin-Associated Proteins 2

B264/P891 **Characterizing the processive mechanism of Ena/VASP on diverse F-actin bundles.** A.J. Harker[1], J.D. Winkelman[2], C.A. Anderson[2], D.R. Kovar[1,2]; [1]Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, [2]Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

B265/P892 **The E3 Ubiquitin Ligase TRIM67 Regulates Cytoskeletal Response to Netrin-1.** N. Boyer[1], S. Menon[1], S.L. Gupton[1]; [1]Cell Biology & Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B266/P893 **Monoubiquitination inhibits the actin bundling activity of fascin.** S. Lin[1], S. Lu[2], J. Sun[2], T. Keeley[1], S. Yang[1]; [1]Cellular and Molecular Physiology, Penn State University College of Medicine, Hershey, PA, [2]Tumor Biology, H. Lee Moffitt Cancer Center, Tampa, FL

B267/P894 **Fascin crosslinks turnover much faster than actin filaments in stereocilia.** P. Roy[1], B.J. Perrin[1]; [1]Biology, Indiana University-Purdue University Indianapolis, Indianapolis, IN

B268/P895 **Competitive and cooperative interactions between actin binding proteins drive their sorting to different actin cytoskeleton networks.** J.R. Christensen[1], K.E. Homa[1], M.E. OConnell[1], A.N. Morganthaler[1], D.R. Kovar[1]; [1]Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL

B269/P896 **Elucidating a Mechanism of Calcium-Regulated F-actin Bundling by Human Plastins.** C. Schwebach[1,2], E. Kudryashova[1], D.S. Kudryashov[1,2]; [1]Department of Chemistry and Biochemistry, The Ohio State University, Columbus, OH, [2]Molecular, Cellular, and Developmental Biology Program, The Ohio State University, Columbus, OH

B270/P897 **TNF-- dependent signaling mechanisms is required for L-Plastin- mediated actin bundling process at the early phase of sealing ring formation and bone resorption.** S. Majumdar[1], M.A. Chellaiah[1]; [1]Dental School, University of Maryland, Baltimore, MD

B271/P898 **L-Plastin, an actin bundling protein, regulates bundling and stability of actin filaments preceding to sealing ring formation in bone resorbing osteoclasts.** M.A. Chellaiah[1], T. Ma[1], C. Morley[2], S. Majumdar[1]; [1]Dental School, University of Maryland, Baltimore, MD, [2]Pediatric Research, Washington University School of Medicine, St.Louis, MO

B272/P899 **ADP-ribosylation factors-like 4C Binding to Filamin-A Modulates Filopodium Formation and Cell Migration by Promoting Cdc42 Activation.** T.S. Chiang[1], H.F. Wu[2], F.J. Lee[1,2]; [1]Department of Medical Research, National Taiwan University Hospital, Taipei, Taiwan, [2]Institute of Molecular Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan

B273/P900 **Profilin occupies a critical node in actin/MKL/SRF signaling circuit.** M.E. Joy[1], D. Gau[1], N. Castellucci[1], P. Roy[1,2,3]; [1]Bioengineering, University of Pittsburgh, Pittsburgh, PA, [2]Cell Biology, University of Pittsburgh, Pittsburgh, PA, [3]Pathology, University of Pittsburgh, Pittsburgh, PA

B274/P901 **Mutational analysis of conserved hydrophobic residues in the C-terminal actin-monomer binding region of cyclase-associated protein.** S. Iwase[1], S. Ono[1,2]; [1]Pathology, Emory University, Atlanta, GA, [2]Cell Biology, Emory University, Atlanta, GA

B275/P902 **Cofilin modifies the actin cytoskeleton in response to thermal stress during morphogenesis.** L. Zheng[1], L.R. Figard[1], A.M. Sokac[1]; [1]Biochemistry, Baylor College of Medicine, Houston, TX

B276/P903 **Simultaneous Quantification of Actin Monomer and Filament Dynamics with Modelling Assisted Analysis of Photoactivation.** M. Kapustina[1], E.A. Vitriol[2]; [1]Cell Biology Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Anatomy Cell Biology, University of Florida, Gainesville, FL

B277/P904 **Effects of Tropomyosin isoforms on actin filament disassembly and remodeling by Coronin, Cofilin, AIP1, and GMF.** S. Jansen[1], S. Guo[1], B.L. Goode[1]; [1]Biology, Brandeis University, Waltham, MA

B278/P905 **Human cells contain enough tropomyosin to saturate all actin filaments.** J. Meiring[1], N.S. Bryce[1], E.C. Hardeman[1], P.W. Gunning[1]; [1]School of Medical Sciences, University of NSW, Sydney, Australia

B279/P906 **Metabolic impact of targeting the tropomyosin/actin cytoskeleton to treat cancer.** E.C. Hardeman[1], A.J. Kee[1], C.A. Lucas[1], J. Chagan[1], P.W. Gunning[1]; [1]School of Medical Sciences, UNSW Australia, Sydney NSW, Australia

B280/P907 **Modeling approaches for studying cooperative binding of tropomyosin to actin filaments.** G.M. Hocky[1], J.R. Christensen[2], D.R. Kovar[2,3], G.A. Voth[1]; [1]Department of Chemistry, James Franck Institute, Institute for Biophysical Dynamics, and Computation Institute, University of Chicago, Chicago, IL, [2]Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL, [3]Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL

B281/P908 **F-actin bundling by the C' domain of the Formin Cdc12 is important for contractile ring formation.** A.H. Willet[1], C.E. Snider[1], K.A. Bohnert[2], D.R. Kovar[3,4], K.L. Gould[1]; [1]Cell and Developmental Biology, Vanderbilt University, Nashville, TN, [2]Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, [3]Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL, [4]Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL

B282/P909 **Role of metavinculin in actin reorganization and force transmission.** H.T. Lee[1], L.Y. Kim[2], M. Sarker[1], M. Lu[1], G.M. Alushin[2], K. Burridge[3], S.L. Campbell[1]; [1]Biophysics and Biochemistry, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Cell Biology and Physiology Center, NIH/NHLBI, Bethesda, MD, [3]Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B283/P910 **The role of DRR on cofilin and its resulting effect on the cytoskeleton and invasiveness in GBM.** N. Lai[1], P. Le[1], G. Trinh[1], K. Petrecca[1]; [1]Neurology and Neurosurgery, McGill University, Montreal, QC

B284/P911 **A biological role for the evolutionarily conserved Twinfilin-Capping Protein interaction.** D. Hilton[1], A. Johnston[1], A. Simone[1], B. Goode[1]; [1]Molecular and Cellular Biology, Brandeis University, Waltham, MA

B285/P912 **Role of CARMILs during Zebrafish Development.** B.C. Stark[1], J.A. Cooper[1]; [1]Biochemistry and Molecular Biophysics, Washington University, St Louis, MO

Higher-Order Actin-Based Structures

B286/P913 **Stability on the edge: Probing the physical mechanisms of polarity maintenance in motile cells.** R.M. Garner[1], E.F. Koslover[2], J.A. Theriot[3,4,5]; [1]Biophysics Program, Stanford University, Stanford, CA, [2]Department of Physics, University of California, San Diego, San Diego, CA, [3]Department of Microbiology and Immunology, Stanford University, Stanford, CA, [4]Department of Biochemistry, Stanford University, Stanford, CA, [5]Howard Hughes Medical Institute, Howard Hughes Medical Institute, Chevy Chase, MD

B287/P914 **Filamin actin-binding and dimerization domain fulfill distinct functions in Z-disc cohesion.** N. González-Morales[1], F. Schöck[1]; [1]Department of Biology, McGill University, Montreal, QC

B288/P915 **Mechanistic insights into actin-septin filament interactions.** M. Mavrakis[1], J. Alvarado[2], F. Tsai[2], A. Bertin[3], A. Szuba[2], L. Ramond[1], G.H. Koenderink[2]; [1]Institut Fresnel, CNRS UMR 7249, Marseille, France, [2]FOM Institute AMOLF, Amsterdam, Netherlands, [3]Institut Curie, CNRS UMR 168, Paris, France

B289/P916 **Cortical Actin Remodelling for Effective Lytic Synapse Formation.** M. Saeed[1], A. Gil-krzewska[2], A. Oszmiana[1], A.F. Carisey[3], E.M. Mace[3], J.S. Orange[3], K. Krzewski[2], D.M. Davis[1]; [1]Manchester Collaborative Centre for Inflammation Research, University of Manchester, Manchester, United Kingdom, [2]Receptor Cell Biology Section, Laboratory of Immunogenetics, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Rockville, MD, [3]Center for Human Immunobiology, Baylor College of Medicine and Texas Children's Hospital, Houston, TX

B290/P917 **FMN2 is a melanoma metastasis-promoter that mediates formation of a perinuclear actin/adhesion system to protect nuclei and DNA from damage during confined cell migration.** C.T. Skau[1], R.S. Fischer[1], P.S. Gurel[1], H.R. Thiam[1,2], A. Tubbs[3], M.A. Baird[1,4], M.W. Davidson[4], M. Piel[2], G.M. Alushin[1], A. Nussenzweig[3], P.S. Steeg[5], C.M. Waterman[1]; [1]Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD, [2]UMR 144 Institut Curie/CNRS, Institut Curie, Paris, France, [3]Laboratory of Genome Integrity, National Cancer Institute, National Institutes of Health, Bethesda, MD, [4]Magnet Lab, Florida State University, Tallahassee, FL, [5]Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD

B291/P918 **Cytoskeleton self-organization in epithelial cells.** S. Jalal[1], Y. Tee[1], V. Viasnoff[1,2,3], A.D. Bershadsky[1,4]; [1]Mechanobiology Institute, National University of Singapore, Singapore, Singapore, [2]Department of Biological Sciences, National University of Singapore, Singapore, Singapore, [3]Centre National de la Recherche Scientifique, Singapore, Singapore, [4]Department of Molecular Cell Biology, Weizmann Institute of Science, Rehovot, Israel

B292/P919 **Filament Rigidity and Connectivity Tune the Deformation Modes of Active Biopolymer Networks.** S. Stam[1,2], S. Banerjee[3], K. Weirich[3], S. Freedman[4], A. Dinner[3,5], M.L. Gardel[2,3,4]; [1]Institute for Biophysical Dynamics, University of Chicago, Chicago, IL, [2]Biophysical Sciences Program, University of Chicago, Chicago, IL, [3]James Franck Institute, University of Chicago, Chicago, IL, [4]Physics Department, University of Chicago, Chicago, IL, [5]Chemistry Department, University of Chicago, Chicago, IL

B293/P920 **Uncovering epidermal actin cytoskeleton dynamics in developing *C. elegans* larvae.** S.S. Katz[1], A.R. Frand[1]; [1]Biological Chemistry, University of California Los Angeles, Los Angeles, CA

B294/P921 **The Function of Dynamin 2 in Podosome-regulated Postsynaptic Neuromuscular Junction Maturation.** S. Lin[1], Y. Liu[1]; [1]Institute of Molecular Medicine, National Taiwan University, Taipei, Taiwan

B295/P922 **Direct measurement of tension and structural contributions of actomyosin stress fiber subpopulations during cell migration.** S. Lee[1,2], S. Kumar[1,2,3]; [1] Joint Graduate Program in Bioengineering, UC Berkeley-UCSF, Berkeley, CA, [2]Bioengineering, UC Berkeley, Berkeley, CA, [3]Chemical and Biomolecular Engineering, UC Berkeley, Berkeley, CA

B296/P923 **Mathematical model describing the competition between actin patches and actin cables in fission yeast.** C. Langouras[1], D. Vavylonis[1]; [1]Physics, Lehigh University, Bethlehem, PA

B297/P924 **Caspase-mediated cleavage of MRCK□ determines contraction of the apical acto-myosin ring and epithelial cell extrusion.** P.A. Gagliardi[1], D. Somale[1,2], A. Puliafito[1], G. Chiaverina[1,2], L. di Blasio[1], M. Oneto[3], P. Bianchini[3], F. Bussolino[1,2], L. Primo[1,2]; [1]Candiolo Cancer Institute FPO-IRCCS, Candiolo, Italy, [2]Dept of Oncology, University of Torino, Torino, Italy, [3]Nanoscopy, Italian Institute of Technology, Genoa, Italy

B298/P925 **UNC-45a is critical for the assembly of bipolar myosin II filaments in migrating cells.** J. Lehtimaki[1], A. Fenix[2], T. Kotila[1], G. Balistreri[1], D. Burnette[2], P. Lappalainen[1]; [1]Institute of Biotechnology, University of Helsinki, Helsinki, Finland, [2]Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B299/P926 **Regulation of actin based protrusions by the hedgehog pathway.** M.T. Anderson[1], N.F. Berbari[1], B.J. Perrin[1]; [1]Biology, Indiana University-Purdue University Indianapolis, Indianapolis, IN

Actin-Membrane Interactions

B300/P927 **A RhoA and Rnd3 cycle regulates actin reassembly during membrane blebbing.** K. Aoki[1], J. Ikenouchi[1]; [1]Department of Biology, Kyushu University, Fukuoka, Japan

B301/P928 **Axonal Haptotaxis Mediated by Grip and Slip between Cell Adhesion Molecule and Adhesive Substrates.** N. Inagaki[1], K. Abe[1], H. Katsuno[1], K. Baba[1], R. Watanabe[2]; [1]Graduate School of Biological Sciences, Nara Institute of Science and Technology, Ikoma, Japan, [2]Graduate School of Engineering, University of Tokyo, Bunkyo-ku, Japan

B302/P929 **Nano-clustering of ligands on synthetic APCs influences T-cell membrane and actin organization.** E. Benard[1], P. Dillard[1,2], F. Pi[1,3], L. Limozin[2], K. Sengupta[1]; [1]STNO, CINaM, Marseille, France, [2]LAI, Marseille, France, [3]current address: School of food science of Jiangnan University, Jiangsu, China

B303/P930 **Activated Integrin receptors directs the generation of functional nanodomains at the plasma membrane of living cells.** J. Kalappurakkal[1], A.A. Anilkumar[1], S. Mayor[1,2]; [1]Cellular Organization and Signaling Group, National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bangalore, India, [2]Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, India

B304/P931 **Quantitative analysis of actomyosin-driven movement of membrane-bound phospho-LAT microclusters.** A.R. Vega[1], J.A. Ditlev[1,2], D.V. Koester[3], X. Su[4], R.D. Vale[4], S. Mayor[3], M.K. Rosen[1,2], K. Jaqaman[1]; [1]Biophysics, University of Texas Southwestern Medical Center, Dallas, TX, [2]Howard Hughes Medical Institute, University of Texas Southwestern Medical Center, Dallas, TX, [3]National Centre for Biological Sciences, Tata Institute for Fundamental Research, Bangalore, India, [4]Molecular and Cellular Biology and Howard Hughes Medical Institute, University of California, San Francisco, San Francisco, CA

B305/P932 **Actin ultrastructural organization during membrane scission events of clathrin-mediated endocytosis resolved by superresolution microscopy.** C. Kaplan[1], S.J. Kenny[2], K. Xu[2], D.G. Drubin[1]; [1]Department of Molecular and Cell Biology, UC Berkeley, Berkeley, CA, [2]Department of Chemistry, UC Berkeley, Berkeley, CA

B306/P933 **Arp 2/3-dependent spatial organization of the B cell receptor (BCR) impacts immune synapse formation, BCR signaling output, and B cell activation.** M. Bolger-Munro[1], K. Choi[1], J. Scurll[2], L. Abraham [1,2], M. Dang-Lawson [1], L. Yeo[1], D. Sheen[1], H. Lu[1], D. Coombs[2], M.R. Gold[1]; [1]Microbiology and Immunology, University of British Columbia, Vancouver, BC, [2]Mathematics, University of British Columbia, Vancouver, BC

B307/P934 **Lamellipodia-like membrane protrusions in Giardia lamblia.** W. Hardin[1], R. Li[1], A. Shelton[1], A.R. Paredez[1]; [1]Biology, University of Washington, Seattle, WA

B308/P935 **Interactions of disease-associated WHAMM variants with actin, microtubules, and membranes.** A.J. Mathiowetz[1], K.G. Campellone[1]; [1]Molecular and Cell Biology, University of Connecticut, Storrs, CT

MONDAY

B309/P936 **Syndapin functions in orchestrated remodelling of the membrane and actin cytoskeleton.** A. Sherlekar[1], P. Richa[1], R. Rikhy[1]; [1]Biology, Indian Institute of Science Education and Research, Pune, Pune, India

B310/P937 **Active sorting of nanoscale clusters of GPI-anchored proteins by dynamic cortical actin activity creates membrane domains with liquid-order like properties.** S. Saha[1], A. Das[2], A.A. Anilkumar[1], J.K. Mathew[1], M. Rao[2], S. Mayor[1,3]; [1]Cell Organization and Signalling, National Centre for Biological Science, Bangalore, India, [2]Simons Centre for Living Systems, National Centre for Biological Science, Bangalore, India, [3]Institute for Stem Cell Research and Regenerative Medicine, Bangalore, India

B311/P938 **Synaptic, planar polarity and ECM proteins are required for cytoneme-mediated paracrine signaling.** H. Huang[1], T. Kornberg[1]; [1]Cardiovascular Research Institute, University of California, San Francisco, San Francisco, CA

B312/P939 **Bridging spatial and temporal scales to investigate the interplay of membrane components and their juxtaposed cytosolic companions.** T.S. van Zanten[1], J.K. Mathew[1], M. Jasnin[2], W. Baumeister[2], S. Mayor[1]; [1]National Centre for Biological Sciences (TIFR), Bangalore, India, [2]Max Planck Institute of Biochemistry, Martinsried, Germany

B313/P940 **How is apical constriction triggered? A possible role for afadin.** M.M. Slabodnick[1], S. Tintori[1], B. Goldstein[1]; [1]Biology, University of North Carolina, Chapel Hill, Chapel Hill, NC

B314/P941 **Dap160 and Nwk target WASp-dependent actin polymerization to the membrane.** C.F. Kelley[1], E.M. Messelaar[1], A.A. Rodal[1]; [1]Biology, Brandeis University, Waltham, MA

Myosins

B316/P942 **Biophysical properties of human -cardiac myosin with converter mutations that cause hypertrophic cardiomyopathy.** M. Kawana[1,2], S.S. Sarkar[1], S.C. Sutton[1], K.M. Ruppel[1,3], J.A. Spudich[1]; [1]Department of Biochemistry, Stanford University School of Medicine, Stanford, CA, [2]Department of Medicine, Division of Cardiovascular Medicine, Stanford University School of Medicine, Stanford, CA, [3]Department of Pediatrics (Cardiology), Stanford University School of Medicine, Stanford, CA

B317/P943 **Early onset HCM mutations H251N and D239N significantly increase the fundamental biomechanical parameters of human -cardiac myosin.** A.S. Adhikari[1,2], K.B. Kooiker[2,3], C. Liu[1], S.S. Sarkar[1], D. Bernstein[2,3], J.A. Spudich[1,2], K.M. Ruppel[1,2,3]; [1]Biochemistry, Stanford University School of Medicine, Stanford, CA, [2]Cardiovascular Institute, Stanford University School of Medicine, Stanford, CA, [3]Pediatric (Cardiology), Stanford University School of Medicine, Stanford, CA

B318/P944 **Beyond the myosin mesa: a potential unifying hypothesis on the underlying molecular basis of hyper-contractility caused by a majority of hypertrophic cardiomyopathy mutations.** D.V. Trivedi*[1], S. Nag*[1], S.S. Sarkar[1], S. Sutton[1], K.M. Ruppel[1,2], J.A. Spudich[1,2]; [1]Biochemistry, Stanford University, Stanford, CA, [2]Cardiovascular Institute, Stanford University, Stanford, CA

B319/P945 **A role for non-muscle myosin 2B in congenital heart disease: Identifying genetic variants in Pentalogy of Cantrell using whole exome sequencing.** B. MacTaggart[1], C. Bowen[1], J.X. Chong[2], M.J. Bamshad[2], X. Ma[1], R.S. Adelstein[1]; [1]NHLBI, Bethesda, MD, [2]University of Washington Center for Mendelian Genomics, Seattle, WA

B320/P946 **Activation of nuclear myosin VI leads to enhanced gene expression.** N. Fili[1], A. dos Santos[1], Y. Hari-Gupta[1], C.P. Toseland[1]; [1]School of Biosciences, University of Kent, Canterbury, United Kingdom

B321/P947 **Identification of Miro as a mitochondrial receptor for myosin XIX.** S. Oeding[1], X. Hu[1], A. Freitag[1], U. Honnert[1], P. Nikolaus[1], V. Schwarz[1], A. Henkel[1], K. Majstrowicz[1], M. Schelhaas[2], M. Baehler[1]; [1]Institute of Cell Biology, Westfalian Wilhelms University, Muenster, Germany, [2]Cell Biology of Virus Infection Unit, Westfalian Wilhelms University, Muenster, Germany

B322/P948 **Identification of the myosin superfamily and contractile tissues in sponges.** E. Chang[1], M.S. Hill[1], O.A. Quintero[1]; [1]Department of Biology, University of Richmond, Richmond, VA

B323/P949 **The Role of Nonmuscle Myosin II in Vascular Formation.** X. Ma[1], Y. Uchida[1], Y. Mukoyama[1], R.S. Adelstein[1]; [1]Genetics & Developmental Biology Center, NHLBI/NIH, Bethesda, MD

B324/P950 **Cellular and Organismal Function of Myosin-X.** E.G. Heimsath, Jr.[1], Y. Yim[2], M. Mustapha[3], J.A. Hammer[2], R.E. Cheney[1]; [1]Cell Biology Physiology, UNC School of Medicine, Chapel Hill, NC, [2]National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD, [3]Department of Otolaryngology - Head Neck Surgery, Stanford University, Stanford, CA

B325/P951 **Characterization of MYO19 knockdown phenotypes in cultured neurons.** A. Li[1], B.M. Fujita[1], O.A. Quintero[1]; [1]Department of Biology, University of Richmond, Richmond, VA

B326/P952 **Local pulsatile contractions are an intrinsic property of the myosin 2A motor in the cortex of adherent cells.** M.A. Baird[1], N. Billington[1], A. Wang [1,2], R.S. Adelstein[1], J.R. Sellers[1], R.S. Fischer[1], C.M. Waterman[1]; [1]NHLBI, National Institutes of Health, Bethesda, MD, [2]College Veterinary Medicine, Hunan Agricultural University, Changsha, China

B327/P953 **Myosin II filaments in the actin cytoskeleton: distribution, turnover, and long range self-organization.** S. Hu[1], K. Dasbiswas[2], Z. Guo[1], Y. Tee[1], V. Thiagarajan[1], P. Hersen[1,3], T. Chew[4], S. Safran[2], R. Zaidel-Bar[1], A.D. Bershadsky[1,5]; [1]Mechanobiology Institute, National University of Singapore, Singapore, Singapore, [2]Department of Materials and Interfaces, Weizmann Institute of Science, Rehovot, Israel, [3]Laboratoire Matire et Systèmes Complexes, UMR 7057 CNRS Université Paris Diderot, Paris, France, [4]Advanced Imaging Center, HHMI Janelia Research Campus, Ashburn, VA, [5]Department of Molecular Cell Biology, Weizmann Institute of Science, Rehovot, Israel

B328/P954 **Dynamics of A-band assembly within human cardiac myocytes.** A.M. Fenix[1], S.W. Crawley[1], A. Williams[1], D. Bader[1,2], M.J. Tyska[1], D.T. Burnette[1]; [1]Cell and Developmental Biology, Vanderbilt University, Nashville, TN, [2]Medicine, Vanderbilt University Medical Center, Nashville, TN

B329/P955 **Myosin 18A localizes with myosin 2 at cell: cell junctions in epithelial cells and tissues.** K. Remmert[1], J. Beach[1], J.A. Hammer[1]; [1]Cell Biology and Physiology Center, NIH, NHLBI, Bethesda, MD

B330/P956 **Regulation of the motor function and cargo transportation of human myosin VIIA by USH1 proteins.** T. Sakai[1], D. You[2], H. Jung[3], M. Ikebe[1]; [1]Cellular and Molecular Biology, University of Texas Health Science Center at Tyler, Tyler, TX, [2]Electron Microscopic Research, Korea Basic Science Institute, Daejeon, Korea, [3]Biochemistry, Kangwon National University, Chuncheon, Korea

B331/P957 **High-resolution structural characterization of the myosin VI-F-actin interface during the force generation cycle.** P.S. Gurel[1], L.Y. Kim[1], T. Omabegho[2], Z. Bryant[2], G.M. Alushin[1]; [1]Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, Bethesda, MD, [2]Department of Bioengineering and Department of Structural Biology, Stanford University School of Medicine, Stanford, CA

B332/P958 **Re-examining the Roles of Myosin 18A and Actin in Golgi Morphology.** K.S. Bruun[1], J. Beach[1], J.A. Hammer[1], K. Remmert[1]; [1]National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD

B333/P959 **Myosin 10 function in cerebellar Purkinje neurons.** Y. Yim[1], J. Laakso[2], C. Alexander[1], M. Mustapha[3], R. Cheney[4], J. Hammer[1]; [1]Lab of Cell Biology, National Institutes of Health, Bethesda, MD, [2]Science Policy, The Endocrine Society, Washington DC, DC, [3]School of Medicine, Stanford University, Palo Alto, CA, [4]School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC

B334/P960 **Development of Pichia pastoris as a model system for Myosin X-induced filopodia formation.** P. Tipan[1], K. Gousset[1]; [1]Biology, California State University, Fresno, Fresno, CA

B335/P961 **Harmonic force spectroscopy measures load-dependent kinetics of individual human b-cardiac myosin molecules.** J. Sung[1], K.I. Mortensen[2], S. Nag[3], R.D. Vale[1], H. Flyvbjerg[2], J.A. Spudich[3]; [1]CMP, UCSF, San Francisco, CA, [2]Department of Micro- and Nanotechnology, Technical University of Denmark, Kongens Lyngby, Denmark, [3]Biochemistry, Stanford University, Stanford, CA

B336/P962 **Mechanoaccumulative elements of the mammalian actin cytoskeleton.** E.S. Schiffhauer[1], T. Luo[1], K. Mohan[2], X. Qian[3], V. Srivastava[1,4], P. Iglesias[2], D.N. Robinson[1,5]; [1]Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD, [2]Electrical and Computer Engineering, Johns Hopkins University Whiting School of Engineering, Baltimore, MD, [3]Biomedical Engineering, Johns Hopkins University Whiting School of Engineering, Baltimore, MD, [4]Chemical and Biomolecular Engineering, Johns Hopkins University Whiting School of Engineering, Baltimore, MD, [5]Pharmacology and Molecular Science, Johns Hopkins University School of Medicine, Baltimore, MD

B337/P963 **Melanophilin's role in crosstalk between actin and microtubule filaments.** A. Oberhofer[1], Y. Rosenfeld[1], W. Stepp[1], A. Cleetus[1], P. Spieler[1], F. Müller-Planitz[2], Z. Ökten[1]; [1]Physik-Department E22, Technische Universität München, Garching, Germany, [2]BioMedizinisches Centrum, Molecular Biology, Ludwig-Maximilians-Universität München, Planegg-Martinsried, Germany

B338/P964 **Mechanical properties of the Ich5 organ of Drosophila.** A. Prahlad[1], C. Spalthoff[2], B. Warren[2], D. Kong[3], J. Großhans[3], M.C. Göpfert[2], C.F. Schmidt[1]; [1]Third Institute of Physics - Biophysics, Faculty of Physics, Georg-August University, Göttingen, Germany, [2]Department of Cellular Neurobiology, Schwann-Schleiden Research Center, Georg-August University, Göttingen, Germany, [3]Institute of Biochemistry and Molecular Cell Biology, University Medical Center, Georg-August University, Göttingen, Germany

B339/P965 **Mammalian nonmuscle myosin II binds to anionic phospholipids with concomitant dissociation of the regulatory light chain.** S. Shu[1], X. Liu[1], N. Billington[1], C.D. Williamson[1], S. Yu[1], H.B. Brezska[1], J. Donaldson[1], J.R. Sellers[1], E.D. Korn[1]; [1]NIH, NHLBI, Bethesda, MD

B340/P966 **Dissecting the role of Myosin VI in the nucleus.** N. Fili[1], Y. Hari-Gupta[1], C.P. Toseland[1]; [1]School of Biosciences, University of Kent, Canterbury, United Kingdom

Microtubule Nucleation and Organization

B342/P967 **Reconstitution of a minimal microtubule-organizing center using purified centrosome proteins.** J.B. Woodruff[1], P.O. Widlund[2], J. Mahamid[3], A.A. Hyman[1]; [1]Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, [2]Department of Chemistry and Biochemistry, University of Gothenburg, Gothenburg, Sweden, [3]Max Planck Institute of Biochemistry, Martinsried, Germany

B343/P968 **The N-terminal domains of gamma-tubulin ring complex proteins define functional identity of individual GCPs.** A. Merdes[1], L. Haren[1], D. Farache[1]; [1]Centre de Biologie du Developpement, University Toulouse III / CNRS, Toulouse, France

B344/P969 **Hierarchical Assembly of Centriole Subdistal Appendages.** N. Huang[1], Y. Xia[1], D. Zhang[1], J. Teng[1], J. Chen[1]; [1]College of Life Sciences, Peking University, Beijing, China

B345/P970 **MZT1 regulates microtubule nucleation by linking γTuRC assembly to adapter-mediated targeting and activation.** R. Ramirez Cota[1], N. Teixido-Travesa[1], A. Ezquerra[1], S. Eibes[1], C. Lacasa[1], J. Roig[2], J. Luders[1]; [1]IRB Barcelona, The Barcelona Institute of Science and Technology, Barcelona, Spain, [2]The Molecular Biology Institute of Barcelona (IBMB-CSIC), Barcelona, Spain

B346/P971 **Interaction of the activating Casein Kinase 1δ/Hrr25 with the *S. cerevisiae* γ-Tubulin Ring Complex.** M. Moritz[1], A. Zelter[2], A.F. Brilot[1], M.J. MacCoss[3], R. Johnson[3], T.N. Davis[2], D.A. Agard[4]; [1]Biochemistry Biophysics, UCSF, San Francisco, CA, [2]Biochemistry, University of Washington, Seattle, WA, [3]Genome Sciences, University of Washington, Seattle, WA, [4]Biochemistry Biophysics, HHMI/UCSF, San Francisco, CA

B347/P972 **Spc110p oligomerization drives assembly of the budding yeast -tubulin ring complex.** A.S. Lyon[1], G. Morin[2], M. Moritz[1], K. Yabut[2], T. Vojnar[2], A. Zelter[2], S. Viswanath[3], C. Greenberg[3], R. Johnson[4], E. Muller[2], A. Sali[3], M. MacCoss[4], T.N. Davis[2], D.A. Agard[1]; [1]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, [2]Biochemistry, University of Washington, Seattle, WA, [3]Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, [4]Genome Sciences, University of Washington, Seattle, WA

B348/P973 **Bayesian analysis of FRET to quantitatively measure microtubule nucleation in vivo and in vitro.** B.T. Kaye[1], T.Y. Yeon[1], P.J. Foster[1], D.J. Needleman[1,2]; [1]Applied Physics, Harvard University, Cambridge, MA, [2]Molecular and Cellular Biology, Harvard University, Cambridge, MA

B349/P974 **Polarity Sorting of Axonal Microtubules: A Computational Study.** E.M. Craig[1], H.T. Yeung[1], A.N. Rao[2], P.W. Baas[2]; [1]Physics, Central Washington University, Ellensburg, WA, [2]Neurobiology and Anatomy, Drexel University, Philadelphia, PA

B350/P975 **Non-centrosomal nucleation mediated by augmin organizes microtubules in post-mitotic neurons and controls axonal microtubule polarity.** C. Sánchez-Huertas[1], F. Freixo[1], R. Viais[1], C. Lacasa[1], E. Soriano[2,3,4,5], J. Luders[1]; [1]IRB Barcelona, The Barcelona Institute of Science and Technology, Barcelona, Spain, [2]Department of Cell Biology, Faculty of Biology, University of Barcelona, Barcelona, Spain, [3]CIBERNED, ISCIII, Madrid, Spain, [4]Vall d'Hebron Institute of Research, Barcelona, Spain, [5]Institucio Catalana de Recerca i Estudis Avancats (ICREA), Barcelona, Spain

B351/P976 **Wnt pathway players target microtubule regulators to dendrite branch points.** A.T. Weiner[1], D.Y. Seebold[1], N. Michael[1], M. Guignet[2], C. Kozlowksi[1], D. Barbera[1], M.M. Rolls[1]; [1]BMMB, Penn State University, University Park, PA, [2]Veterinary Medicine, University of California Davis, Davis, CA

B352/P977 **New microtubule growth is regulated at the exits of dendrite branch points.** C. Feng[1], M.M. Rolls[1]; [1]BMMB, Penn State University, University Park, PA

B353/P978 **Organization of microtubule nucleation 'hot spots' at Golgi stacks.** A.A. Sanders[1], X. Zhu[1], K. Chang[1], I. Kaverina[1]; [1]Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B354/P979 **Golgi derived microtubule nucleation responds to glucose stimulation in two waves.** K.P. Trogden[1], I. Kaverina[1]; [1]Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B355/P980 **Nuclear anchoring of microtubules by spectraplakin Shot prevents formation of a centrosome-like organizer in *Drosophila* polyploid cells.** T. Sun[1], J.C. Pastor-Pareja[1]; [1]School of Life Sciences, Tsinghua University, Peking, China

B356/P981 **Characterization of a plant-specific microtubule-nucleating protein MACERATOR.** S. Schmidt[1], A. Smertenko[1]; [1]Institute of Biological Chemistry, Washington State University, Pullman, WA

B357/P982 **CLASP is Required to Create and Sustain New Microtubules during Array Organization in *Arabidopsis*.** D. Thoms[1], L. Vineyard[1], V. Kirik[2], S.L. Shaw[1]; [1]Biology, Indiana University, Bloomington, IN, [2]School of Biological Sciences, Illinois State University, Normal, IL

B358/P983 **Nemitin is an Essential Microtubule Related Protein.** I. Millan[1], W. Wang[1], Y. Yang[1]; [1]Neurology, Stanford School of Medicine, Stanford, CA

B359/P984 **Cortical Microtubule Array Architecture in Arabidopsis Hypocotyl Cells.** A. Elliott[1], S.L. Shaw[1]; [1]Biology, Indiana University Bloomington, Bloomington, IN

B360/P985 **Mechanisms of microtubule nucleation in spindles.** F. Decker[1,2], J. Rosenberger[2], J. Brugués[1,2]; [1]Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, [2]Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

B361/P986 **Investigating the role of microtubule minus end proteins in non-centrosomal microtubule organizing centers.** J.L. Feldman[1], T.D. Skokan[1], J. Cade[1], C.M. Baumer[1]; [1]Biology, Stanford University, Stanford, CA

B362/P987 **A Cell Cycle Divorce? Elucidating the Relationship of the DNA Replication and Centriole Duplication Cycles in Differentiated Cells.** M. Stratton[1], A. Kaiser[2], K. Badillo-Rivera[3], R. Hannibal[3], T. Stearns[1,3], J.C. Baker[3]; [1]Biology, Stanford University, Stanford, CA, [2]Cancer Biology, Stanford University School of Medicine, Stanford, CA, [3]Genetics, Stanford University School of Medicine, Stanford, CA

MONDAY

B363/P988 **Nesprin-1-dependent microtubule nucleation from the nuclear envelope via Akap450 is necessary for nuclear positioning in myotubes.** P. Gimpel[1], Y. Lee[2], R.M. Sobota[2], A. Calvi[2], S. Shackelton[3], K. Mamchaoui[1], F. Nedelec[4], J. Schmoranzer[5], B. Burke[2], B. Cadot[1], E.R. Gomes[6]; [1]UMR974, Center of Research in Myology, Paris, France, [2]IMB, A*Star, Singapore, Singapore, [3]Department of Molecular and Cell Biology, University of Leicester, Leicester, United Kingdom, [4]Cell Biology and Biophysics UnitCe, EMBL, Heidelberg, Germany, [5]Charité, Universitätsmedizin Berlin, Berlin, Germany, [6]Universidade de Lisboa, IMB, Lisbon, Portugal

B364/P989 **Stability and function of a putative microtubule organizing center in the human parasite *Toxoplasma gondii*.** J.M. Leung[1], Y. He[1], F. Zhang[2,3], Y. Hwang[3,4], E. Nagayasu[3,5], J. Liu[1], J. Murray[1,3], K. Hu[1]; [1]Biology, Indiana University, Bloomington, IN, [2]Molecular and Cellular Pharmacology, University of Miami, Miller School of Medicine, Miami, FL, [3]Cell and Developmental Biology, University of Pennsylvania, School of Medicine, Philadelphia, PA, [4]Nikon Instruments Inc, Melville, NY, [5]Infectious Diseases, University of Miyazaki, Miyazaki, Japan

B365/P990 **A Conserved Motif in Centrosomin's Carboxyl Terminus, Sufficient for PCM localization, Interacts Directly with Two Binding Partners.** R. Citron[1], M. Kelly[1], N.M. Rusan[2], B. Huang[1], D.A. Agard[1]; [1]Biochemistry and Biophysics, University of California San Francisco, San Francisco, CA, [2]Physiology Center, National Heart, Lung and Blood Institute, Bethesda, MD

B366/P991 **Coordinating microtubule organization with cell cycle state.** M.D. Sallee[1], J.L. Feldman[1]; [1]Biology, Stanford University, Palo Alto, CA

Cilium Structure, Composition, and Motility

B367/P992 **-tubulin isotype orchestrates ciliary microtubule architecture, IFT, and extracellular vesicle biology.** M. Silva[1], N.S. Morsci [1], K.C. Nguyen[2], C.G. Rongo[1], D.H. Hall [2], M.M. Barr[1]; [1]Genetics, Rutgers University, Piscataway, NJ, [2]Center for C. elegans Anatomy, Albert Einstein College of Medicine, Bronx, NY

B368/P993 **FUNCTIONS of the TOG domain proteins, FAP256 and CHE-12, at the ciliary tip.** P. Louka[1], M. Guha[1], K. Vasudevan[2], D. Włoga[3], W.L. Dentler[4], J. Gaertig[1]; [1]Cellular Biology, University of Georgia, Athens, GA, [2]Biology, Stanford University, Stanford, CA, [3]Cell Biology, Nencki Institute of Experimental Biology, Warszawa, Poland, [4]Molecular Biosciences, University of Kansas, Lawrence, KS

B369/P994 **The function of Wdr protein in motile cilia central pair microtubules assembly/stability.** L. Zhu[1], J. Zheng[1], X. Yan[1], X. Zhu[1]; [1]Shanghai institute of biochemistry and cell biology, Shanghai, China

B370/P995 **SPEF1 Imparts Mechanical Stability To The Central Pair Microtubules In Cilia.** M. Guha[1], Y. Jiang[1], K.K. Vasudevan[2], J. Gaertig[1]; [1]Department of Cellular Biology, The University of Georgia, Athens, GA, [2]Department of Biology, Stanford University, Stanford, CA

B371/P996 **Repair of the split neck of the HSP40-minus radial spoke complex in flagella.** X. Zhu[1], E. Poghosyan[2], T. Ishikawa[2], R. Kamiya[3,4], P. Yang[1]; [1]Department of Biological Sciences, Marquette University, Milwaukee, WI, [2]Biomolecular Research Laboratory, Paul Scherrer Institute, Villigen, Switzerland, [3]Department of Biological Sciences, University of Tokyo, Tokyo, Japan, [4]Department of Life Science, Gakushuin University, Tokyo, Japan

B372/P997 **Biochemical and structural analysis of Chlamydomonas mutants reveals heterogeneity among the radial spokes.** E.E. Dymek[1], A. Dai[2], D. Nicastro[2], E.F. Smith[1]; [1]Biological Sciences, Dartmouth College, Hanover, NH, [2]Universtity of Texas Southwestern Medical Center, Dallas, TX

B373/P998 **Characterization of a putative Ca^{2+} binding protein FAP85 of *Chlamydomonas* flagella.** J. Kirima[1], H. Kojima[2], K. Oiwa[1,2]; [1]Graduate School of Life Science, University of Hyogo, Harima, Japan, [2]Advanced ICT Research Institute, National Institute of Information and Communications Technology, Kobe, Japan

B374/P999 **IQ and Ubiquitin domain containing protein (Iqub) is required for sperm axoneme stability and flagellar motility.** S.J. Scales[1], J. Singh[1], A.M. De Maziere[2], G. Posthuma[2], N. Gupta[1], L. Ta[3], J. Goldsmith[3], M. Reichelt[4], F. Chu[4], O. Foreman[4], X.Y. Rairdan[3], J. Klumperman[2]; [1]Molecular Biology, Genentech, South San Francisco, CA, [2]Cell Biology and Institute of Biomembranes, Center for Molecular Medicine, University Medical Center Utrecht, Utrecht, Netherlands, [3]Transgenic Technology, Genentech, South San Francisco, CA, [4]Pathology, Genentech, South San Francisco, CA

B375/P1000 **Spatiotemporally decoding tubulin codes inside primary cilia and revealing their roles in intraflagellar transport and ciliary signaling.** C. Wang[1], Y. Chang[2], Y. Chnag[2], S. Huang[2], C. Lin[3], H. Cheng[3], Y. Chiang[4], W. Huang[2], E. Su[5], T. Inoue[6], Y. LIN[1]; [1]Institute of Molecular Medicine, National Tsing Hua University, Hsinchu City, Taiwan, [2]Department of Life Science, National Tsing Hua University, Hsinchu City, Taiwan, [3]Department of Medical Science, National Tsing Hua University, Hsinchu City, Taiwan, [4]Interdisciplinary Program of Science, National Tsing Hua University, Hsinchu City, Taiwan, [5]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, [6]Department of Cell Biology, Johns Hopkins University, Baltimore, Baltimore, MD

B376/P1001 **The *Chlamydomonas pf23* mutant carries a deletion in the *DYX1C1* gene and fails to assemble the majority of the inner dynein arms in the ciliary axoneme.** R. Yamamoto[1], J.M. Obbineni[2], L.M. Alford[3], T. Ide[4], M. Owa[4], T. Kon[1], K. Inaba[5], N. James[6], S.M. King[7], T. Ishikawa[2], W.S. Sale[3], S.K. Dutcher[6]; [1]Biological Sciences, Osaka University, Osaka, Japan, [2]Bimolecular Research, Paul Scherrer Institute, Zurich, Switzerland, [3]Cell Biology, Emory University, Atlanta, GA, [4]Biological Sciences, University of Tokyo, Tokyo, Japan, [5]Shimoda Marine Research Center, University of Tsukuba, Shizuoka, Japan, [6]Genetics, Washington University School of Medicine, St. Louis, MO, [7]Molecular Biology and Biophysics, University of Connecticut Health Center, Farmington, CT

B377/P1002 **The *Chlamydomonas IDA3* gene encodes a protein specifically required for transport of the ciliary inner dynein arm I1/f dynein.** E.L. Hunter[1], J. Hwang[1], L.M. Alford[2], R. Yamamoto[3], R. Kamiya[4], H. Lin[5], F. Yang[6], M. Wirschell[6], S.K. Dutcher[5], W.S. Sale[1]; [1]Cell Biology, Emory University School of Medicine, Atlanta, GA, [2]Biology, Oglethorpe University, Atlanta, GA, [3]Biological Sciences, Osaka University, Osaka, Japan, [4]Biological Sciences, Chuo University, Tokyo, Japan, [5]Genetics, Washington University School of Medicine, St. Louis, MO, [6]Biochemistry, University of Mississippi Medical Center, Jackson, MS

B378/P1003 **Phosphorylation of DCC1 regulates outer dynein arm function and mediates alcohol-induced ciliary dysfunction.** F. Yang[1], C. Scarbrough[1], J. Pavlik[2], J. Sisson[2], M. Wirschell[1]; [1]Biochemistry, University of Mississippi Medical Center, Jackson, MS, [2]Pulmonary, Critical Care, Sleep and Allergy, University of Nebraska Medical Center, Omaha, NE

B379/P1004 **The Transition Zone Superassembly is Altered by Joubert Syndrome Mutations.** G. Garcia[1], X. Shi[1,2], B. Huang[1,2], J.F. Reiter[1]; [1]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, [2]Department of Pharmaceutical Chemistry, University of California, San Francisco, San Francisco, CA

B380/P1005 **Membrane-associated localization and interactomic study of primary cilia.** P. Kohli[1,2], M. Rinschen[1,2,3], M. Hoehne[1,2,3], T. Benzing[1,2,3], B. Schermer[1,2,3]; [1]Department II of Internal Medicine and Center for Molecular Medicine, University of Cologne, Cologne, Germany, [2]Cologne Excellence Cluster on Cellular Stress Responses in Aging-Associated Diseases, University of Cologne, Cologne, Germany, [3]Systems Biology of Ageing Cologne, University of Cologne, Cologne, Germany

B381/P1006 **Investigating novel antibodies for identification/characterization of neuronal primary cilia using immunofluorescence microscopy.** G. Cook[1], J. Cox[1,2], N. Wilson[1]; [1]Anatomy Cell Biology, Oklahoma State University-Center for Health Sciences, Tulsa, OK, [2]Biological Sciences, Tulsa Community College, Tulsa, OK

B382/P1007 **IIIG9: a new ciliary protein in ependymal cells.** K.A. Salazar [1,2], V.M. Baeza[1,2], F.A. Martinez[1,2], F.J. Nualart[1,2], M.J. Oviedo[1,2], M. Cifuentes[3]; [1]Cell Biology, Concepcion University, Concepcion, Chile, [2]Center for Advanced Microscopy, CMA BIO BIO, Concepcion, Chile, [3]CIBER BIONAND, Malaga University, Malaga, Spain

B383/P1008 **Flagellar Control Units Are Organized into Distinct Nanodomains that Define Sperm Motility Pattern as Revealed by Super Resolution Microscopy.** N. Mannowetz[1], M.R. Miller[1], S.J. Kenny[2], S.A. Mansell[1], S. . Meyers[3], K. Xu[2], P.V. Lishko[1]; [1]Department of Molecular and Cell Biology, University of California, Berkeley, CA, [2]Department of Chemistry, University of California, Berkeley, CA, [3]Department of Physiology and Cell Biology, University of California, Davis, CA

B384/P1009 **Functions of Ttc26 in cilia motility.** Y. Xu[1], S. Huang[1], D. Feng[1], X. Yan[1], X. Zhu[1]; [1]Shanghai institute of biochemistry and cell biology, Shanghai, China

B385/P1010 **In vivo analysis of Outer Dynein Arm transport by IFT in *Chlamydomonas reinhardtii*.** J. Dai[1], D.R. Mitchell[2], K.F. Lechtreck[1]; [1]Department of Cellular Biology, University of Georgia, Athens, GA, [2]Department of Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY

B386/P1011 **Flagellar length control can be achieved through a simple diffusion-based length measure.** N.L. Hendel[1], W.F. Marshall[1]; [1]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA

B387/P1012 **Quantitative Proteomics Analysis of *Chlamydomonas* Axonemes Reveal Proteins Enriched in Short Axonemes.** J. Hwang[1], L.M. Alford[2], R. Bower[3], E.L. Hunter[1], M.E. Porter[3], W.S. Sale[1]; [1]Cell Biology, Emory University School of Medicine, Atlanta, GA, [2]Biology, Oglethorpe University, Atlanta, GA, [3]Genetics, Cell Biology and Development, University of Minnesota, Minneapolis, MN

B388/P1013 **Biochemical analysis reveals the molecular composition of kinetodesmal fibers and other cortical structures of the ciliated protozoan *Tetrahymena Thermophila*.** J.E. Honts[1], A. Fiscus[1], N. Skantz[1], L. Sundby[1], D. Chalker[2], A. Aboona[2], C. Brenner[2], V. Jaspan[2], H. Pravder[2], D.J. Beussman[3], Z. Turner[3], M. Dahl[3], R. Somepalli[2]; [1]Biology, Drake University, Des Moines, IA, [2]Biology, Washington University, St. Louis, MO, [3]Chemistry, St. Olaf College, Northfield, MN

B389/P1014 **Generation and modulation of sperm flagellar motility by metachronal and synchronous sliding of doublet microtubules.** S. Ishijima[1], K. Yoshida[2], G.L. Takei[3], M. Fujinoki[3]; [1]Life Science and Technology, Tokyo Institute of Technology, Tokyo, Japan, [2]Biomedical Engineering, Toin University of Yokohama, Yokohama, Japan, [3]Physiology, Dokkyo Medical University, Tochigi, Japan

Spindle Assembly 2

B400/P1015 **Multivariate image analysis reveals architectural features of *Xenopus* spindles assembled *in vitro*.** A.W. Grenfell[1], M. Strzelecka[1,2], M. Crowder[1,3], K. Helmke[1,4], A. Schlaitz[1,5], R. Heald[1]; [1]Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, [2]Qiagen, Hilden, Germany, [3]Molecular and Cell Biology, University of California, Davis, Davis, CA, [4]Bioengineering Department, Stanford University, Stanford, CA, [5]Zentrum für Molekulare Biologie, Unversitlät Heidelberg, Heidelberg, Germany

B401/P1016 **Theory of Xenopus Llaevis meiotic spindle assembly.** S. Fürthauer[1,2,3], P.J. Foster[3], D.J. Needleman[3], M.J. Shelley[1,2]; [1]Simons Foundation, Simons Foundation, New York, NY, [2]Courant Institute, New York University, New York, NY, [3]Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA

B402/P1017 **Mechanisms of spindle size scaling across Pipid frogs.** K. Miller[1], R. Heald[1]; [1]Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B403/P1018 **Phosphorylation of EB2 by Aurora B and CDK1 reduces the affinity for MTs and ensures mitotic progression and genome stability.** M. Iimori[1], S. Nishimura[2], E. Oki[2], H. Saeki[2], H. Kitao[1], Y. Maehara[2]; [1]Department of Molecular Oncology, Kyushu University, Fukuoka, Japan, [2]Department of Surgery and Science, Kyushu University, Fukuoka, Japan

B404/P1019 **GTSE1 is a novel regulator of chromosome alignment during mitosis.** A.R. Tipton[1], J.R. Daum[1], J.D. Wren[2], G.J. Gorbsky[1]; [1]Cell Cycle and Cancer Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, [2]Arthritis and Clinical Immunology, Oklahoma Medical Research Foundation, Oklahoma City, OK

B405/P1020 **Physical determinants of bipolar mitotic spindle assembly and stability.** R. Blackwell[1], C. Edelmaier[1], O. Sweezy-Schindler[1], A. Lamson[1], Z. Gergely[1,2], E.T. Ottoole[2], A. Crapo[1], L. Hough[1], M.A. Glaser[1], J.R. McIntosh[2], M. Betterton[1,2]; [1]Physics, University of Colorado Boulder, Boulder, CO, [2]MCDB, University of Colorado Boulder, Boulder, CO

B406/P1021 **Local load-bearing in the mammalian spindle provides mechanical isolation and redundancy.** M.W. Elting[1], D.B. Udy[1,2], S. Dumont[1,3]; [1]Cell and Tissue Biology, UCSF, San Francisco, CA, [2](present address) Molecular and Cellular Biology Program, University of Washington, Seattle, WA, [3]Cellular and Molecular Pharmacology, UCSF, San Francisco, CA

B407/P1022 **Microtubules push chromosomes apart in anaphase.** C. Yu[1], S. Redemann[2], H. Wu[3], T. Yoo[1], T. Müller-Reichert[2], D.J. Needleman[1,4]; [1]School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, [2]Medical Faculty Carl Gustav Carus, Technische Universität, Dresden, Germany, [3]Physics, Harvard University, Cambridge, MA, [4]Molecular and Cellular Biology and Center for Systems Biology, Harvard University, Cambridge, MA

B408/P1023 **Bipolar spindle formation is an irreversible process mediated by kinesin-5 crosslinking.** A.Y. Leary[1,2], E. Nazarova[1], S. Sim[2], S. DeWald[3], M.K. Gardner[3], E.T. Otoole[4], P. Francois[2], J.M. Vogel[1]; [1]Biology, McGill University, Montreal, QC, [2]Physics, McGill University, Montreal, QC, [3]Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, [4]Molecular, Cellular and Developmental Biology, University of Colorado, Boulder, CO

B409/P1024 **An alternate pathway for the degradation of cyclin B1 that mediates mitotic slippage.** R.S. Balachandran[1], C.S. Heighington[1], N.G. Starostina[1], J.W. Anderson[1], D.L. Owen[1], S. Vasudevan[1], E.T. Kipreos[1]; [1]Department of Cellular Biology, University of Georgia, Athens, GA

B410/P1025 **HMMR/RHAMM balances motor forces needed to complete the spindle assembly checkpoint.** H. Chen[1], C.A. Maxwell[1]; [1]Paediatrics, University of British Columbia, Vancouver, BC

B411/P1026 **Different Mad1 domains coordinate to catalyze Mad2 O-C conversion.** W. Ji[1], E. Ahmad[1], S. Liu[1], Y. Luo[1]; [1]Biology, The University of Toledo, Toledo, OH

B412/P1027 **Mechanism Selecting Against Unfit Cells with Poor Mitosis.** C. Fong[1], G. Mazo[1], T. Das[1], J. Goodman[2], M. Kim[1], D. Izquierdo[1], M.B. Tsou[1]; [1]Cell Biology, Memorial Sloan Kettering Cancer Center, New York, NY, [2]Oberlin College, Oberlin, OH

B413/P1028 **Mitotic spindle organization and dynamics respond to unresolved sister chromatids via an Aurora B-dependent pathway.** B. Zipp[1], R. Kyger[1], N. Lewis[1], K.B. Kaplan[1], C. Jaramishian[1]; [1]MCB, University of California, Davis, Davis, CA

B414/P1029 **A new tool for identifying substrates of Aurora kinases.** J. Deretic[1], A.R. Kerr[1], T. Ly[2], J.P. Welburn[1]; [1]The Wellcome Trust Centre for Cell Biology and Institute of Cell Biology, University of Edinburgh, Edinburgh, United Kingdom, [2]Centre for Gene Regulation and Expression, College of Life Sciences, University of Dundee, Dundee, United Kingdom

B415/P1030 **An actin spindle protects mammalian oocytes against chromosome segregation errors.** B. Mogessie[1], M. Schuh[1]; [1]Meiosis, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany

B416/P1031 **Cortical tension and chromosome alignment in mouse oocytes.** I. Bennabi[1]; [1]CIRB, Collège de France, CNRS, INSERM-U1050, PSL, Paris, France

B417/P1032 **Minus-end kinesins and SPD-1(PRC1) provide complementary mechanisms to organize acentriolar C. elegans oocyte spindles.** T.J. Mullen[1], I.D. Wolff[1], S.M. Wignall[1]; [1]Molecular Biosciences, Northwestern University, Evanston, IL

B418/P1033 **SAMP-1 is essential for chromosome segregation during *C. elegans* male meiosis.** A. Kuzmanov[1], A.J. Deshong[1], B.J. Larson[1], M. Gorjanacz[2], J. Engebrecht[1]; [1]Molecular and Cellular Biology, University of California, Davis, CA, [2]European Molecular Biology Laboratory, Heidelberg, Germany

MONDAY

G1, G1-S, S, and G2-M Phase Regulation

B419/P1034 **Spatiotemporal variations of the human proteome associated to cell cycle progression.** D. Mahdessian[1], D.P. Sullivan[1], E. Rexhepaj[1], R.F. Murphy[2], M. Uhlén[1], E. Lundberg[1]; [1]Science for Life Laboratory,, Royal Institute of Technology (KTH), Stockholm, Sweden, [2]Computational Biology Department, Carnegie Mellon University, Pittsburgh, PA

B420/P1035 **Yeast metabolic cycle: the relationship between metabolic state and the cell cycle at single-cell resolution.** A.J. Burnetti[1,2,3], N.E. Buchler[3,4]; [1]University Program in Genetics and Genomics, Duke University, Durham, NC, [2]Cell and Molecular Biology Program, Duke University, Durham, NC, [3]Center for Genomic and Computational Biology, Duke University, Durham, NC, [4]Biology, Duke University, Durham, NC

B421/P1036 **Investigation of multi-site phosphorylation in -tubulin in budding yeast.** K. Shulist[1], E. Yen[1], J.M. Vogel[1]; [1]Department of Biology, McGill University, Montreal, QC

B422/P1037 **A novel signaling pathway triggers cell cycle arrest in response to mitotic stresses generated by centrosome loss or prolonged mitosis.** B.G. Lambrus[1], V. Daggubati[1], Y. Uetake[2], P. Scott[1], K.M. Clutario[1], G. Sluder[2], A.J. Holland[1]; [1]Molecular Biology and Genetics, Johns Hopkins University School of Medicine, Baltimore, MD, [2]Cell and Developmental Biology, University of Massachusetts Medical School, Worcester, MA

B423/P1038 **53BP1 and USP28 Mediate p53 Activation and G1 Arrest Following Centrosome Loss or Extended Mitotic Duration.** F. Meitinger[1], J.V. Anzola[2], M. Kaulich[3], A.K. Richardson[1], J.D. Stender[4], C. Benner[5], C.K. Glass[4,5], S.F. Dowdy[4], A.B. Desai[1], A.K. Shiau[2], K. Oegema[1]; [1]Department of Cellular and Molecular Medicine, Ludwig Institute for Cancer Research, La Jolla, CA, [2]Small Molecule Discovery Program, Ludwig Institute for Cancer Research, La Jolla, CA, [3]Institute of Biochemistry II, Goethe University Frankfurt,, Frankfurt, Germany, [4]Department of Cellular and Molecular Medicine, University of California San Diego, La Jolla, CA, [5]Department of Medicine, University of California San Diego, La Jolla, CA

B424/P1039 **CRISPR/Cas9 treatment induces an extended p53-dependent cell cycle arrest in human cells.** J.M. Geisinger[1], T. Stearns[1,2]; [1]Biology, Stanford University, Stanford, CA, [2]Genetics, Stanford University, Stanford, CA

B425/P1040 **Hypersensitivity to DNA damage in antephase as a safeguard for genome stability.** F.M. Feringa[1], L. Krenning[1], A. Koch[1], J. van den Berg[1], B. van den Broek[1], K. Jalink[1], R.H. Medema[1]; [1]Cell Biology, Netherlands Cancer Institute, Amsterdam, Netherlands

B426/P1041 **ER-resident transmembrane transcription factor OASIS plays important role in DNA damage response.** R. Asada[1], K. Kikushima[1], M. Cui[1], K. Imaizumi[1]; [1]Department of Biochemistry, Institute of Biomedical & Health Sciences, Hiroshima University, Hiroshima, Japan

B427/P1042 **Pre-exposure to environmental stress alters survival under DNA replication instability.** P.N. Patel[1], S.A. Sabatinos[1]; [1]Department of Chemistry and Biology, Ryerson University, Toronto, ON

B428/P1043 **Defining phenotypic heterogeneity and predicting cell fate post-drug in fission yeast.** S.A. Sabatinos[1,2], M.D. Green[1], S.L. Forsburg[1]; [1]Molecular and Computational Biology, University of Southern California, Los Angeles, CA, [2]Chemistry and Biology, Ryerson University, Toronto, ON

B429/P1044 **Role of the voltage-gated calcium channel 4 subunit in cell proliferation.** M. Rima[1,2,3], M. Daghsni[1,2,4], Z. Fajloun[3], M. Berrios[5], M. Ronjat[1,2,6], Y. Mori[7], J.L. Bruses[5], M. De Waard[1,2,6,8]; [1]INSERM - UMR1087, Institute of Thorax, Nantes, France, [2]CNRS - UMR6291, Institute of Thorax, Nantes, France, [3]Azm Center for Research in Biotechnology and its Application, Lebanese University, Tripoli, Lebanon, [4]Laboratory of Human Genetics, University of Tunis El Manar, Tunis, Tunisia, [5]Department of Natural Sciences, Mercy College, Dobbs Ferry, NY, [6]LabEx Ion Channels Science and Therapeutics, University of Nantes, Nantes, France, [7]Department of Synthetic Chemistry and Biological Chemistry, Kyoto University, Kyoto, Japan, [8]Smartox Biotechnology, Saint-Martin d'Hères, France

B430/P1045 **The molecular mechanisms that maintain the numerical integrity of centrosomes under stress.** T. Nakamura[1], M. Takekawa[1]; [1]Division of cell signaling and molecular medicine, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan

B431/P1046 **Polo kinase has an important role in establishing meiotic commitment in *Saccharomyces cerevisiae*.** C. Puccia[1], S. Lacefield[1]; [1]Biology, Indiana University, Bloomington, IN

B432/P1047 **Oocytes from older females progress through meiosis faster than younger.** M. Koncicka[1], A. Tetkova[1], D. Jansova[1], M. Kubelka[1], A. Susor[1]; [1]Laboratory of Biochemistry and Molecular Biology of Germ Cells, IAPG CAS, Libechov, Czech Republic

B433/P1048 **Mitotic Cyclin Dependent Kinase Links Septin Organization and Spindle Positioning.** G. Muhire Gihana[1], T. Musser[1], O. Thompson[1], S. Lacefield[1]; [1]Biology, Indiana University, Bloomington, IN

B434/P1049 **Irreversible APC/C-Cdh1 inactivation underlies the point of no return for cell cycle entry.** S.D. Cappell[1], M. Chung[1], A. Jaimovich[1], S.L. Spencer[1], T. Meyer[1]; [1]Chemical and Systems Biology, Stanford School of Medicine, Stanford, CA

B435/P1050 **Inappropriate E2F activity during S phase deregulates replication dynamics.** B.R. Pennycook[1], R.A. de Bruin[1]; [1]Laboratory for Molecular Cell Biology, University College London, London, United Kingdom

B436/P1051 **Role of the VCP segregase in DNA replication.** P. Ubieto-Capella[1,2], E. Lecona[1], O. Fernández-Capetillo[1]; [1]Genomic Instability Group, Spanish National Cancer Research Centre, CNIO, Madrid 28029, Spain, [2]"Programa Impuls", University of Lleida, UdL, Lleida 25008, Spain

B437/P1052 **The cullin-1 gene in *Aspergillus nidulans* interacts genetically with -tubulin, regulates the G_1/S transition, and coordinates nuclear division with cytokinesis.** V. Paolillo[1], J. Dohn[1], B.R. Oakley[1]; [1]Molecular Biosciences, The University of Kansas, Lawrence, KS

B438/P1053 **Dihydro derivatives of dehydroleucodine inhibit early adipogenesis.** S. Abood[1], D. Llomparr[1], M. Veisaga[2], L.A. Lopez[3], M.A. Barbieri[1,2,4,5]; [1]Department of Biological Sciences, Florida International University, Miami, FL, [2]Biomolecular Sciences Institute, Florida International University, Miami, FL, [3]Laboratory of Cell Cycle and Cytoskeleton, Instituto de Histología y Embriología Dr. M. H. Burgos (IHEM), Facultad de Ciencias Medicas, Universidad Nacional de Cuyo, Mendoza, Argentina, [4]Fairchild Tropical Botanic Garden, Coral Gables, FL, [5]International Center of Tropical Botany, Florida International University, Miami, FL

B439/P1054 **Telomere defects in *cdc13*-1 strains at permissive temperatures.** P. Sanchez[1], K. Livingston[1], W. Azaizeh[1], K. Edwards[1], A. Nakasone[1], C.J. Hengartner[1], L.R. Vega[1]; [1]Biology, Barry University, Miami Shores, FL

Kinetochore Assembly and Functions 2

B440/P1055 **Characterizing the role of BuGZ in mitotic chromosome segregation.** H.K. Shirnekhi[1], J.G. DeLuca[1]; [1]Department of Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B441/P1056 **Investigating the contribution of phospho-Histone marks to Aurora B kinase activity at kinetochores.** A.J. Broad[1], J.G. DeLuca[1], K. Luger[1], M. Dechassa[1]; [1]Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B442/P1057 **Sex-specific survival differences in p53 heterozygous animals reveal that p53 is not required for cell death and tumor suppression caused by high rates of chromosomal instability.** L.C. Funk[1,2], J. Wan[3], S.D. Ryan[4], B.A. Weaver[4,5], C. Kaur[4]; [1]Molecular and Cellular Pharmacology, UW-Madison, Madison, WI, [2]Cancer Biology, UW-Madison, Madison, WI, [3]Physiology Graduate Training Program, UW-Madison, Madison, WI, [4]Cell and Regenerative Biology, UW-Madison, Madison, WI, [5]Carbone Cancer Center, UW-Madison, Madison, WI

B443/P1058 **Optogenetic tools for controlling kinetochore function in live cells.** H. Zhang[1], C. Aonbangkhen[2], A. Gokden[1], D.M. Chenoweth[2], M.A. Lampson[1]; [1]Department of Biology, University of Pennsylvania, Philadelphia, PA, [2]Department of Chemistry, University of Pennsylvania, Philadelphia, PA

B444/P1059 **Multi-target Mps1 phosphorylation cascade in spindle checkpoint revealed by in-vitro reconstitution.** Z. Ji[1], H. Gao[1], L. Jia[1], B. Li[1], H. Yu[1,2]; [1]Department of Pharmacology, University of Texas Southwestern Medical Center, Dallas, TX, [2]Howard Hughes Medical Institute, Dallas, TX

B445/P1060 **Centromere structure, not transcription, regulates Aurora B localization and SAC response in human cells.** C. Ferras[1], N. Galjart[2], M. Cruz[1], H.J. Maiato[1,3]; [1]CID lab, IBMC, I3S, Porto, Portugal, [2]Genetics, Erasmus MC, Rotterdam, Netherlands, [3]Cell Division Unit, Department of Experimental Biology, FMUP, UP, Porto, Portugal

B446/P1061 **Characterization of CENP-A nucleosome-binding factors and their role in epigenetic centromere maintenance.** B.T. French[1], F.G. Westhorpe[1], A.F. Straight[1]; [1]Biochemsitry, Stanford University Medical School, Stanford, CA

B447/P1062 **Testing the Functional Relevance of Putative Post-translational Modifications of the Histone Variant, CENP-A, using a CRISPR-based Method for Simultaneous Replacement of Both CENP-A Alleles.** G.A. Logsdon[1,2], D. Fachinetti[3], E.B. Selzer[1], A. Abdullah[3], D.W. Cleveland[3], B.E. Black[1,2]; [1]Biochemistry and Biophysics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, [2]Graduate Program in Biochemistry and Molecular Biophysics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, [3]Ludwig Institute for Cancer Research and Department of Cellular and Molecular Medicine, University of California at San Diego, La Jolla, CA

B448/P1063 **The Number of Satellite Repeats Dictates Centromere Strength in Mammals.** J.M. Dawicki-McKenna[1], A. Iwata-Otsubo[2], S.J. Falk[1], K. Yang[2], L. Chmatal[2], R.M. Schultz[2], M.A. Lampson[2], B.E. Black[1]; [1]Department of Biochemistry and Biophysics, University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA, [2]Department of Biology, University of Pennsylvania, Philadelphia, PA

B449/P1064 **Kinetoplastid Ndc80/Nuf2 reunites chromosome segregation across eukaryotes.** S. D'Archivio[1], B. Wickstead[1]; [1]School of Life Sciences, University of Nottingham, Nottingham, United Kingdom

B450/P1065 **Mitotic Chromosome Proteome of nucleoporin Seh1 conditional knockout cell line using Auxin/AID system.** M. Platani[1], I. Samejima[1], W.C. Earnshaw[1]; [1]Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, United Kingdom

B451/P1066 **Molecular Basis for Cdk1 Mediated Cell Cycle Control of Mis18 Complex Assembly.** F. Spiller[1], B. Medina-Pritchard[1], M. Abad Fernandez[1], M. Wear[2], O. Molina[1], W.C. Earnshaw[1], J. Arulanandam[1]; [1]Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, United Kingdom, [2]Centre for Translational and Chemical Biology, University of Edinburgh, Edinburgh, United Kingdom

B452/P1067 **Investigating the centromeric role of HP1 by a synthetic biology approach.** J.G. Ruppert[1], O. Molina[1], J. Arulanandam[1], W.C. Earnshaw[1]; [1]Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, United Kingdom

B453/P1068 **Molecular force measurements across the kinetochore protein CENP-T.** A. Freikamp[1], A. Weißl[2], M. Rief[2], C. Grashoff[1]; [1]Molecular Mechanotransduction, Max Planck Institute of Biochemistry, Martinsried/Munich, Germany, [2]Biophysics (E22), Technische Universität München, Munich, Germany

B454/P1069 **Atypical functions of BUB-1 and HCP-1/2^{CENP-F} during mitosis in *Caenorhabditis elegans*.** F. Edwards[1,2], J. Dumont[1]; [1]Institut Jacques Monod, CNRS UMR7592, Paris, France, [2]ED Frontières du vivant, Centre de recherches interdisciplinaires, Paris, France

Centrosome Assembly and Functions 2

B455/P1070 **A Detailed Centrosome Interactome Reveals A Novel Role Of Plk4 And Provides Insight Into The Mechanisms Of Human Centrosome Disease.** B.J. Galletta[1], C.J. Fagerstrom[1], T.A. Schoborg[1], T.A. McLamarrah[2], J.M. Ryniawec[2], D.W. Buster[2], K.C. Slep[3], G.C. Rogers[2], N.M. Rusan[1]; [1]Cell Biology and Physiology Center, National Heart Lung and Blood Institute, Bethesda, MD, [2]Cellular and Molecular Medicine, University of Arizona, Tucson, AZ, [3]Biology, University of North Carolina, Chapel Hill, NC

B456/P1071 **The role of centrosomes in the pathogenesis of Zika virus (ZIKV)-related microcephaly.** Y. Yaffe[1], T.A. Dellibovi-Ragheb[1], Y. Chen[1], Y. Elkabetz[2], N. Altan-Bonnet[1]; [1]National Heart Lung and Blood Institute, NIH, Bethesda, MD, [2]Department of Cell and Developmental Biology, Tel Aviv University, Tel Aviv, Israel

B457/P1072 **Accessorizing the centriole: Understanding distal appendage proteins and analyzing molecular evolution of centriolar adjuncts.** O. Cormier[1], T. Stearns[1,2]; [1]Biology, Stanford University, Stanford, CA, [2]Genetics, Stanford School of Medicine, Stanford, CA

B458/P1073 **Sfi1 and Centrin functions in centrosome biogenesis and separation.** I.B. Bouhlel[1], M. Ohta[2], A. Mayeux[1], N. Bordes[1], F. Dingli[1], J. Boulanger[1], G. Velve Casquillas[3], D. Loew[1], P.P. Tran[1], M. Sato[2], A. Paoletti[1]; [1]UMR144, Institut Curie, Paris, France, [2]Center for Frontier Research, National Institute of Genetics, Mishima, Japan, [3]ELVESYS Microfluidic Innovation Center, Paris, France

B459/P1074 **Deciphering the proteomic composition of pericentriolar satellites.** V. Quarantotti[1], J. Chen[1], J. Haefner[1], C. Taylor[1], E.K. Papachristou[1], C. d'Santos[1], J.V. Kilmartin[2], M. Miller[1], F. Gergely[1]; [1]Cancer Research UK Cambridge Institute, University of Cambridge, Cambridge, United Kingdom, [2]MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

B460/P1075 **Spindle pole body assembly into the nuclear envelope in budding yeast.** J. Chen[1], Z. Yu[1], S.E. Smith[1], J. Unruh[1], S.L. Jaspersen[1]; [1]Stowers Institute for Medical Research, Kansas City, MO

B461/P1076 **Plk1 controls PCM assembly by phosphorylating SPD-2 and SPD-5 in C. elegans.** Z. Zhao[1], S. Wang[1,2], D. Wu[3], S. Ochoa Mikrut[1,4], V. Viscardi[1], A.B. Desai[1,4], K. Oegema[1,4]; [1]Ludwig Institute For Cancer Research, La Jolla, CA, [2]National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, MD, [3]The National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD, [4]University of California, San Diego, La Jolla, CA

B462/P1077 **Defining the link between p53 and centrosome homeostasis.** R. Sala[1], N. Raj[2], L. Attardi[2,3], T. Stearns[1,3]; [1]Biology Department, Stanford University, Stanford, CA, [2]Department of Radiation Oncology, Stanford University, Stanford, CA, [3]Department of Genetics, Stanford University, Stanford, CA

B463/P1078 **GAS2L1 Is a Centriolar Protein to Regulate Centrosome Disjunction.** F. Au[1], Y. Jia[1], K. Jiang[2], I. Grigoriev[2], K. Hau[1], S. Du[3], A. Akhmanova[2], .Z. Qi[1]; [1]Division of Life Science and State Key Laboratory of Molecular Neuroscience, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong, [2]Cell Biology, Faculty of Science, Utrecht University, Utrecht, Netherlands, [3]Department of Physics and Super-Resolution Imaging Center, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong

B464/P1079 **Paracrine-mediated invasion induced by centrosome amplification.** T. Arnandis[1], V. Rajeeve[2], C.H. Brennan[3], P.R. Cutillas[2], S.A. Godinho[1]; [1]Centre for Molecular Oncology, Barts Cancer Institute, Queen Mary University, London, United Kingdom, [2]Centre for Haemato-Oncology, Barts Cancer Institute, Queen Mary University, London, United Kingdom, [3]School of Biological and Chemical Sciences, Queen Mary University of London, London, United Kingdom

B465/P1080 **DDR1 localisation to adherens junctions prevents efficient clustering of supernumerary centrosomes.** A.D. Rhys[1], M. Vaghela[2], P. Monteiro[1], M. Yusuf[1], A.D. McAinsh[3], G. Charras[2], S.A. Godinho[1]; [1]Molecular Oncology, Barts Cancer Institute, Queen Marys, University of London, London, United Kingdom, [2]London Centre for Nanotechnology, University College London, University of London, London, United Kingdom, [3]Division of Biomedical Cell Biology, University of Warwick, Warwick, United Kingdom

B466/P1081 **The function of TgCentrin2 in the apicomplexan parasite *Toxoplasma gondii*.** J. Liu[1], J.M. Leung[1], L.A. Wetzel[1,2], Y. Zhang[3], J. Murray[1], L. Florens[3], K. Hu[1]; [1]Biology, Indiana University, Bloomington, IN, [2]Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, [3]Stowers Institute for Medical Research, Kansas City, MO

B467/P1082 **HSP70 is required for the assembly of functional mitotic spindles.** C. Fang[1], H. Kuo[1], L. Yih[1]; [1]Institute of Cellular and Organismic Biology, Academia Sinica, Taipei, Taiwan

Cancer Therapy 2

B468/P1083 **Temporal design of cancer combinatorial therapy guided by single-cell dynamics.** S. Chen[1,2], G. Lahav[1]; [1]Systems Biology, Harvard Medical School, Cambridge, MA, [2]Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan

B469/P1084 **Defining the signaling space of p53 dynamics across species and tumors reveals cell line specific modifiers of p53 activity.** J. Stewart-Ornstein[1], G. Lahav[1]; [1]Systems Biology, Harvard Medical School, Boston, MA

MONDAY

B470/P1085 **Regulation of endocytosis by ultrasound and microbubble treatment: potential for control of drug uptake in cancer cells.** F. Fekri[1,2], R.C. Delos Santos [1], R. Karshafian[1,2], C.N. Antonescu[1]; [1]Chemistry Biology, Ryerson University, Toronto, ON, [2]IBEST, Li Ka Shing Knowledge Institute, Toronto, ON

B471/P1086 **Characterization of a novel anti-cancer drug that targets centrosomes in cancer cells.** D. Jaunky[1], P. Forgione[2], A.J. Piekny[1]; [1]Biology, Concordia University, Montreal, QC, [2]Chemistry and Biochemistry, Concordia University, Montreal, QC

B472/P1087 **Spreading and motility of normal and cancer cells under the action of anti-microtubule drugs – dose-response relation.** S. Kauanova[1], A. Tvorogova[2], A. Kakpenova[3], A. Balabiyev[3], M. Abdukassimova[4], S. Mussakhan[4], I.A. Vorobjev[2,3,4]; [1]School of Engineering, Nazarbayev University, Astana, Kazakhstan, [2]Faculty of Biology, M.V. Lomonosov Moscow State University, Department of Cell Biology and Histology, A.N. Belozersky Institute of Physico-Chemical Biology, Moscow, Russia, [3]National Laboratory Astana, Nazarbayev University, Astana, Kazakhstan, [4]School of Science and Technology, Nazarbayev University, Astana, Kazakhstan

B473/P1088 **Quantification of oridonin-induced apoptosis and cytotoxicity in cancer cells using noninvasive live-cell imaging.** J.E. Clayton[1], P.G. Held[1], B. Larson[1], P. Banks[1]; [1]BioTek Instruments, Winooski, VT

B474/P1089 **Establishing and analyzing clinically radioresistant oral squamous cell cancer cells.** N. Yamamoto[1], G. Kashino[2], K. Kawano[1], S. Kobashikawa[2]; [1]Department of Dentistry and Oral-Maxillo-Facial Surger, Oita University, Yufu, Japan, [2]Advanced Molecular Imaging Center, Oita University, Yufu, Japan

B475/P1090 **Effect of potential anticancer compounds on osteoblast cell death and apoptosis is reduced by human breast cancer cell derived PTHrP.** N.S. Datta[1], S. Sharma[1]; [1]Internal Medicine, Wayne State University School of Medicine, Detroit, MI

B476/P1091 **Integrin 1, myosin light chain kinase and myosin IIA are required for activation of PI3K-Akt signaling following MEK inhibition in metastatic triple negative breast cancer.** J. Kwon[1], C. Choi[1], D.M. Helfman[1]; [1]Department of Biological Sciences, Korea Institute of Science and Technology, Daejeon, Korea, South

B477/P1092 **Bay 61-3606 sensitizes TRAIL-induced apoptosis by downregulating Mcl-1 in breast cancer cells.** S. Kim[1], S. Park[1], K. Kim[1,2], I. Kim[1,2]; [1]ASAN Institute for Life Sciences, ASAN Medical Center, Seoul, Korea, [2]Department of Convergence Medicine, University of Ulsan College of Medicine, Seoul, Korea

B478/P1093 **Cynanchi atrati Radix sensitizes human glioma cells to TRAIL-induced apoptosis.** S. Lee[1], H. Byun[1], M. Won[1], K. Park[1], K. Kang[1], G. Hur[1]; [1]Department of Medical Science, Chungnam National University School of Medicine, Daejeon, Korea, South

B479/P1094 **Ibulocydine sensitizes human hepatocellular carcinoma cells to TRAIL-induced apoptosis via calpain-mediated Bax cleavage.** S.S. Park[1,2], S.H. Shin[1], E.J. Ju[1], I. Park[1], S.Y. Song[1,3], S.Y. Jeong[1,2], E.K. Choi[2,3]; [1]Asan Institute for Life Sciences, Asan Medical Center, Seoul, Korea, South, [2]Center for Advancing Cancer Therapeutics, Asan Medical Center, seoul, Korea, South, [3]Department of Radiation Oncology, Asan Medical Center, Seoul, Korea, South

B480/P1095 **Nutlin-3 enhances the bortezomib sensitivity of p53-defective cancer cells by induction of paraptosis.** D. Lee[1,2], I. Kim[1,2], M. Seo[1,2], M. Kwon[1,2], K. Choi[1,2]; [1]Biochemistry, Ajou University, Suwon, United States, [2]Department of Biomedical Sciences, Ajou University, Suwon, Korea, South

B481/P1096 **Studying the Genetic Requirements of Gemcitabine Resistance in Fission Yeast.** Z. Kianfard[1], S.A. Sabatinos[1]; [1]Chemistry and Biology, Ryerson University, TORONTO, ON

B482/P1097 **The effect of DNA polymerase eta on cell death in gemcitabine treated human pancreatic tumor cells.** D.N. Di Florio[1,2], R. Barnes[1], K.A. Eckert[1]; [1]Pathology, Gittlen Cancer Research Foundation, Penn State College of Medicine, Hershey, PA, [2]Biology, Robert Morris University, Moon, PA

B483/P1098 **Characterisation of the subpopulations of heterogeneous primary prostate epithelial cell cultures derived from patient tissue.** R. Suman[1,2], R. Kasprowicz[1,2], A.R. Noble[3], P. Otoole[2], F.M. Frame[3], N.J. Maitland[3]; [1]Life Science Applications, Phase Focus Limited, Sheffield, United Kingdom, [2]Technology Facility, Imaging and Cytometry, University of York, York, United Kingdom, [3]Cancer Research Unit, Department of Biology, University of York, York, United Kingdom

B484/P1099 **The development of quality control panels for the high-risk human papilomavirus (HR-HPV) detection system.** H. Wang[1], C. Ma[1], Y. Zhou[1]; [1]R & D, AbboMax, Inc, San Jose, CA

B485/P1100 **Targeted molecular imaging agents (TMIAs) for improved detection of cancers.** A. Hanafiah[1], A. Embong[1], R.L. Walden[1], T.C. Anderson[1], H.F. Schmitthenner[2], I.M. Evans[1]; [1]Gosnell School of Life Sciences, Rochester Institute of Technology, Rochester, NY, [2]School of Chemistry and Materials Science, Rochester Institute of Technology, Rochester, NY

B486/P1101 **The initial study of the correlation between mRNA expression and protein phosphorylation of epidermal growth factor receptor (EGFR) in colorectal and breast cancer cell lines.** H. Wang[1], C. Ma[1], Y. Zhou[1]; [1]R & D, AbboMax, Inc, San Jose, CA

B487/P1102 **Go or Grow: Loss of Nonmuscle Myosin IIA in Glioblastoma Blocks Tumor Invasion and Enhances Nonmuscle Myosin-dependent Proliferation.** H.S. Picariello[1,2], J.F. Crish[1], A. Dovas[3], J. Lammerding[4], P. Canoll[3], S.S. Rosenfeld[1,2]; [1]Cancer Biology, Cleveland Clinic, Cleveland, OH, [2]Molecular Medicine, Case Western Reserve University, Cleveland, OH, [3]Pathology and Cell Biology, Columbia University Medical Center, New York, NY, [4]Meinig School of Biomedical Engineering and Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY

B488/P1103 **The role of Cyclin-Dependent Kinase inhibitors on Neuroblastoma cell proliferation, differentiation, and apoptosis.** R.R. Swadi[1], K. Sampat[2], B. Pizer[3], P. Losty[4], V. Sée[5], D. Moss[1]; [1]Cellular and Molecular Physiology, University of Liverpool, Liverpool, United Kingdom, [2]Alder Hey Children's Hospital, Liverpool, United Kingdom, [3]Oncology Alder Hey Children's NHS Foundation Trust, Liverpool, United Kingdom, [4]Academic Paediatric Surgery Unit, Division of Child Health, University of Liverpool, Liverpool, United Kingdom, [5]Centre for Cell Imaging, University of Liverpool, Liverpool, United Kingdom

B489/P1104 **Cordycepin Suppresses Angiogenesis through Regulation of FAK and p53 Signaling.** Y. Lin[1,2], S. Liang[1], Y. Lu[1], C. Kuo[1], J. Liou[1]; [1]Institute of Cellular and System Medicine, National Health Research Institutes, Zhunan, Taiwan, [2]Institute of Structural Biology, National Tsing Hua University, Hsinchu, Taiwan

B500/P1105 **Timing of oocyte death controlled by a TAp63a autofeedback phosphorylation regulatory loop.** S. Hong[1], E. Suh[1]; [1]Life science, Ewha Womans University, Seoul, Korea, South

B501/P1106 **Gene regulatory pathways involved in glucocorticoid-evoked apoptosis of human leukemic CEM cells.** E.S. Sanchez[1], C. Ortega[1], R.D. Medh[1]; [1]Biology, California State University, Northridge, Northridge, CA

B502/P1107 **Hesperetin modulates cell cycle of cancer cells, but does not effect that of normal cells.** K. Yoshimura[1,2], Y. Ogawa[2], M. Kato[2], K. Suzuki[2], N. Nishida[2], C. Tokunaga[2], Y. Miyawaki[2], Y. Ishihara[3], N. Tominaga[3], M. Nishina[3], S. Watanabe[1], K. Nagy[4]; [1]Physiology, Saitama Medical University, Saitama, Japan, [2]Health Sciences, Nihon Institute of Medical Science, Saitama, Japan, [3]Medical Center, Saitama Medical University, Saitama, Japan, [4]Institute of Medical Microbiology, Semmelweis University, Budapest, Hungary

B503/P1108 **BS6 induced apoptosis in human uterine leiomyoma cells.** S. Lee[1]; [1]KM Fundamental Research Division, Korea Institute of Oriental Medicine, Daejeon, KS

B504/P1109 **Hyperactivation of YAP/TAZ oncoproteins promotes mitotic slippage following prolonged mitotic arrest.** A.F. Bolgioni[1], N.J. Ganem[1,2]; [1]Department of Pharmacology Experimental Therapeutics, Boston University, Boston, MA, [2]Department of Medicine, Division of Hematology and Oncology, Boston University, Boston, MA

B505/P1110 **High Levels of Hemodynamic Shear Stresses Achievable under Exercise Condition Destroy Circulating Tumor Cells in a Microfluidic System.** K. Luo[1], S. Regmi[2], A. Fu[2]; [1]Faculty of Health Sciences, University of Macau, Taipa, Macao, [2]School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore, Singapore

B506/P1111 **Allergen-removed Rhus verniciflua Stokes Extract induces Ovarian Cancer Cell Death via JNK Activation.** S. Kang[1], J. Eunbi[1], I. Jang[1]; [1]Division of Bioconvergence, Korea Basic Science Institute, Daejeon, Korea, South

B507/P1112 **In-Vitro Anti-Cancer Actions of Androgens (Androstenedione and Testosterone) Based on Human Melanoma Rescued and Recovered Cell Growth, Adhesion and Migration Functions.** T. Hohenbery[1], P. Ramaraj[1]; [1]Biochemistry, KCOM/A.T.Still University, Kirksville, MO

B508/P1113 **Development of Hyaluronic acid-targeted Stigmasterol-Transferrin Nanoparticles for Cancer Therapy.** Z. Torres[1], Y. Delgado[1], K.H. Griebenow[1]; [1]Chemistry, University of Puerto Rico-Rio Piedras campus, San Juan, PR

Oncogenes and Tumor Suppressors 2

B509/P1114 **Single-chromosome aneuploidy commonly functions as a tumor suppressor.** J. Sheltzer[1]; [1]Cancer Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

B510/P1115 **Prion like propagation of p53 amyloid leading to cancer.** S. Sengupta[1], D. Ghosh[1], A. Navalkar[1], S. Ghosh[1], S. Salot[1], S. Das[1], R.S. Jacob[1], R. Kumar[1], N.N. Jha[1], S. Sahay[1], S. Mehra[1], S.K. Ghosh[1], S.K. Maji[1]; [1]Bioscience and Bioengineering, Indian Institute of Technology, Mumbai, India

B511/P1116 **Novel isatin-Schiff base copper (II) complexes as potential p53-activating pro-apoptotic agents.** P. Davidovich[1], R. Sayarova[2], A. Valiullina[2], V. Solovyeva[2], M. Gomzikova[2], A. Smirnov[1], A. Rizvanov[2], E. Bulatov[2]; [1]St. Petersburg State Institute of Technology, St. Petersburg, Russia, [2]Kazan Federal University, Kazan, Russia

B512/P1117 **The differential RBBP6 (retinoblastoma binding protein 6) expression predicts p53-induced apoptosis in human breast cancer cell lines.** L.R. Motadi[1]; [1]Biological Sciences, North-West University, Mafikeng, South Africa

B513/P1118 **PA28 expression affects the acquisition of cancer phenotypes.** G.S. Melchor[1], K.B. Peterson[1], H.E. Butterfield[1], L.F. Barton[1]; [1]Biology Department, Austin College, Sherman, TX

B514/P1119 **Inhibition of CRM1 activity by Leptomycin B sensitizes cells to TRAIL and cisplatin induced apoptosis.** F. Fabi[1], P. Adam[1], F. Joncas[1], S. Parent[1], E. Asselin[1]; [1]Medical Biology, Université du Québec à Trois-Rivières, Trois-Rivieres, QC

B515/P1120 **Analysis of the RCAN1 gene knockdown in Dex-induced apoptosis using human lymphoblastic leukemia cells.** J. Hurtado[1], R.D. Medh[1]; [1]Biology, California State University; Northridge, Northridge, CA

B516/P1121 **Isoform-specific ubiquitination of the RET receptor.** M.J. Crupi*[1], B.D. Hyndman*[1], L.N. Bone[2], C.N. Antonescu[2], L.M. Mulligan[1]; [1]Pathology and Molecular Medicine, Queen`s University, Kingston, ON, [2]Chemistry and Biology, Ryerson University, Toronto, ON

B517/P1122 **Cancer-associated Ras/Erk signal misperception can drive hyper-proliferation.** L.J. Bugaj[1], A. Sabnis[2,3], A. Mitchell[4], J. Garbarino[1], T. Bivona[3,5], J.E. Toettcher[6], W. Lim[1,7,8]; [1]Department of Cellular and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA, [2]Department of Pediatrics, University of California, San Francisco, San Francisco, CA, [3]Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco, San Francisco, CA, [4]Program in Systems Biology, University of Massachusetts Medical School, Worcester, MA, [5]Division of Hematology and Oncology, University of California, San Francisco, San Francisco, CA, [6]Department of Molecular Biology, Princeton University, Princeton, NJ, [7]Center for Systems and Synthetic Biology, University of California, San Francisco, San Francisco, CA, [8]Howard Hughes Medical Institute, San Francisco, CA

B518/P1123 **Arl11 contributes to macrophage activation and tumor cell apoptosis by regulating ERK1/2 signaling.** S.B. Arya[1], D. Jagga[1], H. Kaur[1], A. Tuli[1]; [1]Cell Biology and Immunology, CSIR-Institute of Microbial Technology (IMTECH), Chandigarh, India

B519/P1124 **The non-canonical pathways of Transforming Growth Factor in ovarian carcinoma.** L. Catane[1], C.G. Trope[2], B. Davidson[2,3], R. Reich[1]; [1]1Institute of Drug Research, The Hebrew University of Jerusalem, Jerusalem, Israel, [2]The Medical Faculty, University of Oslo, Oslo, Norway, [3]Department of Pathology, Norwegian Radium Hospital, Oslo, Norway

B520/P1125 **Adenomatous Polyposis Coli regulates tumorigenic phenotypes through C-terminal-mediated cytosolic interactions.** A.C. Lesko[1,2], G. Davis[2], M. Chandra[1,2], J.R. Prosperi[1,2,3]; [1]Biological Sciences, University of Notre Dame, Notre Dame, IN, [2]Harper Cancer Research Institute, South Bend, IN, [3]Biochemistry and Molecular Biology, Indiana University School of Medicine, South Bend, IN

B521/P1126 **Analysis of Multiple HPV E6 PDZ Interactions Defines Type-Specific PDZ Fingerprints That Predict Oncogenic Potential.** M. Thomas[1], M.P. Myers[2], P. Massimi[1], C. Guarnaccia[3], L. Banks[1]; [1]Tumour Virology, ICGEB, Trieste, Italy, [2]Protein Networks, ICGEB, Trieste, Italy, [3]Biotechnology Development, ICGEB, Trieste, Italy

B522/P1127 **Effects of acid ceramidase overexpression on H295R adrenal carcinoma cells.** L.S. Turner[1]; [1]Biology, Francis Marion University, Florence, SC

B523/P1128 **Profiling changes in response to hypoxia in a four-step cell line model for malignant transformation.** F. Danielsson[1], L. Åkesson[1], M. Skogs[1], M. Uhlén[1], E. Lundberg[1]; [1]Proteomics, KTH Royal Institute of Technology, Stockholm, Sweden

B524/P1129 **NSMF mediates psychological stress-induced breast cancer progression.** K. Shin[1], Y. Lee[1], H. Moon[2], S. Park[1], Y. Seo[1], S. Ryu[3], P. Suh[1]; [1]School of Life Sciences, UNIST, Ulsan, Korea, South, [2]Neuroplasticity and Behavior Unit, Laboratory of Neurosciences, NIA/NIH, Baltimore, MD, [3]Division of Molecular and Life Science, POSTECH, Pohang, Korea, South

B525/P1130 **Secondary mutations in BRCA-deficient tumors that influence drug resistance mechanisms and can serve as biomarkers in breast tumors.** J.S. Davis[1]; [1]Biochemistry & Cancer Biology, Meharry Medical College, Nashville, TN

B526/P1131 **Bioenergetic Phenotype of RARRES1-Depleted Epithelial Cells.** S. Maimouni[1], M. Lee[2], S.W. Byers[1,2]; [1]Department of Biochemistry and Molecular Cellular Biology, Georgetown University, Washington, DC, [2]Lombardi Comprehensive Cancer Center, Georgetown University, Washington, DC

B527/P1132 **Germline POLG1 variants disrupt mitochondrial function and confer tumorigenic properties.** P. Bajpai[1], B. Singh[1], K.M. Owens[2], V. Srinivasasainagendra[3], H.K. Tiwari[3], K. Singh[1,4,5,6,7,8,9]; [1]Department of Genetics1,, University of Alabama at Birmingham, Birmingham, AL, [2]Department of Cancer Genetics, Roswell Park Cancer Institute, Buffalo, NY, [3]Department of Biostatistics2,, University of Alabama at Birmingham, Birmingham, AL, [4]Department of Pathology3,, University of Alabama at Birmingham, Birmingham, AL, [5]Department of Environmental Health3, University of Alabama at Birmingham, Birmingham, AL, [6]Center for Free Radical Biology3,, University of Alabama at Birmingham, Birmingham, AL, [7]Center for Aging3, University of Alabama at Birmingham, Birmingham, AL, [8]UAB Comprehensive Cancer Center3, University of Alabama at Birmingham, Birmingham, AL, [9]Birmingham Veterans Affairs Medical Center4, Birmingham, AL

B528/P1133 **Polarity protein regulation of epithelial organisation: implications for tissue cohesion and cancer.** G. Sandhu[1], L. Ona[1], I. Tunggal[1], L. Fink[2], E. Dray[3], A. Shewan[1]; [1]SCMB, The University of Queensland, Brisbane, Australia, [2]Diamantina Institute, The University of Queensland, Brisbane, Australia, [3]IHBI, Queensland University of Technology, Brisbane, Australia

B529/P1134 **Epidermal differentiation is impaired in a 3D culture model of keratinocyte carcinoma.** L. Brooks III[1], L.A. Ing[1], S.T. Arron[1]; [1]Dermatology, University of California, San Francisco, San Francsisco, CA

B530/P1135 **HBx-induced Ca^{2+} aberrancy in hepatocellular carcinoma.** P. Tsai[1], Y. Lin[1], F. Tsai[1,2]; [1]Department of Pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan, [2]Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan

Migration and Metastasis

B531/P1136 **Mena^{INV} expression, initiated by macrophage-tumor cell contact, regulates invadopodium-dependent tumor cell dissemination during metastasis.** C.R. Surve[1], M. Weidmann[1], J. Pignatelli[1], J. Bravo-Cordero[2], G.S. Karagiannis[1], M.H. Oktay[1,3], J.S. Condeelis[1]; [1]Anatomy and Structural Biology, Albert Einstein college of Medicine, Bronx, NY, [2]Medicine, Mount Sinai School of Medicine, New York, NY, [3]Pathology, Albert Einstein college of Medicine, Bronx, NY

MONDAY

B532/P1137 **How do tumor cell clusters gain access to the systemic circulation?** V.L. Silvestri[1], A. Wong[2], P. Searson[2,3], A.J. Ewald[1]; [1]Departments of Cell Biology, Oncology, and Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD, [2]Department of Materials Science and Engineering, and Institute for Nanobiotechnology (INBT), Johns Hopkins University, Baltimore, MD, [3]Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins University, Baltimore, MD

B533/P1138 **Hemodynamic Profiles Tune the Arrest and Extravasation of Circulating Tumor Cells.** G. Follain[1], N. Osmani[1], G. Allio[1], N. Fekonja[1], S. Harlepp[2], J.G. Goetz[1]; [1]MN3T, iNSERM U1109, STRASBOURG, France, [2]DON, IPCMS, STRASBOURG, France

B534/P1139 **3D molecular crowding triggers vascular mimicry through a conserved transcriptional response module.** D. Ortiz[1], B. Tsui[2], T. Goshia[1,3], A. Han[1], H. Carter[2], S.I. Fraley[1]; [1]Bioengineering, University of California San Diego, La Jolla, CA, [2]Medicine, University of California San Diego, La Jolla, CA, [3]Bioengineering, University of California Merced, Merced, CA

B535/P1140 **Cancer cell migration: Is 3D spheroid better than 2D.** T. Dey[1], S. Gayan[1]; [1]Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune, India

B536/P1141 **Genome variation in an osteosarcoma cell line after pore migration.** J. Irianto[1], Y. Xia[1], C.R. Pfeifer[1], J. Ji[1], C.M. Alvey[1], M. Tewari[1], R.A. Greenberg[2], D.E. Discher[1]; [1]School of Engineering and Applied Sciences, University of Pennsylvania, Philadelphia, PA, [2]Cancer Biology, Abramson Family Cancer Research Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

B537/P1142 **Senescent tumor cells lead the collective invasion in thyroid cancer.** Y. Kim[1], T. Park[1], J. Kim [2]; [1]Biochemistry and Molecular Biology, Ajou University School of Medicine, Suwon, Korea, South, [2]Pathology, Ajou University School of Medicine, Suwon, Korea, South

B538/P1143 **Identifying genomic signatures of rare cancer cells within a heterogeneous collective invasive pack.** B. Pedro[1,2], J. Konen[1,2], E. Summerbell[1,2], W. Li[2], B. Dwivedi[3], J. Kowalski[3], P.M. Vertino[4], A.I. Marcus[2]; [1]Graduate Program in Cancer Biology, Emory University, Atlanta, GA, [2]Hematology and Medical Oncology, Emory University, Atlanta, GA, [3]Biostatistics and Bioinformatics, Emory University, Atlanta, GA, [4]Radiation Oncology, Emory University, Atlanta, GA

B539/P1144 WITHDRAWN

B540/P1145 **Cell-cell cooperativity modulates proliferation and mitotic defects of phenotypically heterogeneous invading cancer cells.** E. Summerbell[1,2], J. Konen[1,2], A.I. Marcus[1]; [1]Hematology and Medical Oncology, Emory University, Atlanta, GA, [2]Graduate Program in Cancer Biology, Emory University, Atlanta, GA

B541/P1146 **Lysophosphatidic acid induces p-ERK and promotes cell migration in ovarian carcinoma.** H. Onalla[1], C.G. Trope[2], B. Davidson[2,3], R. Reich[1]; [1]Institute of Drug Research, The Hebrew University of Jerusalem, Jerusalem, Israel, [2]The Medical Faculty, University of Oslo, Oslo, Norway, [3]Department of Pathology, Norwegian Radium Hospital, Oslo, Norway

B542/P1147 **PPAP2B mediates self-generation of LPA gradients by melanoma cells.** O.D. Susanto[1], Y.W. Koh[1], N. Morrice[1], N. van den Broek[1], S. Tumanov[1,2], P.A. Thomason[1], M. Nielson[1], L. Tweedy[1], A. Muinonen-Martin[3,4], J. Kamphorst[1,2], G. Mackay[1], R.H. Insall[1]; [1]Cell Migration and Invasion, Beatson Institute for Cancer Research, Glasgow, United Kingdom, [2]University of Glasgow, Institute for Cancer Sciences, Glasgow, United Kingdom, [3]Melanoma Institute, Leeds Cancer Centre, Leeds, United Kingdom, [4]York Teaching Hospital NHS Foundation Trust, York, United Kingdom

B543/P1148 **Effect of cAMP on modulating the migration, proliferation and invasion of Neuroblastoma cells.** R.F. Inuwa[1], J.M. Quayle[1], D. Moss[1]; [1]Cellular and Molecular Physiology, Liverpool University, Liverpool, United Kingdom

B544/P1149 **Role of progesterone and protease ADAMTS 1 on migration and invasion of ovarian tumor cells.** M.D. Lima[1], S.V. Silva[1], V.M. Freitas[1]; [1]Department of Cell and Developmental Biology, University of Sao Paulo, Sao Paulo, Brazil

B545/P1150 **Anillin Regulates Breast Cancer Cell Migration and Metastasis.** D. Wang[1], J. Koblinski[2], A.I. Ivanov[1]; [1]Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, [2]Department of Pathology, Virginia Commonwealth University, Richmond, VA

B546/P1151 **Cell cycle dependent front polarized cell migration requires Aurora Kinase A.** T. Chu[1], L. Zhou[2], J. Won[3], P. Mohan[1], O. Nemirovsky[1], A. Fotovati[1], T. Nielsen[3], N. Pante[2], C.A. Maxwell[1]; [1]Pediatrics, The University of British Columbia, Vancouver, BC, [2]Zoology, The University of British Columbia, Vancouver, BC, [3]Pathology and Laboratory Medicine, The University of British Columbia, Vancouver, BC

B547/P1152 **Transforming growth factor-beta1 induces epithelial to mesenchymal transition through down-regulation of Dickkopf-1 in human A549 lung cancer cells.** Y. CHOI[1], B. Kim[1]; [1]Department of Biochemistry, Kangwon National University, Chuncheon, Korea

B548/P1153 **Collective Epithelial-based Metastases in Colorectal Carcinoma Patients.** O. Zajac[1,2,3], R. Joel[1,2,3], F. Libanje[1,2,3], C. Lefebvre[1,3], D.I. Sabino[4], I. Martins[3], P. Roy[2], J. Scoazec[5], C. Eveno[6], M. Pocard[6], J. Perfettini[3], D. Elias[7], P. Dartigues[5], D. Goere[7], F. JAULIN[1,2,3]; [1]INSERM U-981, Villejuif, France, [2]CNRS UMR-8126, Villejuif, France, [3]Gustave Roussy Institute, Villejuif, France, [4]Pasteur Institute, Paris, France, [5]Pathology department, Gustave Roussy hospital, Villejuif, France, [6]U-965, Lariboisiere Hospital, Paris, France, [7]Surgery, Gustave Roussy hospital, Villejuif, France

Tumor Microenvironment 2

B549/P1154 **Carcinoma-associated fibroblasts lead cancer cell invasion through fibronectin assembly.** Y. Atieh[1], A.G. Clark[1], S. Richon[1], C. Grass[1], P. Maiuri[1], B. Gurchenkov[1], D.M. Vignjevic[1]; [1]UMR144, Institut Curie, Paris, France

B550/P1155 **Increased contractility and traction forces exerted by cancer-associated fibroblasts align fibronectin to direct cancer cell migration.** B. Erdogan[1], M. Ao[1], B. Brewer[2], L. White[1], O.E. Franco[3,4], S.W. Hayward[3,4,5], D. Li[2], D.J. Webb[1,3]; [1]Biological Sciences, Vanderbilt University, Nashville, TN, [2]Mechanical Engineering, Vanderbilt University, Nashville, TN, [3]Cancer Biology, Vanderbilt University, Nashville, TN, [4]Surgery, NorthShore University Healthsystem, Evanston, IL, [5]Urologic Surgery, Vanderbilt University, Nashville, TN

B551/P1156 **Mesenchymal stem cells respond to matrix stiffness to promote mammary carcinoma proliferation via prosaposin secretion.** S. Ishihara[1], D.R. Inman[1], W. Li[2], S.M. Ponik[1], P.J. Keely[1]; [1]Department of Cell and Regenerative Biology, University of Wisconsin-Madison, Madison, WI, [2]Departments of Orthopedics and Rehabilitation Biomedical Engineering, University of Wisconsin-Madison, Madison, WI

B552/P1157 **RTK signaling in response to extracellular stiffness at the single molecule level.** D. Thakar[1], S. Low-Nam[2,3], J.T. Groves[2,3], V.M. Weaver[1,4,5,6]; [1]Center for Bioengineering and Tissue Regeneration, Department of Surgery,, University of California San Francisco (UCSF), San Francisco, CA, [2]Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, [3]Department of Chemistry, University of California, Berkeley, Berkeley, CA, [4]Department of Anatomy, and Department of Bioengineering and Therapeutic Sciences, University of California San Francisco (UCSF), San Francisco, CA, [5]Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research, University of California San Francisco (UCSF), San Francisco, CA, [6]UCSF Helen Diller Comprehensive Cancer Center, University of California San Francisco (UCSF), San Francisco, CA

B553/P1158 **A role for fibrosis in promoting pro-tumor immune response in breast cancer.** O. Maller[1], L. Cassereau[1], A. Drain [1], B. Ruffell[2], I. Acerbi[1], M. Broz[3], J. Munson[4], M. Swartz[5], M.F. Krummel[3], L.M. Coussens[6], V.M. Weaver[1]; [1]Department of Surgery, University of California San Francisco, San Francisco, CA, [2]Moffitt Cancer Center, Tampa, FL, [3]Department of Pathology, University of California San Francisco, San Francisco, CA, [4]Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, [5]Institute for Molecular Engineering, University of Chicago, Chicago, IL, [6]Department of Cell Developmental Biology, Oregon Health Sciences University, Portland, OR

B554/P1159 **Cancer-Associated Fibroblast Differentiation by Downregulation of SPIN90 Promotes Breast Cancer Progression.** E. You[1], Y. Huh[2], A. Kwon[2], D. Kim[1], P. Ko[1], J. Jeong[1], S. Oh[1], S. Keum[1], W. Song[2], S. Rhee[1]; [1]Life science, Chung-Ang University, Seoul, Korea, [2]Life science, Gwangju Institute of Science and Technology, Gwangju, Korea

B555/P1160 **NCoR2 mediates death-resistance and mechano-regulation of glioblastoma multiforme.** S. Kaushik[1], K.K. Tsai[2], J.M. Barnes[1], J.J. Phillips[3,4], V.M. Weaver[1,5,6,7]; [1]Center for Bioengineering and Tissue Regeneration, Department of Surgery, UCSF, San Francisco, CA, [2]Laboratories for Tumor Aggressiveness and Stemness, National Institute of Cancer Research, Tainan, Taiwan, [3]Department of Neurosurgery, UCSF, San Francisco, CA, [4]Department of Pathology, UCSF, San Francisco, CA, [5]Helen Diller Comprehensive Cancer Center, UCSF, San Francisco, CA, [6]Department of Anatomy, and Department of Bioengineering and Therapeutic Sciences, UCSF, San Francisco, CA, [7]Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research, UCSF, San Francisco, CA

B556/P1161 **A three-dimensional extracellular matrix enhances cell viability by increasing negative membrane curvature to stimulate Arf6/Rac/Pak activity.** F. Kai[1], G. Ou[1], J. Friedland[1], C. Frantz[1], R. Tourdot[2], W. Guo[3], C.S. Chen[4], R. Radhakrishnan[2,5], A. Long[6], S. Dumont[6], V.M. Weaver[1,7,8,9,10]; [1]Surgery, University of California, San Francisco, San Francisco, CA, [2]Chemical and Biomolecular Engineering, University of Pennsylvania, Philadelphia, Philadelphia, PA, [3]Biology, University of Pennsylvania, Philadelphia, Philadelphia, PA, [4]Biomedical Engineering, Boston University, Boston, MA, [5]Bioengineering, University of Pennsylvania, Philadelphia, Philadelphia, PA, [6]Department of Cellular and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA, [7]Anatomy, University of California, San Francisco, San Francisco, CA, [8]Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, [9]Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research, University of California, San Francisco, San Francisco, CA, [10]Helen Diller Comprehensive Cancer Center, University of California, San Francisco, San Francisco, CA

B557/P1162 **Transmembrane 4 L six family member 5 (TM4SF5) regulates CD44 alternative splicing for cell survival.** J. Kim[1]; [1]Pharmacy, Seoul National University, Seoul, Korea, South

B558/P1163 **Tumor Microenvironment Regulation of Mena^{INV} Expression In Breast cancer.** N. Rohani Larijani[1], M.N. Moufarrej[2], Y.L. Khodor[3], C. Kroeger[4], M. Oudin[1], F.B. Gertler[1,3]; [1]Koch Institute for Integrative Cancer Research, MIT, Cambridge, MA, [2]Department of Biological Engineering, MIT, Cambridge, MA, [3]Department of Biology, MIT, Cambridge, MA, [4]Whitehead Institute for Biomedical Research, MIT, Cambridge, MA

B559/P1164 **ADAMTS-1 Impairs HGF-Induced Proliferation and Migration on HT1080 Cells.** H. Noriega Guerra[1], M.C. Cruz[2], P.R. Lara Ribeiro[1], V.M. Freitas[1]; [1]Department of Cell and Developmental Biology, Biomedical Sciences Institute - USP, São Paulo, Brazil, [2]Center of Facilities and Support Research, Biomedical Sciences Institute - USP, São Paulo, Brazil

B560/P1165 **Role of ADAMTS-1 in the nucleus of normal-like and tumoral human breast cells.** S.V. Silva[1], V.M. Freitas[1], M.D. Lima[1]; [1]Biologia Celular e do Desenvolvimento, Universidade de São Paulo -USP, São Paulo, Brazil

B561/P1166 **Role of linoleic acid on the response induced by insulin in MDA-MB-231 breast cancer cells.** C. Rodríguez-Monterrosas[1], A. Ordonez[1], C. Gonzalez-Reyes[1], E.P. Salazar[1]; [1]Biologia Celular, Cinvestav-IPN, Mexico, Mexico

B562/P1167 **The role of myoepithelial cells in suppressing Twist1-induced cell dissemination.** K. Sirka[1], E.R. Shamir[1,2], A.J. Ewald[1]; [1]Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD, [2]Pathology, USCF School of Medicine, San Francisco, CA

B563/P1168 **Calcipotriol treatment enhances wound closure and antimicrobial defense in recessive dystrophic epidermolysis bullosa in vitro while inhibiting proliferation and clonogenicity of RDEB cancer cells.** B. Tockner[1], C. Scharler[2], C. Hüttner[1], A. Zurl[3], D. Strunk[2], J.W. Bauer[4], J. Reichelt[1], R. Lang[4], C. Gruber[1], J. Pinon Hofbauer [1]; [1]Department of Dermatology, University Hospital of the Paracelsus Medical University, EB House Austria, Research Program for Molecular Therapy of Genodermatoses, Salzburg, Austria, [2]Core Facility for Flow Cytometry, Spinal Cord Injury and Tissue Regeneration Center Salzburg (SCITReCS), PMU Salzburg, Experimental Clinical Cell Therapy Institute, Salzburg, Austria, [3]Research program for Ophthalmology and Glaucoma Research, Paracelsus Medical University, University Clinic of Ophthalmology and Optometry, Salzburg, Austria, [4]University Hospital Salzburg, Paracelsus Medical University Salzburg, Department of Dermatology, Salzburg, Austria

B564/P1169 **Alpha1-antitrypsin-derived C-terminal peptide activity at subnanomolar to micromolar concentrations in human cell lines: a mitogen and a metabolism activator.** A.A. Maslakova[1], O.S. Sokolova[1], I.V. Orlovsky[2]; [1]Faculty of Biology, Lomonosov Moscow State University, Moscow, Russia, [2]A.N. Belozersky Research Institute of Physical and Chemical Biology, Lomonosov Moscow State University, Moscow, Russia

B565/P1170 **Lactate Accumulated by Hypoxic Cells Induces HIF-1a Oscillations through a Quorum Autophagy Response.** .. Kshitiz[1,2], J. Afzal[2], H. Chang[1,2], R. Goyal[1], Y. Suhail[2], P. SunSun[2], M. Hubbi[2], C. Dang[3], A. Levchenko[1,2]; [1]Biomedical Engineering, Yale University, West Haven, CT, [2]Medicine, Johns Hopkins Medical Institutions, Baltimore, MD, [3]Abramson Cancer Center, University of Pennsylvania School of Medicine, Philadelphia, PA

B566/P1171 **CD82 expression promotes acute myeloid leukemia niche adhesion and chemoresistance.** M. Floren[1], C.M. Termini[1], K.D. Marjon[2], J.M. Gillette[1]; [1]Pathology, University of New Mexico, Albuquerque, NM, [2]Stanford Medicine, Stanford University, Palo Alto, CA

B567/P1172 **Differential expression of spindle assembly checkpoint (SAC) genes in 3D cell culture models of breast cancer cell lines.** M. Moenk[1], S. Liu[1]; [1]Biological Sciences, University of Toledo, Toledo, OH

B568/P1173 **Molecular profiling of tumor microenvironment for biomarker discovery.** A. Komarov[1], A.A. Chenchik[1], M. Makhanov[1], P. Diehl[1], C. Frangou[1]; [1]Cellecta, Inc., Mountain View, CA

Gene Structure and Transcription

B900/P1174 **Cryo-EM visualization of promoter binding by the human general transcription factor TFIID.** R.K. Louder[1], A. Patel[1], Y. He[2,3], J. Fang[4], E. Nogales[2,4,5,6]; [1]Biophysics Graduate Group, University of California, Berkeley, Berkeley, CA, [2]Molecular Biophysics and Integrative Bioimaging Division, Lawrence Berkeley National Laboratory, Berkeley, CA, [3]Northwestern University, Department of Molecular Biosciences, Evanston, IL, [4]Howard Hughes Medical Institute, University of California, Berkeley, Berkeley, CA, [5]QB3 Institute, University of California, Berkeley, Berkeley, CA, [6]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B901/P1175 **Genome wide view of how p53 dynamics regulate gene expression.** A. Hafner[1], J. Stewart-Ornstein[1], G. Lahav[1]; [1]Department of Systems Biology, Harvard Medical School, Boston, MA

B902/P1176 **Regulation of estrogen-responsive genes in single human cells.** J. Rodriguez[1], C.C. Chow[2], D.R. Larson[1]; [1]Laboratory of Receptor Biology Gene Expression, National Cancer Institute, Bethesda, MD, [2]Laboratory of Biological Modeling, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD

B903/P1177 **Analysis of the exon-intron structure of -tubulin genes in different plant species.** R.Y. Blume[1,2], A.N. Rabokon[3], A.Y. Demkovich[3], Y.V. Pirko[3], A.I. Yemets[2]; [1]Institute of Biology, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, [2]Genomics and Molecular Biotechnology, Institute of Food Biotechnology and Genomics, Kiev, Ukraine, [3]Population Genetics, Institute of Food Biotechnology and Genomics, Kiev, Ukraine

B904/P1178 **Cytokine-induced autophagy promotes sustained expression of VCAM-1 and a subset of pro-inflammatory genes with similar promoter binding motifs.** L. Chu[1], Y. Hsueh[2], K.K. Wu[1,2]; [1]Metabolomic Medicine Research Center, China Medical University Hospital, Taichung, Taiwan, [2]Institute of Cellular and System Medicine, National Health Research Institutes, Zhunan, Taiwan

B905/P1179 **The Histone Variant H2A.Z Promotes Splicing of Weak Introns.** K.E. Nissen[1], C.M. Homer[1], C.J. Ryan[2], J.J. Lipp[1], M. Shales[3], N. Krogan[3,4,5], K. Patrick[6], C. Guthrie[1]; [1]Biochemistry and Biophysics, University of California San Francisco, San Francisco, CA, [2]Systems Biology Ireland, University College Dublin, Belfield, Republic of Ireland, [3]Cellular and Molecular Pharmacology, University of California San Francisco, San Francisco, CA, [4]QB3, California Institute for Quantitative Biosciences, San Francisco, CA, [5]J. David Gladstone Institutes, San Francisco, CA, [6]Microbial Pathogenesis and Immunology, Texas AM Health Science Center, Bryan, TX

MONDAY

B906/P1180 **Conformational dynamics of Cas9 during DNA binding.** Y.S. Dagdas[1], J.S. Chen[2], S.H. Sternberg[3], J.A. Doudna[2,3,4,5], A. Yildiz[2,6]; [1]Biophysics Graduate Group, University of California, Berkeley, Berkeley, CA, [2]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, [3]Department of Chemistry, University of California, Berkeley, Berkeley, CA, [4]Howard Hughes Medical Institute, University of California, Berkeley, Berkeley, CA, [5]Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, [6]Department of Physics, University of California, Berkeley, Berkeley, CA

B907/P1181 **Estrogen response element in somatolactin beta promoter its involved in differential response to estrogen in carp pituitary.** G.E. Valenzuela [1], F. Stolzenbach[1], M. Vega[1], J.E. Figueroa[1], M. Muller[2], G. Kausel[1]; [1]Instituto de Bioquímica y Microbiología, Universidad Austral de Chile, Valdivia, Chile, [2]GIGA Center, Liege University, Liege, Belgium

B908/P1182 **Defining transcriptional networks that control molting in C. elegans and Brugia malayi.** J.D. Ward[1]; [1]Molecular, Cell, and Developmental Biology, University of California, Santa Cruz, Santa Cruz, CA

B909/P1183 **Synergism of Dam, MutH, and MutS of Methylation-Directed Mismatch Repair In *Escherichia Coli*.** C. Hu[1], Y. Yang[1], H. Sun[1]; [1]Biological Sciences, Emporia State University, Emporia, KS

B910/P1184 **A polyglutamine domain enables transcriptional reprogramming in response to a transient pH change.** I. Gutiérrez[1,2], S. Alberti[3], T. Franzmann[3], D. Fenyo[2], X. Wang[2], L.J. Holt[2]; [1]MCB, University of California, Berkeley, Berkeley, CA, [2]ISG, New York University, New York, NY, [3]Molecular Cell Biology and Genetics, Max Plank institute, Dresden, Germany

B911/P1185 **Transcriptional dynamics and the regulation of chromatin accessibility in *Drosophila* embryonic development.** E.C. Eck[1], M. Kazemzadeh-Atoufi[2], H.G. Garcia[3,4]; [1]Biophysics Graduate Group, University of California, Berkeley, Berkeley, CA, [2]Department of Physics and Astronomy, University of North Carolina, Chapel Hill, Chapel Hill, NC, [3]Department of Physics, University of California, Berkeley, Berkeley, CA, [4]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B912/P1186 **Nitrous acid-mediated mutagenic activation of 2,4,6-tribromophenol (TBP).** T.J. Schrader[1], A. Wan[1]; [1]Regulatory Toxicology Research Division, Health Canada, Ottawa, ON

B913/P1187 **SLC6A4 promoter sequence heterogeneity in a mixed military cohort of control and post-traumatic stress disorder patients.** S. Hune[1], H. Xia[1], S.L. Hall[1], M.Y. Caballero[1], S. Valtier[1], G.J. Chaudry[1], A.M. Willis[2]; [1]Center for Advanced Molecular Detection, Science Technology, 59 Medical Wing, JBSA-Lackland, TX, [2]Neurology, San Antonio Military Medical Center, San Antonio, TX

B914/P1188 **The Fasciculation and Elongation Zeta-1 (FEZ1) protein as an interactor of Retinoic Acid receptor and inducer of Hoxb4 gene.** M.B. Teixeira[1], A.C. Figueira[2], L. Wei[3], J. Kobarg[1]; [1]Department of Biochemistry and Tissue Biology, University of Campinas, Campinas, Brazil, [2]Brazilian Biosciences National Laboratory, Center for Research in Energy and Materials, Campinas, Brazil, [3]Pharmacology Department, University of Minnesota Medical School, Minneapolis, MN

B915/P1189 **Novel imaging tools reveal dynamic processing of environmental information in plant cells.** J.S. Alamos[1], H.G. Garcia[2,3], K. Niyogi[1]; [1]Plant and Microbial Biology, University of California, Berkeley, Berkeley, CA, [2]Department of Molecular & Cell Biology, University of California, Berkeley, Berkeley, CA, [3]Department of Physics, University of California, Berkeley, Berkeley, CA

Post-Transcription Gene Regulation

B916/P1190 **Alternative Polyadenylation of RECK Regulates Cell Migration and Invasion.** H. Lee[1], M. Mithun[2,3], D.C. Corney[2,3,4], E.L. Johnson[4], O. Bosompra[3], H.A. Coller[1,2,3]; [1]Molecular Biology Interdepartmental Doctoral Program, University of California, Los Angeles, Los Angeles, CA, [2]Department of Biological Chemistry, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, [3]Department of Molecular, Cell and Developmental Biology, University of California, Los Angeles, Los Angeles, CA, [4]Department of Molecular Biology, Princeton University, Princeton, NJ

B917/P1191 **Protein expression dynamics in MAPK response network vary due to polymorphic translation rate modifiers.** D.A. Pollard[1], C. Asamoto[1], A. Abendroth[1], H. Rahnamoun[2], S.A. Rifkin[2]; [1]Biology, Western Washington University, Bellingham, WA, [2]Biological Sciences, University of California San Diego, San Diego, CA

B918/P1192 **Mechanisms toward the toleration of whole-chromosome aneuploidy.** K.E. Larrimore[1], N.S. Barattin-Voynova[1], D.W. Reid[2], N. Bouzelmat[1], D. Ng[1,3]; [1]Cell Stress and Homeostasis, Temasek Life Sciences Laboratory, Singapore, Singapore, [2]Duke-NUS Graduate Medical School, Singapore, Singapore, [3]Department of Biological Sciences, National University of Singapore, Singapore, Singapore

B919/P1193 **Isoform diversity of Rbfox family proteins.** J. Parilla[1], M.E. Elshazzly[1], K. Vaidya[1], R.S. Adelstein[1], S. Kawamoto[1]; [1]NHLBI, National Institutes of Health, Bethesda, MD

B920/P1194 **Mechanism of regulation of the transcription factor ATF4 during therapeutic stresses.** P. Adjibade[1,2], V. St Sauveur[1,2], E. Khandjian[3,4], R. Mazroui[1,2]; [1]Department of Molecular Biology, Medical Biochemistry, and Pathology, CHU de Quebec Research Center, Laval University, Quebec, QC, [2]Laval University Cancer Research Center, Quebec, QC, [3]Institut universitaire en santé mentale de Québec, Quebec, QC, [4]Department of psychiatry and neurosciences, Faculty of Medicine, Laval University, Quebec, QC

B921/P1195 **Identification and characterization of alternative open reading frames in budding yeast meiosis.** A.R. Eisenberg[1], I. Hollerer[1], P. Diamond[1], G.A. Brar[1]; [1]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B922/P1196 **Rescue of mutation-induced exon 7 skipping in human Cathepsin A by using modified U1 small nuclear RNA.** N. Yamazaki[1], Y. Shinohara[1,2], K. Itoh[1], N. Minakawa[1], Y. Takiguchi[1]; [1]Faculty of Pharmaceutical Sciences, Tokushima University, Tokushima, Japan, [2]Institute for Genome Research, Tokushima University, Tokushima, Japan

B923/P1197 **Functional dissection of proliferating-cell nuclear antigens (1 and 2) in human malarial parasite *Plasmodium falciparum*: possible involvement in DNA replication and DNA damage response.** K. BANU[1], P. Mitra[1], S.K. Dhar[1]; [1]Special Center for Molecular Medicine, Jawaharlal Nehru University, New Delhi, IN

B924/P1198 **Conserved ribosome heterogeneity in stem cells and yeast.** N. Slavov[1,2,3], A. van Oudenaarden[4]; [1]Biology, Northeastern University, Boston, MA, [2]Bioengineering, Northeastern University, Boston, MA, [3]Proteomics, Broad Institute, Boston, MA, [4]Developmental Biology and Stem Cell Research, Hubrecht Institute, Utrecht, Netherlands

B925/P1199 **RNA methylation and demethylation have effect on somatic cell reprogramming.** Y. Wu[1], B. Peng[1], X. He[1], C. Wan[1], S. Gao[1]; [1]School of Life Sciences and Technology, Tongji University, Shanghai, China

B926/P1200 **A Genetic Interaction Between DED1 and HAT1 in Saccharomyces cerevisiae Suggests a Role for Hat1p in mRNA storage.** A. Kindsfather[1], A. Winters[1], N. Rothbard[1], S. Robins[1], L. Fronek[1], A.K. Hilliker[1]; [1]Biology, University of Richmond, Richmond, VA

B927/P1201 **Identifying Factors that Regulate Translation by Selecting for Loss-of-Function Suppressors of *DED1*.** T. Drewes Tartarotti[1], A. Winters[1], J. Bowman[2], G. Whitworth[2], A.K. Hilliker[1]; [1]Biology, University of Richmond, Richmond, VA, [2]Biology, Washington and Lee University, Lexington, VA

B928/P1202 **Screening for conditional mutations in *MTR4*, an RNA helicase component of the nuclear exosome.** H.V. Pingali[1], E. Abrash[2], A.K. Hilliker[1]; [1]Biology, University of Richmond, Richmond, VA, [2]Biology, Kenyon College, Gambier, OH

B929/P1203 **Investigating the effect of arginine methylation in Ded1, an RNA ATPase that promotes translation.** N. D'Ambrosio[1], A. D'Alessandro[1], J. DiBello[1], E. Provencher[1], A.K. Hilliker[1]; [1]Biology, University of Richmond, Richmond, VA

B930/P1204 **PPAR induces microRNA-143 expression in adipocytes by GPR-120 dependent pathway.** I. Bae[1], S. Kim[1]; [1]Department of Biology, Kyung Hee University, Seoul, Korea, South

B931/P1205 **Translational Regulation of DDX3/Ded1 Medulloblastoma Mutations.** N.P. Brown[1], T.A. Bolger[1]; [1]Molecular and Cellular Biology, University of Arizona, Tucson, AZ

B932/P1206 **Activation of the translation initiation factor eIF2B enhances cognition.** A. Anand[1,2], J.C. Tsai[1,2], P. Walter[1,2]; [1]Biochemistry Biophysics, University of California, San Francisco, San Francisco, CA, [2]Howard Hughes Medical Institute, San Francisco, CA

The Nuclear Envelope and Nuclear Pore Complexes 2

B934/P1207 **Nup98/96 promotes assembly of the nuclear lamina by regulating Lamin B1 expression.** J.M. Kaneshiro[1], A. Buchwalter[1], M.W. Hetzer[1]; [1]Molecular and Cell Biology Laboratory, Salk Institute for Biological Sciences, La Jolla, CA

B935/P1208 **Determining the order of nucleoporin recruitment during Nuclear Pore Complex Assembly.** D. Thaller[1], P. Colombi[1], P. Lusk[1]; [1]Cell Biology, Yale University, New Haven, CT

B936/P1209 **The nuclear pore complex protein NupA is required for normal localization of the mRNA export factor Gle1 in Aspergillus nidulans.** L. Abdurehman[1], S. Suresh[1], S. Osmani[1]; [1]Molecular Genetics, The Ohio State University, Columbus, OH

B937/P1210 **A new strategy for studying nuclear pore proteins in mitosis.** V. Aksenova[1], A. Arnaoutov[1], A. Smith[1], M. Dasso[1]; [1]Section on Cell Cycle Regulation, National Institute of Child Health and Human Development, Bethesda, MD

B938/P1211 **Chm7 and Heh1 form a nuclear envelope subdomain that seals defective nuclear pore complexes.** D. Thaller[1], B. Webster[1], J. Jaeger[1], S. Borah[1], S. Ochmann[1], P. Lusk[1]; [1]Cell Biology, Yale School of Medicine, New Haven, CT

B939/P1212 **Nuclear pore complex protein NPP-2 regulates cell cycle duration in early Caenorhabditis elegans embryos.** C. Zheng[1], L. Jiang[1], Y. Tse[1]; [1]Department of Biology, Southern University of Science and Technology, Shenzhen, China

B940/P1213 **The assembly and function of the Annulate Lamellae pore complexes in Xenopus Egg extract and cultured mammalian cells.** L.Q. Lu[1], H. REN[1], L. Guo[1], Q. Jiang[1], P.R. Clarke[2], C. Zhang[1]; [1]College of Life Sciences, Peking University, Beijing, China, [2]Ninewells Hospital And Medical School, University of Dundee, Dundee, United Kingdom

B941/P1214 **Adaptive evolution to the deletion of essential genes.** G. Liu[1,2], J. Yong[1], M. Yurieva[3], S. Kandhadayar Gopalan[3], L.Z. Jaron[1], J.S. Lim[1], M. Poidinger[3], G.D. Wright[1], F. Zolezzi[3], H. Choi[4], N. Pavelka[3], G.I. Rancati[1]; [1]Institute of medical biology, Agency for Science, Technology and Research, Singapore, Singapore, [2]School of biological science, Nanyang Technological University, Singapore, Singapore, [3]Singapore Immunology Network, Agency for Science, Technology and Research, Singapore, Singapore, [4]Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore

B942/P1215 **Characterizing Nuclear Pore Complex Remodeling during Meiosis in Budding Yeast.** G.A. King[1], E.M. Sawyer[1], K.L. McDonald[2], E. Ünal[1]; [1]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, [2]Electron Microscope Laboratory, University of California, Berkeley, Berkeley, CA

B943/P1216 **Membrane binding of Nup155 is important for nuclear pore complex reassembly at the end of mitosis.** P. De Magistris[1], W. Antonin[1]; [1]Friedrich Miescher Laboratory of the Max Planck Society, Tübingen, Germany

B944/P1217 **Systematic identification of nuclear sizing factors by high-throughput imaging-based siRNA screening.** P. Jevtic[1], A.C. Schibler[2], G. Pegoraro[3], T. Misteli[2], D.L. Levy[1]; [1]Molecular Biology, University of Wyoming, Laramie, WY, [2]National Cancer Institute, National Institutes of Health, Bethesda, MD, [3]High Throughput Imaging Facility (HiTIF), National Cancer Institute, National Institutes of Health, Bethesda, MD

B945/P1218 **Nucleoporin TPR is a negative regulator of NPC number.** A. McCloskey[1], A. Ibarra[1], M. Shokhirev[2], M.W. Hetzer[1]; [1]Molecular and Cell Biology Laboratory, The Salk Institute for Biological Studies, La Jolla, CA, [2]The Razavi Newman Integrative Genomics and Bioinformatics Core Facility, The Salk Institute for Biological Studies, La Jolla, CA

B946/P1219 **Opposing roles for LINC complexes in the regulation of the small GTPase RhoA.** K. Thakar[1], C.W. Carroll[1], C. May[1]; [1]Cell Biology, Yale University School of Medicine, New Haven, CT

B947/P1220 **Ultradonut topology of the nuclear envelope.** M. Torbati[1], T.P. Lele[2], A. Agrawal[1]; [1]Mechanical Engineering, University of Houston, Houston, TX, [2]Department of Chemical Engineering, University of Florida, Gainesville, FL

B948/P1221 **Loss of emerin results in attenuated ERK1/2 activation and impaired MRTF-A translocation.** T.J. Kirby[1], R. Lin[1], P. Isermann[1], J. Lammerding[1]; [1]Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY

Nuclear Bodies and Dynamics

B949/P1222 **The *Drosophila* neuroblast: a model system for human ribosomopathies.** S.S. Baral[1], M.E. Lieux[1], P.J. DiMario[1]; [1]Biological Sciences, Louisiana State University, Baton Rouge, LA

B950/P1223 **Molecular and ultra-structural phenotypes associated with the *Nopp140* gene deletion in *Drosophila melanogaster*.** A.A. James[1], S.S. Baral[2], D. Odenheimer[2], H.S. Raje[2], Y. Wang[2], P.J. DiMario[2]; [1]Department of Genetics, Yale School of Medicine, New Haven, CT, [2]Biological Sciences, Louisiana State University, Baton Rouge, LA

B951/P1224 **In vivo formation of vacuolated multi-phase compartments lacking membranes.** B. Schmidt[1], R. Rohatgi[1,2]; [1]Biochemistry, Stanford University, Stanford, CA, [2]Medicine, Stanford University, Stanford, CA

B952/P1225 **Structure and dynamics of the Polycomb body.** J. Smigova[1], P. Juda[1], O. Raska[1], E. Bartova[1,2], I. Raska[1]; [1]Institute of Cellular Biology and Pathology, Charles University in Prague, First Faculty of Medicine, Prague, Czech Republic, [2]Institute of Biophysics of the CAS, v.v.i., Brno, Czech Republic

B953/P1226 **Quantitative fluorescence correlation spectroscopy on DNA in living cells.** C. Hodges[1], R.P. Kafle[1], J.C. Meiners[1]; [1]LSA Biophysics, University of Michigan, Ann Arbor, MI

B954/P1227 **Large-scale spatial mapping of the nuclear human proteome.** L. Åkesson[1], C. Stadler[1], D.P. Sullivan[1], M. Wiking[1], J. Krijgsveld [2], M. Uhlén[3], E. Lundberg[1]; [1]Department of Proteomics, Science for Life Laboratory, KTH - Royal Institute of Technology, Stockholm, Sweden, [2]Proteomics of Stem Cells and Cancer, DKFZ - Deutsches Krebsforschungszentrum, Heidelberg, Germany, [3]Department of Proteomics, KTH - Royal Institute of Technology, Stockholm, Sweden

B955/P1228 **Nuclear constriction segregates mobile nuclear proteins away from chromatin.** C.R. Pfeifer[1,2,3], J. Irianto[1,2], R.R. Bennett[1,3], Y. Xia[1,2], I.L. Ivanovska[1,2], A.J. Liu[1,3], R.A. Greenberg[1,4], D.E. Discher[1,2,3]; [1]Physical Sciences Oncology Center at Penn, University of Pennsylvania, Philadelphia, PA, [2]Molecular Cell Biophysics Lab, University of Pennsylvania, Philadelphia, PA, [3]Department of Physics Astronomy, University of Pennsylvania, Philadelphia, PA, [4]Cancer Biology, Abramson Family Cancer Research Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

B956/P1229 **Association of ZC3H8 with nuclear bodies and its role in promoting tumor cell behavior in vitro and in vivo.** J.A. Schmidt[1], K.G. Danielson[1], J.L. Swiatek[1], E.R. Duffner[1], J.E. Knepper[1]; [1]Biology, Villanova University, Villanova, PA

B957/P1230 **Extracellular traps in vitro and co-stimulatory molecules in human leukocytes with positive serology for Chagas disease.** F.M. Rodriguez[1], A.H. Vargas[2], C.L. Carabajal-Miotti[2], N.E. Gonzalez-Silva[2], S. Ruiz de Frattari[2], I.T. Novak[1]; [1]Institute of Cell Biology. Faculty of Medicine, National University of Cordoba,, Cordoba, Argentina, [2]Institute of Hematology and Hemotherapy, National University of Cordoba,, Cordoba, Argentina

B958/P1231 **Role of β-Dystroglycan in the nucleolus.** A.M. Sandoval[1], P.M. Azuara[1], B. Cisneros-Vega[1]; [1]Genetics and molecular biology, CINVESTAV, Mexico City, Mexico

B959/P1232 **Redundant GA-binding early transcription factors regulate the Drosophila histone locus body.** L.E. Rieder[1], K. Boltz[2], B. Duronio[2], E.N. Larschan[1]; [1]Molecular and Cellular Biology, Brown University, Providence, RI, [2]Genetics and Molecular Biology, University of North Carolina Chapel Hill, Chapel Hill, NC

B960/P1233 **G196 epitope tag system: a novel monoclonal antibody, G196, recognizes the small, soluble peptide DLVPR with high affinity.** T. Urano[1]; [1]Department of Biochemistry, Shimane University School of Medicine, Izumo, Japan

B961/P1234 **Analysis of compact chromatin *in situ* by atomic force microscopy.** L.F. Jimenez-Garcia[1], G. Alvarez-Hernandez[1], A. Perez-Torres[2], R. Lara-Martínez[1], L.T. Agredano[1], D. Pineda-Vázquez[1], M.L. Segura-Valdez[1]; [1]Cell Biology, Faculty of Sciences, UNAM, Mexico City, Mexico, [2]Cell and Tissue Biology, Faculty of Medicine, UNAM, Mexico City, Mexico

B962/P1235 **Nuclear morphology determines the response of cancer cells to anticancer drugs.** F. Atrian Afyani[1], C. Duffey[1], M. Ochoa[2], B. Ziaie[2,3], S.A. Lelievre[1,2,3]; [1]Basic Medical Sciences, Purdue University, West Lafayette, IN, [2]Birck Nanotechnology Center, Purdue University, West Lafayette, IN, [3]Purdue Center for Cancer Research, Purdue University, West Lafayette, United States

B963/P1236 **NuMA controls 53BP1 dynamics and function in DNA double-strand break repair.** J. Liu[1], N. Salvador Moreno[2], L. Parker[3], K. Haas[4], S.A. Lelievre[5], P. Vidi[2]; [1]Nanoscience and Nanoengineering, South Dakota School of Mines, Rapid City, SD, [2]Department of Cancer Biology, Wake Forest School of Medicine, Winston-Salem, IN, [3]Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Saint Paul, MN, [4]Department of Microbiology and Immunology, Wake Forest School of Medicine, Winston-Salem, NC, [5]Department of Basic Medical Sciences, Purdue University, West Lafayette, IN

B964/P1237 **Modeling control of cellular body composition and the implications on function.** W. Peeples[1], M.K. Rosen[1]; [1]Biophysics, UT Southwestern Medical Center, Dallas, TX

B965/P1238 **XRCC1 is recruited to single-strand DNA breaks in regions of replication as a distinct PML-like body.** M.M. Kordon[1], A. Szczurek[1,2], O. Szelest[1], J. Dobrucki[1]; [1]Department of Cell Biophysics, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland, [2]Super-Resolution Microscopy Group, Institute of Molecular Biology, Mainz, Germany

B966/P1239 **Cytoskeletal dynamics influence the nuclear shape in human neutrophils.** A. Hadjitheodorou[1], C. Chan[2], J.A. Theriot[2]; [1]Bioengineering, Stanford University, Stanford, CA, [2]Biochemistry, Stanford University School of Medicine, Stanford, CA

B967/P1240 **Topoisomerase I and RNase H1 are both involved in suppressing R-loops formation during the transcription of rRNA in mammalian cells.** W. Shen[1], C.L. De Hoyos[1], X. Liang[1], S.T. Crooke[1]; [1]Core Antisense Research, IONIS Pharmaceuticals, Inc., Carlsbad, CA

Endocytic Trafficking 2

B969/P1241 **Yeast Membrane Lipid Imbalance Leads to Trafficking Defects toward the Golgi.** S.E. Woodman[1], J.L. Conover[2], C. Trousdale[3], K. Kim[1]; [1]Biology, Missouri State University, Springfield, MO, [2]Genetics and Genomics, Iowa State University, Ames, IA, [3]Anesthesiology, Washington University, St. Louis, MO

B970/P1242 **Molecular Mechanisms of Sorting Nexin 16.** S. Wang[1], A.A. Rodal[1]; [1]Biology Department, Brandeis University, Waltham, MA

B971/P1243 **The interaction of PIPKI gamma with AP2 regulates spatial and temporal focal adhesion dynamics in cells.** A.M. Lakoduk[1], Z. Kadlecova[1], S.J. Han[1,2], S.L. Schmid[1]; [1]Cell Biology, UT Southwestern Medical Center, Dallas, TX, [2]Bioinformatics, UT Southwestern Medical Center, Dallas, TX

B972/P1244 **Interaction of the Human Papillomavirus E6 Oncoprotein with Sorting Nexin 27 modulates Endocytic Cargo Transport Pathways.** K. Ganti[1], P. Massimi[2], J. Manzo-Merino[3], V. Tomaic[2,4], D.C. Pim[2], M. Playford[5], M. Lizano[3], S. Roberts[6], C. Kranjec[7], J. Doorbar[7], L. Banks[2]; [1]National Institute of Allergy and Infectious Diseases, NIH, Bethesda, MD, [2]Tumour Virology, ICGEB, Trieste, Italy, [3]Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico. Col. Seccion XVI, Unidad de Investigacion Biomedica en Cancer, Instituto Nacional de Cancerologia, Tlalpan, Mexico, [4]Rudjer Boskovic Institute, Division of Molecular Medicine, Zagreb, Croatia, [5]National Heart, Blood and Lung Institute, NIH, Bethesda, MD, [6]Institute of Cancer and Genomic Sciences, University of Birmingham, Birmingham, United Kingdom, [7]Department of Pathology, University of Cambridge, Cambridge, United Kingdom

B973/P1245 **The dynamic control of GSK3 localization and function via PI3K-Akt-mTOR signaling and endomembrane traffic.** S. Bautista[1], C.N. Antonescu[1]; [1]Chemistry and Biology, Ryerson University, Toronto, ON

B974/P1246 **The adaptor protein APPL1 regulates cancer cell migration through 51 trafficking and Rac activation.** N. Diggins[1], D.J. Webb[1,2,3]; [1]Biological Sciences, Vanderbilt University, Nashville, TN, [2]Kennedy Center for Research on Human Development, Vanderbilt University, Nashville, TN, [3]Cancer Biology, Vanderbilt University, Nashville, TN

B975/P1247 **Rab7 regulates the dendritic trafficking of neuron-specific gene proteins (Nsg1 and Nsg2) to somatic lysosomes.** C. Yap[1], L. Digilio[1], L. McMahon[1], B. Winckler[1]; [1]Cell Biology, University of Virginia Medical School, Charlottesville, VA

B976/P1248 **ARF1 and ARF6 regulate recycling of GRASP/Tamalin and the Rac1-GEF Dock180 during HGF-induced Rac1 activation.** E. Koubek[1], L.C. Santy[1]; [1]Biochemistry, Microbiology, and Molecular Biology, The Pennsylvania State University, State College, PA

B977/P1249 **Ultrastructural dynamics of autophagy-related membrane myelination and subsequent exfoliation of gastric pit-parietal cells in isolated rat gastric mucosa processed by high-pressure freezing.** A. Sawaguchi[1], F. Aoyama[1], N. Takahashi[1]; [1]Anatomy, University of Miyazaki, Faculty of Medicine, Miyazaki, Japan

B978/P1250 **Overexpressed Flotillin-Induced Trafficking pathway promotes cell invasion and metastatic development.** C. Gauthier-Rouviere[1], D. Planchon[1], M. Genest[1], E. Rios Morris[1], F. Comunale[1], P. Chavrier[2], I. Bièche[3], S. Linder[4], S. Bodin[1]; [1]CRBM, CNRS, Montpellier, France, [2]Cell Dynamics and Compartimentalization, CURIE Institute, Paris, France, [3]Genetics, CURIE Institute, Paris, France, [4]Universitätsklinikum Eppendorf, Institut für Medecine, Hamburg, Germany

B979/P1251 **Identification of the retromer cargo landscape using quantitative proteomics.** S. Swarup[1], C. Bell[1], J.A. Paulo[1], S.P. Gygi[1], J.W. Harper[1]; [1]Department of Cell Biology, Harvard Medical School, Boston, MA

B980/P1252 **Distinct molecular mechanisms enable inward versus outward movement of membrane proteins from multivesicular endosomes.** M.B. Gireud[1,2], A.J. Bean[1,2,3]; [1]Neurobiology and Anatomy, University of Texas Graduate School of Biomedical Sciences at Houston, Houston, TX, [2]Neurobiology and Anatomy, McGovern Medical School, Houston, TX, [3]Department of Pediatrics, M.D. Anderson Cancer Center, Houston, TX

B981/P1253 **The Lowe Syndrome phosphoinositide phosphatase dOCRL restricts innate immune activation by regulating endosomal traffic.** S.J. Del Signore[1], S.A. Biber[1], K.S. Lehmann[1], T.L. Eskin[1], A.A. Rodal[1]; [1] Rosenstiel Basic Medical Sciences Research Center, Department of Biology, Brandeis University, Waltham, MA

B982/P1254 **Rab4-effector Rabip4' is a novel interaction partner of lysosomal small GTPase Arl8b.** D. Khatter[1], R. Marwaha[1], M. Sharma[1]; [1]Biological Sciences, Indian Institute of Science Education and Research Mohali, Mohali, India

B983/P1255 **Uropathogenic *Escherichia coli* invasion of human urinary epithelial cells utilizes the autophagy signaling pathway.** A.E. Shea[1], W. Kim[1], D.C. Jimenez[1], W.A. Dunn[1], Y. Daaka[1]; [1]Anatomy and Cell Biology, University of Florida, Gainesville, FL

B984/P1256 **Identification of the endocytic sorting signal recognized by the Art1-Rsp5 ubiquitin ligase complex.** E.L. Guiney[1], T. Klecker[1], S.D. Emr[1]; [1]Molecular Biology and Genetics, Cornell University, Ithaca, NY

B985/P1257 **Mechanisms underlying membrane protein recycling from late endosomes.** K. Memarzadeh[1], M.B. Gireud[1], A.J. Bean[1]; [1]Department of Neurobiology and Anatomy, University of Texas Health Sciences Center at Houston, Houston, TX

B986/P1258 **Characterization of the ubiquitin ligase, UBE4B, in endocytic trafficking.** N. Sirisaengtaksin[1,2], A.J. Bean[1,2,3]; [1]Neurobiology and Anatomy, UT Health McGovern Medical School, Houston, TX, [2]University of Texas Graduate School of Biomedical Sciences at Houston, Houston, TX, [3]Division of Pediatrics, University of Texas MD Anderson Cancer Center, Houston, TX

B1000/P1259 **Regulation of the exchange factor DENND3 through an intramolecular interaction.** J. Xu[1], P.S. McPherson[1]; [1]Department of Neurology and Neurosurgery, McGill University, Montreal, QC

B1001/P1260 **A membrane trafficking screen to identify Clathrin-independent endocytosis machinery.** J.L. Wayt[1], D. Dutta[1], J. Donaldson[1]; [1]NHLBI, NIH, Bethesda, MD

B1002/P1261 **Characterization of the role of deubiquitylating enzyme USP3 in Clathrin-independent endocytosis (CIE) cargo specific trafficking.** S. NIYOGI[1], J.L. Wayt[1], C. Williamson[1], J. Donaldson[1], L. Eshun-Wilson[1]; [1]NHLBI, NIH, BETHESDA, MD

B1003/P1262 **New Apical-to-basolateral Transcytotic Pathway: Inducible AND Actin- but not Microtubule-dependent.** C.P. Grabowski[1,2], E. de la Fuente[3], L. Sandoval[1], F.A. Sánchez[4], A. González[1,2]; [1]Center for Aging and Regeneration. Facultad de Ciencias Biológicas, Universidad Católica de Chile, Santiago, Chile, [2]Facultad de Ciencia and Facultad de Medicina, Universidad San Sebastián, Santiago, Chile, [3]Ciencias Biomédicas, Universidad Católica del Norte, Coquimbo, Chile, [4]Instituto de Inmunologia, Facultad de Medicina. Universidad Austral de Chile, Valdivia, Chile

B1004/P1263 **Cbl and Cbl-b control CSF-1R endocytic traffic and growth factor signaling in macrophages.** L. Huang[1,2], J. Lou[1,2], N.W. Thiex[1,2], J.G. Kerkvliet[1,2], H. Band[3], A.D. Hoppe[1,2]; [1]BioSNTR, South Dakota State University, Brookings, SD, [2]Department of Chemistry and Biochemistry, South Dakota State University, Brookings, SD, [3]Department of Genetics, Cell Biology, Anatomy, University of Nebraska Medical Center, Omaha, NE

B1005/P1264 **Exploring the role of the schizophrenia-linked protein tSNARE1 in neuronal trafficking.** M. Plooster[1], G. Rossi[2], M.S. Farrell[3], P.F. Sullivan[3,4], S.L. Gupton[2,5,6], P. Brennwald[2]; [1]Cell Biology and Physiology Curriculum, University of North Carolina, Chapel Hill, NC, [2]Department of Cell Biology and Physiology, University of North Carolina, Chapel Hill, NC, [3]Department of Genetics, University of North Carolina, Chapel Hill, NC, [4]Department of Psychiatry, University of North Carolina, Chapel Hill, NC, [5]Neuroscience Center, University of North Carolina, Chapel Hill, NC, [6]Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC

B1006/P1265 **The Lowe Syndrome Protein OCRL1 is Required for Endocytosis in the Zebrafish Pronephric Tubule.** F. Oltrabella[1], G. Pietka[2], I. Barinaga-Rementeria Ramirez[3], A. Mironov[3], T. Starborg[3], I.A. Drummond[4], M. Lowe[3]; [1]Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, [2]Molecular, The Royal Marsden NHS Foundation Trust, London, United Kingdom, [3]Life Sciences, The University of Manchester, Manchester, United Kingdom, [4]Nephrology division, Massachusetts General Hospital, Charlestown, MA

B1007/P1266 **A huntingtin-mediated early stress response transiently halts endosomal trafficking.** S. Nath[1], L.N. Munsie[2], R. Truant[1]; [1]Department of Biochemistry and Biomedical Sciences, McMaster University, Hamilton, ON, [2]Centre for Commercialization of Regenerative Medicine, Toronto, ON

Endosomes, Lysosomes, and Lysosome-Related Organelles 1

B1008/P1267 **Expression and intracellular trafficking of the hyaluronidase HYAL1 in osteoclasts.** E. Puissant[1], M. . Jadot[1], B. Flamion[1], M. Boonen[1]; [1]Molecular Physiology Research Unit, University of Namur, Namur, Belgium

B1009/P1268 **Cellular effects of distinct missense mutations at spastin residue 499 that result in clinically different neurologic syndromes.** H. Boucekkine[1,2,3], B. Renvoise[3], L. Maldonado-Baez[3], N.B. Cole[3], C.D. Blackstone[3]; [1]Medical Research Scholars Program, NIH, Bethesda, MD, [2]University of Miami, Miller School of Medicine, Miami, FL, [3]Neurogenetics Branch, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD

B1010/P1269 **Altered regulation of endocytic pathways in breast cancer.** K.E. Tubbesing[1], A. Malhotra[1], A. Rudkouskaya[1], M.M. Barroso[1]; [1]Department of Molecular and Cellular Physiology, Albany Medical College, Albany, NY

B1011/P1270 **Evidence for a role of BLOC-1 in mouse brain development.** F.Y. Lee[1], A. Aiken[2], O.N. Hitchcock[2], C.Y. Kokikian[2], R.S. Fisher[2], E.C. DellAngelica[1], C.A. Ghiani[2,3]; [1]Human Genetics, University of California Los Angeles, Los Angeles, CA, [2]Psychiatry and Biobehavioral Science, University of California Los Angeles, Los Angeles, CA, [3]Pathology and Laboratory Medicine, University of California Los Angeles, Los Angeles, CA

B1012/P1271 **TPD54 is associated with recycling vesicles and plays a role in cell migration.** G. Larocque[1], N.I. Clarke[1], B. Wilson[2], P. Caswell[2], S.J. Royle[1]; [1]Medical school, University of Warwick, Coventry, United Kingdom, [2]Faculty of Life Sciences, University of Manchester, Manchester, United Kingdom

B1013/P1272 **The Role of Ent Proteins in Nitrogen-Regulated Growth of Saccharomyces cerevisiae.** O. Haile[1], R. Ramirez[1], A. MacFarlane[1], Q.L. Aoh[1]; [1]Biology, Gannon University, Erie, PA

B1014/P1273 **TPC2 controls pigmentation by regulating melanosome pH and size.** A.L. Ambrosio[1], J.A. Boyle[1], A.E. Aradi[1], K.A. Christian[1], S.M. Di Pietro[1]; [1]Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B1015/P1274 **Mechanisms of melanin transfer from melanocytes and formation of a parasol in keratinocytes.** M.C. Seabra[1,2], D.C. Barral[1], M.S. Correia[1], F.J. Pereira[1], A.K. Tarafder[3]; [1]CEDOC, Chronic Diseases Research Center, NOVA Medical School, Lisbon, Portugal, [2]Molecular Medicine, NHLI, Imperial College London, London, United Kingdom, [3]EMBL, Heidelberg, Germany

B1016/P1275 **Altered lysosome positioning perturbs critical homeostatic functions in the retinal pigment epithelium.** L. Tan[1,2], K.A. Toops[2], A. Lakkaraju[1,2]; [1]Pharmaceutical Sciences, University of Wisconsin-Madison, Madison, WI, [2]Ophthalmology and Visual Sciences, McPherson Eye Research Institute, University of Wisconsin-Madison, Madison, WI

B1017/P1276 **VMAT2 segregates from endolysosomes to dense granules during megakaryocyte maturation to proplatelets.** H.A. Hanby[1,2,3,4], S.M. Di Pietro[5], M.S. Marks[2,3,4]; [1]Cell and Molecular Biology Graduate Group, University of Pennsylvania, Philadelphia, PA, [2]Pathology and Laboratory Medicine, CHOP, Philadelphia, PA, [3]Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA, [4]Physiology, University of Pennsylvania, Philadelphia, PA, [5]Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B1018/P1277 **CXCL12-induced macropinocytosis modulates two distinct pathways to trigger mTORC1 activation in macrophages.** S. Yoshida[1], R. Pacitto[1], J.A. Swanson[1]; [1]Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, MI

B1019/P1278 **Deleting the Saccharomyces cerevisiae diacylglycerol kinase Dgk1 augments vacuole fusion by increasing diacylglycerol levels as well as enhancing V-ATPase activity.** G. Miner[1], M.L. Starr[1], L. Hurst[1], T. Sasser[1], A. Chang[1], R. Fratti[1]; [1]Biochemistry, University of Illinois at Urbana-Champaign, Urbana-Champaign, IL

B1020/P1279 **Sortilin and retromer maintain normal levels of the Glut4 protein in adipocytes by retrieving it from degradation into the recycling pathway.** X. Pan[1], M. Singh[1], K. Kandror[1]; [1]Biochemistry, Boston University School of Medicine, Boston, MA

B1021/P1280 **The Cytosolic Sensor ELMO1 Regulates Endosomal-Lysosomal Signaling During Bacterial Clearance.** R. Pranadinata[1], C. Tindle[1], A. Quaile[2], A. Savchenko[2], P. Ernst[1], S. Das[1]; [1]Pathology, University Of California San Diego, La Jolla, CA, [2]Chemical Engineering and Applied Chemistry, University of Toronto Faculty of Applied Science and Engineering, Toronto, Canada

B1022/P1281 **Assessment of *VPS18* as candidate gene in an individual with undiagnosed disease and abnormal glycosylation.** M.E. Hackbarth[1,2], M.S. Kane[1,2,3], M. Davids[1,2], M. He[4,5], L. Wolfe[1,2], D.R. Adams[1,2], W.A. Gahl[1,2], M.V. Malicdan[1,2]; [1]Office of the Clinical Director, NHGRI, National Institutes of Health, Bethesda, MD, [2]NIH Undiagnosed Diseases Program, NHGRI, National Institutes of Health, Bethesda, MD, [3]Inova Fairfax Hospital, Falls Church, VA, [4]The Michael J Palmiere Metabolic Laboratory, Children's Hospital of Philadelphia, Philadelphia, PA, [5]Department of Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA

B1023/P1282 **JIP3-dependent regulation of axonal lysosome abundance protects against amyloid plaque pathology.** S. Gowrishankar[1], Y. Wu[1], S.M. Ferguson[1]; [1]Cell Biology, Yale University, School of Medicine, New Haven, CT

B1024/P1283 **Endoplasmic reticulum localization of the Rheb GTPase: Implications for mTORC1 activation.** B.L. Angarola[1], S.M. Ferguson[1]; [1]Cell Biology, Yale University, New Haven, CT

MONDAY

Post-Golgi Trafficking

B1025/P1284 **Arf-1-mediated protein trafficking to hydrogenosomes in *Trichomonas vaginalis*.** J. Tai[1]; [1]Infectious Diseases and Immunology, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan

B1026/P1285 **Differential sorting of planar cell polarity signaling receptors, Frizzled6 and Vangl2, at the trans Golgi Network.** Y. Guo[1], T. Ma[1], R. Wang[1], P. Lau[1], Y. Huang[1], R.W. Schekman[2]; [1]Division of Life Science, Hong Kong University of Science and Technology, Hong Kong, Hong Kong, [2]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B1027/P1286 **A biophysical approach to monitor Arf1 mediated AP-1 activation in vivo.** E. Sauvageau[1], S. Lefrancois[1], P. McCormick[2]; [1]Centre INRS-Institut Armand-Frappier, Laval, QC, [2]School of Pharmacy, University of East Anglia, Norwich, United Kingdom

B1028/P1287 **The Golgi-associated RAB6 GTPase: a general regulator of post-Golgi trafficking?** A. Kasri[1], C.S. Gomes-Santos†[1], S. Bardin[1], N. Gareil[2], L. Fourriere [2], G. Boncompain[2], B. Goud[1], F. Perez[2], S. Miserey-Lenkei[1]; [1] CNRS/UMR144, Molecular Mechanisms of Intracellular Transport laboratory, Institut Curie, Paris, France, [2] CNRS/UMR144, Dynamics of Intracellular Organization laboratory, Institut Curie, Paris, France

B1029/P1288 **Routing of the RAB6 secretory pathway towards a lysosome-related organelle.** A. Patwardhan[1], S. Bardin[1], S. Miserey-Lenkei[1], L. Larue[2], B. Goud[1], G. Raposo[1], C. Delevoye[1]; [1]Cell Biology Department, CNRS UMR144, Institut Curie, Paris, France, [2]INSERM U1021, CNRS UMR3347, Institut Curie, Université Paris Sud, Paris, France

B1030/P1289 **Golgi-dependent mechanisms control mitochondrial copper homeostasis.** H.S. Comstra[1], A. Gokhale[1], S. Zlatic[1], D.B. Barr[2], J.B. Blackburn[3], V.V. Lupashin[3], V. Faundez[1]; [1]Cell Biology, Emory University, Atlanta, GA, [2]Rollins School of Public Health, Emory University, Atlanta, GA, [3]Physiology Biophysics, University of Arkansas for Medical Sciences, Little Rock, AR

B1031/P1290 **Identifying Protein Cargo Recognized by Atg27.** D.C. Lee[1], V.A. Segarra[1]; [1]Biology, High Point University, High Point, NC

B1032/P1291 **Yeast dynamin association with clathrin and its physiological roles.** S. Gadila[1], U. Saimani[1], M.A. Williams[2], M. Delgado Cruz[1], P. Makaraci[1], K. Kim[1]; [1]Biology, Missouri State University, Springfield, MO, [2]Division of Biological Sciences, University of Missouri, Columbia, MO

B1033/P1292 **Golgi Fragmentation in Alzheimer's Disease.** M.E. Bekier[1], D. Rector[1], X. Wang[1], Y. Wang[1]; [1]Molecular, Cellular, Developmental Biology, University of Michigan, Ann Arbor, MI

B1034/P1293 **A Role for Diacylglycerol Kinase in Membrane Trafficking at the Golgi and TGN.** K.D. Thorsen[1], K.D. Ha[1], L. Velez-Velez[1], W.J. Brown[1]; [1]Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY

B1035/P1294 **AP-3 and PICK1-ICA69 Function at Distinct Steps in Dense Core Vesicle Biogenesis.** B.A. Heller[1], S. Jain[1], B. Hummer[2], T. Logan[1], C.S. Asensio[2], R.H. Edwards[1,3]; [1]Department of Neurology, University of California, San Francisco, San Francisco, CA, [2]Department of Biological Sciences, University of Denver, Denver, CO, [3]Department of Physiology, University of California, San Francisco, San Francisco, CA

B1036/P1295 **Iterative sorting of apical and basolateral cargo in MDCK cells.** A. Treyer[1], M. Pujato[1], X. Pechuan[1], A. Muesch[1]; [1]Developmental and Molecular Biology, Albert Einstein College of Medicine, Bronx, NY

B1037/P1296 **Analysis of Protein Sorting at The Trans Golgi Network Through STORM Super-Resolution Imaging.** P. Lau[1], Y. Huang[1], T. Zhao[2], D. Xu[3], S. Du[2], M. Loy[2], Y. Guo[1]; [1]Division of Life Science, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong, [2]Department of Physics, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong, [3]Nanobioimaging Limited, Hong Kong, Hong Kong

B1038/P1297 **Hyperglycemia Regulates Trafficking and Turnover of Human Islet Amyloid Polypeptide in the Pancreatic Islets.** D. Chatterjee Bhowmick[1,2], A.M. Jeremic[2]; [1]Biomedical Sciences, The George Washington University, Washington, DC, [2]Biological Sciences, The George Washington University, Washington, DC

B1039/P1298 **Regulated Late Golgi Sorting Underlies Aging and Rejuvenation.** K.A. Henderson[1], J.V. Rogers[2], P.B. Gordon[1], D.E. Gottschling[1,2]; [1]Division of Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA, [2]Calico Life Sciences, LLC, South San Francisco, CA

Neuronal Protein and Organelle Trafficking

B1041/P1299 **A STRIPAK complex mediates axonal transport of autophagosomes and dense core vesicles through PP2A regulation.** A.L. Neisch[1], T.P. Neufeld[1], T.S. Hays[1]; [1]Genetics, Cell biology and Development, University of Minnesota, Minneapolis, MN

B1042/P1300 **Dynamic regulation of autophagy in neurons during aging.** A.K. Stavoe[1], E.L. Holzbaur[1]; [1]Physiology, University of Pennsylvania, Philadelphia, PA

B1043/P1301 **Neep21 is a novel effector of the TrkA signaling endosome.** K. Barford[1,2], C. Yap[1], C. Deppmann[3], B. Winckler[1]; [1]Dept. of Cell Biology, University of Virginia, Charlottesville, VA, [2]Neuroscience Graduate Program, University of Virginia, Charlottesville, VA, [3]Dept. of Biology, University of Virginia, Charlottesville, VA

B1044/P1302 **An ankyrin-B/beta-2 spectrin-based mechanism regulates axonal organelle transport and axonal growth.** D.N. Lorenzo[1,2], A. Badea[3,4], G. Johnson[3,4], V. Bennett[1]; [1]Biochemistry, Duke University, HHMI, Durham, NC, [2]Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]Radiology, Duke University, Durham, NC, [4]Center for in vivo microscopy, Duke University, Durham, NC

B1045/P1303 **Spatial control of axon-dendritic membrane traffic by microtubule-associated septins.** E.P. Karasmanis[1], E.T. Spiliotis[1]; [1]Biology, Drexel University, Philadelphia, PA

B1046/P1304 **Different cargo receptors, APP and Alc, transport the same cargos cooperatively through the identical vesicular transport pathway.** Y. Shiraki[1], K. Chiba[1], S. Hata[1], T. Suzuki[1]; [1]Laboratory of Neuroscience, Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan

B1047/P1305 **The regulation of mitochondrial trafficking in activity-dependent structural synaptic plasticity.** R. Insolera[1], R. Wang[1], E. Robertson[1], Y. Xie[1,2], L.M. Rivera-Perez[1,3], X. Xiong[1], Y. Fridell[4], C.A. Collins[1]; [1]Molecular, Cellular, and Developmental Biology, University of Michigan, Ann Arbor, MI, [2]Summer Research Opportunity Program, University of Michigan, Ann Arbor, MI, [3]Post-baccalaureate Research Education Program (PREP), University of Michigan, Ann Arbor, MI, [4]Allied Health Sciences, University of Connecticut, Storrs, CT

B1048/P1306 **Transport Dynamics of JIP-1 Nano-Beads and Statistical Modelling of Cargo-Motor Interactions in Squid Giant Axon.** S. Bojja[1,2], P. Dogra[1], E.L. Bearer[1]; [1]Pathology, University of New Mexico Health Sciences Center, Albuquerque, NM, [2]Computer Science, University of New Mexico, Albuquerque, NM

B1049/P1307 **ALS-linked mutations increase the viscosity of liquid-like axonal TDP-43 RNP granules in neurons.** P.P. Gopal[1,2], J.J. Nirschl[1], E. Klinman[1], E.L. Holzbaur[1]; [1]Perelman School of Medicine, Physiology Department, University of Pennsylvania, Philadelphia, PA, [2]Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA

B1050/P1308 **Presynaptic morphology and vesicular composition influence vesicle dynamics in central synapses.** L. Guillaud[1], D. Dimitrov[1], T. Takahashi[1]; [1]Cellular and Molecular Synaptic Function Unit, Okinawa Institute of Science and Technology, Onna-son, Japan

B1051/P1309 **A new function of the Golgi ARF1-exchange factor (GBF1) over TRPM8 ion channel activity in isolated peripheral nerve endings.** V.H. Cornejo[1,2], M. Campos[3], R. Madrid[3], A. Couve[1,2]; [1]Program of Physiology and Biophysics, Universidad de Chile, Santiago, Chile, [2]Biomedical Neuroscience Institute, Universidad de Chile, Santiago, Chile, [3]Department of Biology, Faculty of Chemistry and Biology, Universidad de Santiago, Santiago, Chile

B1052/P1310 **Kainate receptor biogenesis and secretory pathway trafficking forward to the cell surface is under strict control by neuronal cellular activity.** A.J. Evans[1], S. Gurung[1], K.A. Wilkinson[1], D.J. Stephens[1], J.M. Henley[1]; [1]Biochemistry, The University of Bristol, Bristol, United Kingdom

B1053/P1311 **-actinin Promotes Surface Localization and Ion Channel Activity of the Ca2+ Channel CaV1.2 by Binding to the IQ Region of the 1 Subunit.** P. Tseng[1], P.B. Henderson[1], M. Lillya[1], C. Montagut[1], B. Lee[1], J.W. Hell[1], M.C. Horne[1]; [1]Pharmacology, University of California Davis, Davis, CA

B1054/P1312 **Role of Huntingtin in synaptic capture of circulating neuropeptide vesicles in Drosophila motor nerve terminals.** D. Bulgari[1], E.S. Levitan[1]; [1]Pharmacology and Chemical Biology, University of Pittsburgh, Pittsburgh, PA

B1055/P1313 **Recruitment of Dynein by Calcyon Stimulates Retrograde Movement of Lysosome Related Organelles In Axons.** L. Shi[1], N. Muthusamy[2], D. Smith[1], C. Bergson[3]; [1]Biological Sciences, University of South Carolina, Columbia, SC, [2]Neuroscience Center, University of North Carolina, Raleigh, NC, [3]Pharmacology and Toxicology, Augusta University, Augusta, GA

Neuronal Degeneration and Regeneration

B1056/P1314 **Macrophages act on axotomized neuronal cell bodies to stimulate peripheral axonal regeneration via a JAK/STAT pathway.** R.E. Zigmond[1], J.P. Niemi[1], A. DeFrancesco[1]; [1]Neurosciences, Case Western Reserve University, Cleveland, OH

B1057/P1315 **Identification of genes that promote axonal regeneration of injured cortical neurons.** C. Chang[1], L. Chen[1]; [1]Institute of Molecular Medicine, National Tsing Hua University, Taiwan, Hsinchu, Taiwan

B1058/P1316 **The impact of extended synaptotagmin mistrafficking on nervous system function and life span.** C. Liang[1], A. Ghosh[1], J. Dittman[1], Y. Dong[2], J. Bai[2]; [1]Biochemistry, Weill Cornell Medical College, New York, NY, [2]Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA

B1059/P1317 **ADAMTS9 regulates cell-cell interactions and myelination in the central nervous system.** S.D. Ackerman[1,2], A. Soung[1], B. Harty[1], R.G. Almeida[3], S. Nandadasa[4], A.L. Herbert[1], C. Johnson[1], C. Raciti[1], S.S. Apte[4], D.A. Lyons[3], K.R. Monk[1]; [1]Developmental Biology, Washington University School of Medicine, Saint Louis, MO, [2]Institute of Neuroscience, University of Oregon, Eugene, OR, [3]University of Edinburgh, Centre for Neuroregeneration, Edinburgh, United Kingdom, [4]Cleveland Clinic Lerner Research Institute, Department of Biomedical Engineering, Cleveland, OH

B1060/P1318 **Glia to Muscle Trans-Synaptic Signaling is Necessary for Neuromuscular Degeneration.** C. Blais[1], E. Dalaker[1], E. Danella[1], N. Girard[1], P. Peterson[2], L.C. Keller[1]; [1]Biological Sciences, Quinnipiac University, Hamden, CT, [2]Medical School, Quinnipiac University, Hamden, CT

B1061/P1319 **Monitoring Dendrite Regeneration after Injury *in vivo*.** K.L. Thompson-Peer[1,2], L. DeVault[1,2], T. Li[1,2], L.Y. Jan[1,2], Y.N. Jan[1,2]; [1]Physiology, University of California, San Francisco, CA, [2]Howard Hughes Medical Institute, San Francisco, CA

B1062/P1320 **Mechanisms underlying gain-of-function toxicity of pathogenic SPAST mutations associated with hereditary spastic paraplegia.** L. Leo[1], G. Morfini[2], G.M. Alexander[3], J.M. Solowska[1], W. Yu[1], L.E. Hennessy[3], L. Qiang[1], P. Yates[1], M. Burns[2], C. Weissmann[2], T.D. Heiman-Patterson[3], P.W. Baas[1]; [1]Neurobiology and Anatomy, Drexel University College of Medicine, Philadelphia, PA, [2]Anatomy and Cell Biology, University of Illinois at Chicago, Chicago, IL, [3]Neurology, Drexel University College of Medicine, Philadelphia, PA

B1063/P1321 **The Role of Muscle-Restricted Expression of NRIP in Motor Neuron Survival.** H. Chen[1], S. Chen[1]; [1]Microbiology, National Taiwan University, Taipei, Taiwan

B1064/P1322 **Efffcts of retino-collicular coculture system on the neuroprotection of retinal ganglion cells.** J. Ko[1], C. Hiraoka[1], H. Okumichi[1], Y. Kimchi[1]; [1]Ophthalmology, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan

B1065/P1323 **Does S129 phosphorylation of alpha-synuclein contribute to neuronal cell death or axonal pathology?** N. Ramalingam[1], C.A. Walker[2], E. Kanter[1], U. Hengst[2], D. Sulzer[3], D.J. Selkoe[4], U. Dettmer[4], O.A. Levy[1]; [1]Neurology, Columbia University, New York, NY, [2]Pathology Cell Biology, Columbia University, New York, NY, [3]Psychiatry, Neurology, Pharmacology, Columbia University, New York, NY, [4]Ann Romney Center for Neurologic Diseases, Harvard Medical School, Boston, MA

B1066/P1324 **Neuronal Responses to Laser-Induced Shockwave: A Method to Study Nerve Damage and Repair.** V. Morar[1], V. Gomez[1], D. Preece[1], L. Shi[1], C. Wu[1], M. Berns[1]; [1]Institute of Engineering in Medicine, University of California, San Diego, La Jolla, CA

Mitochondria, Chloroplasts, and Peroxisomes 2

B1067/P1325 **A genome wide screen identifies Myotonic Dystrophy Protein Kinase (DMPK) as a novel ER-mitochondria tether.** S. Lakshminarayanan[1], A. Serafini[1], M. Giacomello[1,2], L. Scorrano[1,3]; [1]Department of Biology, University of Padova, Padova, Italy, [2]Fondazione Ospedale San Camillo, IRCCS, Lido di Venezia, Venezia, Italy, Venezia, Italy, [3]Venetian institute of molecular medicine, Padova, Italy

B1068/P1326 **The Effect of Altered Fission Rates or Fusion Rates on Mitochondria Network Morphology through Controlled Expression of DNM1 and FZO1 in Budding Yeast.** K. Sumikawa[1], I.A. Mueller[1], M. Bialecka-Fornal[1], T. Tsuboi[1], S.S. Lim[1], V. Jayashankar[1], S.M. Rafelski[1]; [1]Developmental and Cell Biology, University of California, Irvine, Irvine, CA

B1069/P1327 **T-cell-restricted intracellular antigen 1 facilitates mitochondrial fragmentation by enhancing the expression of mitochondrial fission factor.** E. Lee[1], W. Kim[2]; [1]Department of Biochemistry, The Catholic University of Korea College of Medicine, Seoul, Korea, South, [2]Department of Molecular Science and Technology, Ajou University, Suwon, Korea, South

B1070/P1328 **Suppressing mitochondrial division rescues nucleoid distribution in Mitofusin knockout MEF cells.** L.F. Uchiyama[1], S.C. Lewis[1], J. Nunnari[1]; [1]Dept. of Molecular and Cellular Biology, University of California, Davis, CA

B1071/P1329 **An inducible ER-Golgi tether facilitates ceramide transport to alleviate lipotoxicity.** L. Liu[1]; [1]NIDDH, NIH, BETHESDA, MD

B1072/P1330 **Keratins regulate β-cell mitochondrial morphology, motility and homeostasis.** J.S. Silvander[1], S.M. Kvarnström[1], A. Kumari-Ilieva[1], C.M. Alam[1], D.M. Toivola[1]; [1]Cell Biology, Åbo Akademi University, Turku, Finland

B1073/P1331 **Endosome-mitochondria interactions are modulated by iron release from transferrin.** A. Das[1], M.M. Barroso[1]; [1]Molecular & Cellular Physiology, Albany Medical College, Albany, NY

B1074/P1332 **Adaptors MiD49/51 and Mff preferentially partition into CL-enriched microdomains to cooperatively regulate Dynamin-related protein 1 (Drp1)-mediated mitochondrial fission.** R. Ramachandran[1], N. Stepanyants[1], P. MacDonald[1]; [1]Physiology & Biophysics, Case Western Reserve University School of Medicine, Cleveland, OH

B1075/P1333 **Mitochondrial Quality Control for Misfolded De Novo MT-ATP6 of the ATP Synthase.** T. Lahtinen[1], K. Ng[1], F. Suomi[1], P. Marttinen[1], U. Richter[1], B.J. Battersby[1]; [1]Institute of Biotechnology, University of Helsinki, Helsinki, Finland

B1076/P1334 **A novel regulator of mitochondrial DNA copy number identified by an unbiased genetic screen.** A. Göke[1,2], C. Osman[1,2], R.E. Diaz[1,2,3], P. Walter[1,2]; [1]Department of Biochemistry and Biophysics, University of California at San Francisco, San Francisco, CA, [2]Howard Hughes Medical Institute, San Francisco, CA, [3]Undergraduate Neuroscience Program, University of Miami, Miami, FL

B1077/P1335 **Structure-function analysis of mitochondrial networks reveal heterogeneity of ultrastructural features as well as the interplay between inheritance and quality control.** S. Lim[1], M. Viana[2], S.M. Rafelski[1]; [1]Dev and Cell Biology, University of California, Irvine, Irvine, CA, [2]IBM Research Brazil, Sao Paolo, Brazil

B1078/P1336 **Novel mutations in the substrate binding domain of the mitochondrial matrix protease *LonP1* are a cause of mitochondrial disease.** M.T. Simon[1,2], S. Eftekharian[2], A. Stover[2], M.A. Steeves[3], I. Sahai[3], S. Tang[4], R. Wang[2,5], J. Abdenur[2,5], S.M. Rafelski[1]; [1]Developmental and Cellular Biology, University of California Irvine, Irvine, CA, [2]Metabolics, CHOC Childrens, Orange, CA, [3]Genetics, Massachusetts General Hospital, Boston, MA, [4]Ambry Genetics, Aliso Viejo, CA, [5]Pediatrics, University of California Irvine, Irvine, CA

B1079/P1337 **Yeast as a model for the study of RNA-binding proteins and their role in cell physiology.** D. Zabezhinsky[1], J. Gerst[1]; [1]Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

MONDAY

B1080/P1338 **Rewiring mitochondrial phosphatidylethanolamine metabolism in Saccharomyces cerevisiae.** E. Calzada[1], S.M. Claypool[1]; [1]Physiology, Johns Hopkins University School of Medicine, Baltimore, MD

B1081/P1339 **Functional expression of mammalian mitochondrial phosphate carrier in yeast cells.** R. Yamagoshi[1,2], T. Yamamoto[1,2], M. Hashimoto[3], H. Terada[4], Y. Shinohara[1,2]; [1]Institute for Genome Research, Tokushima University, Tokushima, Japan, [2]Faculty of Pharmaceutical Sciences, Tokushima University, Tokushima, Japan, [3]Faculty of Pharmaceutical Sciences, Matsuyama University, Matsuyama, Japan, [4]Niigata University of Pharmacy and Applied Life Sciences, Niigara, Japan

B1082/P1340 **Vespa amino acid mixture (VAAM) exposure in cultured yeast cells leads to increased production of reactive oxygen species (ROS) in short periods of time causing increased cellular degradation.** A.I. Mohamed[1], S.R. Stowers[1], K. Clark[1], M. Dameron[1], S.B. Redmond[1]; [1]Biology, Radford University, Radford, VA

B1083/P1341 **Negative impacts of vespa amino acid mixture (VAMM) on NAD+/NADH balance in yeast are neutralized by both antioxidants and 2,4-dinitrophenol.** S.R. Stowers[1], A. Mohamed [1], K. Clark[1], M. Dameron[1], S.B. Redmond[1]; [1]Biology, Radford University, Radford, VA

B1084/P1342 **Analysis of the outer membrane insertion mechanism of yeast mitochondrial proteins.** J. Song[1], Y. Tamura[2], T. Yoshihisa[3], T. Endo[4]; [1]Science, Nagoya University, Nagoya, Japan, [2]Science, Yamagata University, Yamagata, Japan, [3]Science, University of Hyogo, Hyogo, Japan, [4]Biological Sciences , Kyoto Sangyo University, Kyoto, Japan

B1085/P1343 **An ER-bound sub-population of the tail-anchored protein Mff plays a role in mitochondrial division.** w. ji[1], H.N. Higgs[1]; [1]Biochemistry and Cell Biology, Dartmouth College, Hanover, NH

B1086/P1344 **Nuclear-mitochondrial proximity accompanies organelle segregation in yeast gametogenesis.** E.M. Sawyer[1], K.L. McDonald[2], E. Ünal[1]; [1]Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, [2]Electron Microscope Laboratory, University of California, Berkeley, Berkeley, CA

B1087/P1345 **The biogenesis of a mitochondria-plasma membrane anchor.** L.M. Kraft[1], H.A. Ping[1], W. Chen[1], L.L. Lackner[1]; [1]Molecular Biosciences, Northwestern University, Evanston, IL

B1088/P1346 **De-orphaning human metabolic enzymes of unknown function.** H. Shen[1], V.K. Mootha[1]; [1]Department of Molecular Biology, Massachusetts General Hospital, Boston, MA

B1089/P1347 **CDK5 regulates mitochondrial permeability transition pore opening.** S. NavaneethaKrishnan[1], J. L. Rosales[2], K. Lee[1]; [1]Cell Biology and Anatomy, University of Calgary, Calgary, AB, [2]Biochemistry and Molecular Biology, University of Calgary, Calgary, AB

Lipids and Membrane Microdomains 2

B1100/P1348 **Septin 9 binds phosphatidylinositol-5-phosphate to assemble and control lipid droplet accumulation.** A. Gassama[1]; [1]Hepatobiliairy center, INSERM, Unité 1193, Villejuif F-94800, France, Villejuif, France

B1101/P1349 **Developmentally regulated histone/lipid droplet interactions control nuclear histone levels in *Drosophila* embryos.** M.R. Johnson[1], M.A. Welte[1]; [1]Biology, University of Rochester, Rochester, NY

B1102/P1350 **Syntaxin 17 promotes lipid droplet formation by regulating the distribution of ACSL3, a key enzyme for lipid droplet biogenesis.** H. Kimura[1], K. Arasaki[1], M. Tagaya[1]; [1]school of life sciences, Tokyo university of pharmacy and life sciences, Tokyo, Japan

B1103/P1351 **Elimi-NAD-ing fat from old mother yeast cells.** A.O. Beas[1], J.C. Berude[1], J. Hsu[1], D.E. Gottschling[1]; [1]Basic Sciences, Fred Hutch Cancer Research Center, Seattle, WA

B1104/P1352 **The larval zebrafish as a model for investigating how lipid droplet-associated perilipin proteins regulate dietary lipid absorption in the intestine.** M.H. Wilson[1], E.M. Zeituni[1], V.H. Quinlivan-Repasi[1,2], S.A. Farber[1,2]; [1]Department of Embryology, Carnegie Institution for Science, Baltimore, MD, [2]Department of Biology, Johns Hopkins University, Baltimore, MD

B1105/P1353 **Inward tubulation of the plasma membrane expedites membrane exchange and receptor presentation.** L. Cai[1], L. Zhou[1], L. Yao[1]; [1]Biochemistry, Fudan University, Shanghai, China

B1106/P1354 **Plasma Membrane of Non-Senescent Keratinocytes Contain Sphingomyelin-rich Submicrometric Lipid Domains Involved in Re-epithelialization.** A. Mound[1], C. Warnon[2], J. Robic[3], C. Guere[3], K. Vie[3], C. Lambert de Rouvroit[1], D. Tyteca[4], F. Debacq-Chainiaux[2], Y. Poumay[1]; [1]URPHYM-NARILIS, University of Namur, Namur, Belgium, [2]URBC-NARILIS, University of Namur, Namur, Belgium, [3]Laboratoires Clarins, Pontoise, France, [4]CELL-de Duve Institute, Université Catholique de Louvain, Brussels, Belgium

B1107/P1355 **Membrane raft association serves as a sorting platform for intracellular protein trafficking.** B.B. Diaz-Rohrer[1], J.H. Lorent[2], K.R. Levental[2], I. Levental[2]; [1]The University of Texas Graduate School of Biomedical Sciences at Houston, Houston, TX, [2]Integrative Biology and Pharmacology, University of Texas Health Science Center at Houston, Houston, TX

B1108/P1356 **Exploring the membrane-actin linkage that facilitates acto-myosin mediated GPI-AP nanoclustering.** A.A. Anilkumar[1], J. Kalappurakkal[1], S. Mayor[1,2]; [1]Cellular organization and signalling, National Centre for Biological Sciences, Bangalore, India, [2]Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, India

B1109/P1357 **Glycolipid crosslinking is required for cholera toxin to partition into and stabilize ordered domains.** K. Raghunathan[1], T.H. Wong[1], D.J. Chinnapen[2], W.I. Lencer[2], M.G. Jobling[3], A.K. Kenworthy[1,4]; [1]Department of Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN, [2] Harvard Digestive Diseases Center, Harvard Medical School, Boston, MA, [3]Department of Immunology and Microbiology, University of Colorado Anschutz Medical Campus, Aurora, CO, [4]Department of Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B1110/P1358 **-SNAP Regulates Dynamic, On-Site Assembly and Calcium Selectivity of Orai1 Channels.** P. Li[1], Y. Miao[1], A. Dani[1], M. Vig[1]; [1]Washington University in St Louis, School of Medicine, St Louis, MO

B1111/P1359 **Image Correlation Spectroscopy and Single Particle Tracking Reveal Plasma Membrane Nanoscaled Clustering of the Angiotensin Receptor.** T.E. Rasmussen[1], P.W. Wiseman[2], E.C. Arnspang[3]; [1]MEMPHYS - Center for Biomembrane Physics, University of Southern Denmark, Odense, Denmark, [2]Department of Physics, McGill University, Montreal, Canada, [3]Department of Chemical Engineering, Biotechnology and Environmental Technology, University of Southern Denmark, Odense, Denmark

B1112/P1360 **Phospholipid flippase ATP10A, a member of type IV P-type ATPases, translocates phosphatidylcholine and is involved in plasma membrane dynamics.** T. Naito[1], H. Takatsu[1], R. Miyano[1], N. Takada[1], K. Nakayama[1], H. Shin[1]; [1]Graduate School of Pharmaceutical Sciences, Kyoto University, Kyoto, Japan

B1113/P1361 **Cellular reprogramming into Brown Adipose Tissue (BAT) –like cells is independent of mature Heparin-binding EGF-like growth Factor (HB-EGF) and HB-EGF C domains.** S.R. Taylor[1], D.C. Pfeil[2,3], C.A. Gemma[2], E.R. Miller[2,4], P.A. Harding[1,2]; [1]Department of Biology - Cell, Molecular, and Structural Biology Program, Miami University, Oxford, OH, [2]Department of Biology, Miami University, Oxford, OH, [3]Department of Mechanical and Manufacturing Engineering, Miami University, Oxford, OH, [4]Department of Microbiology, Miami University, Oxford, OH

B1114/P1362 **Functional Analysis of the PI4P/PS Transfer Properties of ORP5 AND ORP8.** M. Sohn[1], T. Balla[1]; [1]National Institutes of Child Health and Human Development, National Institutes of Health, Bethesda, MD

B1115/P1363 **Organization of the Leukotriene Synthetic Complex in Neutrophils as an Indicator of Disease State.** A.B. Schmider[1], M. Godin[1], H.D. Elliott[2], R.J. Soberman[1]; [1]Nephrology, Massachusetts General Hospital, Charlestown, MA, [2]Cell Biology, Harvard Medical School, Boston, MA

B1116/P1364 **Dynamics and nanoscale organization of key players in the de novo sphingolipid synthesis pathway unveiled by genetically encoded fluorescent reporters and super-resolution microscopy.** P. Chandris[1,2], S. Gupta[3], C. Giannouli[2], T. Dunn[3], H. Shroff[1], R. Proia[2]; [1]Section on high resolution optical imaging, NIH, NIBIB, Bethesda, MD, [2]Genetics of Development and Disease Branch, NIH, NIDDK, Bethesda, MD, [3]Department of Pharmacology, Uniformed Services University of the Health Sciences, Bethesda, MD

Post-Translational Modifications in Signaling

B1118/P1365 **Determining roles for reversible lysine acetylation in the regulation of actin cytoskeletal dynamics.** J. Aslan[1], R. Rigg[2], A. Ngo[2], J. Nelson[1], J. Burchard[3], L. David[4], O. McCarty[2]; [1]Knight Cardiovascular Institute, Oregon Health Science University, Portland, OR, [2]Biomedical Engineering, Oregon Health Science University, Portland, OR, [3]Computational Biology, Oregon Health Science University, Portland, OR, [4]Proteomics Shared Resource, Oregon Health Science University, Portland, OR

B1119/P1366 **Activation of synaptic NR2A-NMDAR/CaMKII complexes reactivates structural plasticity in mature hippocampal neurons through p300/CBP-mediated acetylation of histone H3 lysine 27.** B. Van Zundert[1], F.J. Bustos[1,2], N. Jury[1], E. Ampuero[1], M. Sanchez[1,2], S. Abarzua[1,2], P. Martinez[1], L. Varela[1], M. Montecino[1,2]; [1]Center for Biomedical Research, Universidad Andres Bello, Santiago, Chile, [2]FONDAP Center for Genome Regulation, Santiago, Chile

B1120/P1367 **A Method to Examine Temporal Regulation of Endogenous Post-Translational Proteoforms on Any Protein of Interest: A Snapshot of the EGFR Signaling Pathway.** H. Horita[1], A. Law[1], S. Hong[1], K. Middleton[1]; [1]RD, Cytoskeleton Inc., Denver, CO

B1121/P1368 **Changes in O-GlcNAcylation regulate stabilization and activation of p53 in ovarian carcer.** R.M. De Queiroz[1], R. Madan[2], J. Chien[2], W.B. Dias[1], C. Slawson[3]; [1]Instituto de Biofísica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil, [2]Department of Cancer Biology, University of Kansas Medical Center, Kansas City, KS, [3]Department of Biochemistry and Molecular Biology, University of Kansas Medical Center, Kansas City, KS

B1122/P1369 **Balancing Cell Growth and Apoptosis by Protein *O*-GlcNAcylation.** L.K. Abramowitz[1], J.A. Hanover[1]; [1]NIDDK, National Institutes of Health, Bethesda, MD

B1123/P1370 **The role of human UDP-galactose 4'-epimerase in ER stress signaling.** A. Broussard[1], N. Nischan[2], J.J. Kohler[2], M. Boyce[1]; [1]Department of Biochemistry, Duke University, Durham, NC, [2]Deptartment of Biochemistry, University of Texas Southwestern, Dallas, TX

B1124/P1371 **Spatial regulation of myosin V transport via the PAK kinase, Cla4.** S. Wong[1], R.G. Yau[1], L.S. Weisman[1]; [1]Cell and Developmental Biology, Cell and Molecular Biology Training Program, Life Sciences Institute, University of Michigan, Ann Arbor, MI

B1125/P1372 **Divergent effects of Porcupine and Wntless on WNT1 trafficking, secretion, and signaling.** L.M. Galli[1], N. Zebarjadi[1], L. Li[1], V.R. Lingappa[2], L.W. Burrus[1]; [1]Biology, San Francisco State University, San Francisco, CA, [2]Prosetta Biosciences, Inc., San Francisco, CA

B1126/P1373 **Inhibition of Atypical Protein Kinase C and Histone Deacetylase 1 synergistically arrests GLI nuclear maturation in basal cell carcinoma.** A. Mirza[1], A.E. Oro[1]; [1]Dermatology, Stanford School of Medicine, Stanford, CA

B1127/P1374 **Mitochondrial ROS regulation and osteoclast differentiation.** H. Kim[1], Y. Lee[1], H. Kim[1]; [1]Cell and Developmental Biology, Seoul National University, Seoul, Korea, South

B1128/P1375 **Systemic insulin sensitivity is regulated by GPS2 through inhibition of AKT ubiquitination and activation in adipose tissue.** C.T. Cederquist[1], M. Lee[1], C. Martinez-Calejman[2], V. Hayashi[1], J. Orofino[1], C. Lentucci[1], D. Guertin[2], S. Fried[3], M.D. Cardamone[1], V. Perissi[1]; [1]Biochemistry, Boston University School of Medicine, Boston, MA, [2]University of Massachusetts Medical School, Worcester, MA, [3]Mount Sinai School of Medicine, New York, NY

B1129/P1376 **Insulin action on protein synthesis and its association to eIF5A expression and hypusination.** A.R. Proenca[1], K.D. Pereira[1,2], L. Meneguello[1,2], L. Tamborlim[1], A.D. Luchessi[1,2]; [1]Biotechnology Lab., University of Campinas, Limeira - Sao Paulo, Brazil, [2]Institute of Biosciences, Sao Paulo State University, Rio Claro - Sao Paulo, Brazil

B1130/P1377 **Oxidized LDL and Disturbed Flow Increase eNOS and Caveolin-1 Phosphorylation.** C. Coles[1], E. Lemaster[2], Z. Chen[3], S. D'Arc Oliveira[3], I. Levitan[2,4], R.D. Minshall[1,3]; [1]Pharmacology, University of Illinois at Chicago, Chicago, IL, [2]Bioengineering, University of Illinois at Chicago, Chicago, IL, [3]Anesthesiology, University of Illinois at Chicago, Chicago, IL, [4]Medicine, University of Illinois at Chicago, Chicago, IL

B1131/P1378 **Role of cereblon in molecular and cellular mechanism of AMPK inhibition.** K. LEE[1], C. Park[2]; [1]Korea Food Research Institute, Gyeonggi-do, Korea, South, [2]Gwangju Institute Science and Technology, Gwangju, Korea, South

B1132/P1379 **Mass-Spectrometric Identification and Characterization of an Ana o 3 Modification Site.** C.P. Mattison[1], C.C. Grimm[1], Y. Li[1], H.J. Chial[2], D.R. McCaslin[3], S. Chung[1], Y. Bren-Mattison[2], R.L. Wasserman[4]; [1]USDA-ARS, New Orleans, LA, [2]BioMed Bridge, LLC, Denver, CO, [3]Biochemistry Dept, University of Wisconsin, Madison, WI, [4]Department of Pediatrics, Allergy Partners of North Texas Research, Dallas, TX

B1133/P1380 **Sumoylation, An Important Post-Translational Modification Controls both Cell Division and Differentiation in the Ocular Lens.** D.W. Li[1,2,3], Y. Liu[1], L. Gong[1], L. Zhang[1]; [1]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China, [2]Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE, [3]Key Laboratory of Protein Chemistry Developmentl Biology, College of Life Sciences, Hunan Normal University, Changsha, China

B1134/P1381 **Autophagy negatively regulates Notch1 signaling by promoting Notch1-IC degradation through Fbw7 E3 ligase.** J. Ahn[1], H. Lee[1], H. Park[1]; [1]Hormone Research Center, School of Biological Sciences and Technology, Chonnam National University, Gwangju, Korea, South

B1135/P1382 **Fe65 accelerates the degradation of Jagged1 via recruitment of the E3 ligase Neuralized-like 1.** H. Lee[1], J. Ahn[1], H. Park[1]; [1]Hormone Research Center, School of Biological Sciences and Technology, Chonnam National University, Gwangju, Korea, South

B1136/P1383 **Increase in α-tubulin modifications in the neuronal processes of hippocampal neurons in both kainic acid-induced epileptic seizure and Alzheimer's disease.** H.T. Vu[1], H. Akatsu[2,3], Y. Hashizume[2], M. Setou[1], K. Ikegami[1]; [1]Department of Cellular Molecular Anatomy and International Mass Imaging Center, Hamamatsu University School of Medicine, Hamamatsu, Japan, [2]Choju Medical Institute, Fukushimura Hospital, Toyohashi, Japan, [3]Department for Medicine for Aging in Place and Community-Based Medical Education, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

B1137/P1384 **Understanding $G\alpha_{q/11}$ localization and trafficking in uveal melanoma.** C.E. Randolph[1], P.B. Wedegaertner[1]; [1]Biochemistry and Molecular Biology, Thomas Jefferson University, Philadelphia, PA

B1138/P1385 **Wnt Signaling and Endosomal Trafficking as Regulators of Cellular Protein Degradation.** L.V. Albrecht[1,2], H. Kim [1,2], D. Ploper[1,2], E.D. Robertis[1,2]; [1]Howard Hughes Medical Institute, Los Angeles, CA, [2]Biological Chemistry, University of California Los Angeles, Los Angeles, CA

B1139/P1386 **Regulation of G protein-coupled receptor signal transduction by reversible palmitoylation.** J.D. Harvey[1], D. Louiselle[1], K. Kaltenbronn[1], J. Rurik[1], K.J. Blumer[1]; [1]Cell Biology and Physiology, Washington University, St. Louis, MO

B1140/P1387 **G-protein signalling in the brain is regulated by arginylation-dependent degradation of RGS7 protein.** M. Fina[1], J. Wang[1], S. Nikonov[2], N.A. Leu[1], S. Sterling[1], N. Vardi[1], A.S. Kashina[1], D.W. Dong[1]; [1]Department of Biomedical Sciences, University of Pennsylvania, Philadelphia, PA, [2]Department of Neuroscience, University of Pennsylvania, Philadelphia, PA

B1141/P1388 **High mobility group box 1 (HMGB1) is a potential regulator of huntingtin localization and function in DNA damage repair.** S. Son[1], R. Truant[1]; [1]Biochemistry and Biomedical Sciences, McMaster University, Hamilton, ON

Kinases and Phosphatases 1

B1142/P1389 **Investigating protein kinase rewiring in the apoptotic degradome.** S.A. Zukowski[1], T. Nunez de Villavicencio Díaz[1], A. Rabalski[1], G.A. Lajoie[1], D.W. Litchfield[1]; [1]Biochemistry, Western University, London, ON

B1143/P1390 **Positive regulatory role of c-Raf/Mek/Erk pathway in acacetin-induced apoptosis in human acute leukemia Jurkat T cells.** J. Lee[1], D. Jun[2], C. Kim[1], G. Kwon[1], Y. Kim[1]; [1]School of Life Science and Biotechnology, College of Natural Sciences, Kyungpook National University, Daegu 41566, Korea, South, [2]Institute of Life Science and Biotechnology, Kyungpook National University, Daegu 41566, Korea, South

B1144/P1391 **Effects of Rapamycin on PYK2 and Paxillin in Jurkat T Cells.** Y.J. Miyamoto[1], M. Gregg[1], A. Cosgel[1]; [1]Biology, Elon University, Elon, NC

B1145/P1392 **Pib2 is involved in a novel mode of TORC1-regulation.** H. Ukai[1], Y. Araki[2], S. Kira[2], T. Noda[1,2]; [1]Graduate School of Frontier Biosciences, Osaka university, Osaka, ND, [2]Graduate School of Dentistry, Osaka university, Osaka, Japan

B1146/P1393 **A novel regulatory role of KIN1/PAR-1/MARK kinase in fission yeast cell polarity.** M.E. Lee*[1], A.N. Kettenbach[1], J.B. Moseley[1]; [1]Biochemistry and Cell Biology, The Geisel School of Medicine at Dartmouth, Hanover, NH

B1147/P1394 **Characterization of a novel myosin light-chain kinase in *C. elegans*.** C.A. Kelley[1], E.J. Cram[1]; [1]Biology, Northeastern University, Boston, MA

B1148/P1395 **Expansions of mitotic kinase families in *Stentor coeruleus*, the model for single cell regeneration.** S.B. Reiff[1], W.F. Marshall[1]; [1]Biochemistry & Biophysics, University of California San Francisco, San Francisco, CA

B1149/P1396 **Role of Abl kinases in coronavirus infection.** J.M. Sisk[1], C.E. Machamer[1]; [1]Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD

B1150/P1397 **Regulation of m^{6}A mRNA Modifications in Mouse Embryonic Stem Cells by Gsk-3.** K.J. Faulds[1], J. Egelston[1], L.J. Sedivy[1], C.J. Phiel[1]; [1]Integrative Biology, University of Colorado Denver, Denver, CO

B1151/P1398 **Geometry sensing based on stochastic composition fluctuations in a kinase-phosphatase competitive reaction.** S.D. Hansen[1,2], W. Huang[1,2], Y. Lee[1,2], P. Bieling[3], J.T. Groves[1,2]; [1]Department of Chemistry, UC Berkeley, Berkeley, CA, [2]California Institute for Quantitative Biosciences, UC Berkeley, Berkeley, CA, [3]Department of Systemic Cell Biology, Max Planck Institute of Molecular Physiology, Dortmund, Germany

B1152/P1399 **A Conserved Switch Regulates Phosphatase Activity to Initiate Cell-Specific Transcription in Response to Spatial Cues.** N. Bradshaw[1], V.M. Levdikov[2], A.J. Wlikinson[2], C.M. Zimanyi[1], R. Gaudet[1], R. Losick[1]; [1]Molecular and Cellular Biology, Harvard University, Cambridge, MA, [2]Structural Biology Laboratory, Department of Chemistry, University of York, York, United Kingdom

B1153/P1400 **Calcineurin splice variant CNAβ1 is regulated by its unique C-terminus.** R.K. Bond[1], N. St-Denis[2], A. Gingras[2], M.S. Cyert[1]; [1]Biology, Stanford, Stanford, CA, [2]Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, ON

B1154/P1401 **FBXO25 Suppress Cell Proliferation through Inhibition of ERK1/2 Phosphorylation.** F.R. Teixeira[1], A.O. Manfiolli[1], A.C. Medeiros[1], P.O. Coelho[1], D. Schechtman[2], M.D. Gomes[1]; [1]Department of Biochemistry and Immunology, Ribeirão Preto School of Medicine, University of São Paulo, Ribeirao Preto, Brazil, [2]Department of Biochemistry, Chemistry Institute, University of São Paulo, Sao Paulo, Brazil

B1155/P1402 **B7-H1 agonist antibodies activate p38 MAPK in activated CD8+ T cells via DNA-PKcs pathway.** H. Dong[1]; [1]Urology and Immunology, Mayo Clinic, ROCHESTER, MN

B1156/P1403 **Dynamic regulation of Cdr1 localization and phosphorylation during osmotic stress.** H.E. Opalko[1], J.B. Moseley[1]; [1]Geisel School of Medicine, Dartmouth College, Hanover, NH

B1157/P1404 **Focal adhesion kinase promotes pro-inflammatory molecule expression and atherosclerosis via NF-κB activation.** J.M. Murphy[1], J. Kim[2], E. Ahn[2], S. Lim[1]; [1]Department of Biochemistry and Molecular Biology, University of South Alabama, Mobile, AL, [2]Mitchell Cancer Institute, University of South Alabama, Mobile, AL

B1158/P1405 **Role of Endodermal Cell Signalling Inhibitors and Retinoic Acid on the Neuronal Differentiation of Mouse ES Cells.** S.D. KONA[1]; [1]Department of Biological Sciences, Southern University and AM College, Baton Rouge, LA

B1159/P1406 **PI(3,4,5)P$_3$ engagement restricts Akt kinase activity to cellular membranes.** M. Ebner[1,2], I. Lučić[1], T. Leonard[1,3], I. Yudushkin[1,3]; [1]Dept. of Medical Biochemistry, Medical University of Vienna, Vienna, Austria, [2]Center for Molecular Biology, University of Vienna, Vienna, Austria, [3]Dept. of Structural and Computational Biology, Max F. Perutz Laboratories, Vienna, Austria

B1160/P1407 **Fluorescence Imaging Shows the Effects of Tumor Suppressor INPP4B Oxidation on Akt Signaling.** S. Heo[1], D. Kang[1]; [1]Life Science, Ewha Womans University, Seoul, Korea, South

B1161/P1408 **Fluorescent imaging shows the regulatory mechanism of local Akt activation by mTORC2.** S. Kim[1], D. Kang[1]; [1]Life Science, EWHA Womans university, Seoul, Korea, South

Signaling Receptors (RTKs and GPCRs) 1

B1162/P1409 **Basic residues in the cytoplasmic juxtamembrane domain of the epidermal growth factor receptor regulate receptor dimerization and signaling.** J.D. Mohr[1], D.A. Holowka[2], B.A. Baird[2]; [1]Molecular Medicine, Cornell University, Ithaca, NY, [2]Chemistry and Chemical Biology, Cornell University, Ithaca, NY

B1163/P1410 **Stable binding mode of beta-arrestin to GPCR reveals activation of MEK/ERK signaling at the plasma membrane.** S. Jung[1], C. Kushmerick[2], J. Seo[3], D. Koh[1], B. Hille[1]; [1]Physiology and Biophysics, University of Washington, Seattle, WA, [2]Fisiologia e Biofisica, ICB Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, [3]Medicine, University of California, San Diego, CA

B1164/P1411 **Exit of Wnt/Gpr177 from Endoplasmic Reticulum is Regulated.** J. Sun[1], S. Yu[1], X. Zhang[1], T. Daudelin[2], O. Aligbe[1], N. Gao[1]; [1]Biological Sciences, Rutgers University, Newark, NJ, [2]Biological Sciences, New Jersey Institute of Technology, Newark, NJ

B1165/P1412 **Insulin activates the PI3K/Akt signaling pathway in retinal pigment epithelium cells in culture.** R. Salceda[1], M. Sanchez-Zavaleta[1]; [1]Neurodesarrollo y Fisiología, Universidad Nacional Autónoma de México, Mexico, D.F., Mexico

B1200/P1413 **Examining novel roles for Ret, PDGF, and VEGF receptor signaling in vertebrate axon extension.** A. Tuttle[1], M. Harding[1], C. Drerup[1], A. Nechiporuk[1]; [1]Cell, Developmental & Cancer Biology, Oregon Health & Science University, Portland, OR

B1201/P1414 **Bradykinin mediates the secretion of coagulation factor VIII by mouse dendritic cells via bradykinin 2 receptor (B2R) activation.** C.C. Clement[1], A. Follenzi[2]; [1]Pathology, Albert Einstein College of Medicine, Bronx, NY, [2]Pathology, University of Piemonte Orientale, School of Medicine, Novara, Italy

B1202/P1415 **Tyro3-mediated phosphorylation of ACTN4 at tyrosines is EGFR-dependent to decrease the susceptibility to cleavage by m-calpain.** H. Shao[1]; [1]The Department of Pathology, University of Pittsburgh, Pittsburgh, PA

B1203/P1416 **Deciphering the function of the two mammalian EFR3 proteins.** D.J. Tóth[1], T. Balla[1]; [1]Section on Molecular Signal Transduction, Program for Developmental Neuroscience, Eunice Kennedy Shriver NICHD, National Institutes of Health, Bethesda, MD

B1204/P1417 **Regulation of Cardiac G-Protein Coupled Receptors in Endosomes.** G.E. Peng[1], M. von Zastrow[2,3]; [1]Program in Cell Biology, University of California, San Francisco, San Francisco, CA, [2]Department of Psychiatry, University of California, San Francisco, San Francisco, CA, [3]Department of Cellular and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA

B1205/P1418 **RON-erbB1 heterodimerization alters erbB1 endocytosis and downstream signaling.** E.W. Hatch[1,2], R. Grattan[1,2], B.S. Wilson[1,2], D.S. Lidke[1,2]; [1]Department of Pathology, University of New Mexico, Albuquerque, NM, [2]Cancer Research and Treatment Center, University of New Mexico, Albuquerque, NM

B1206/P1419 **The contribution of membrane associated G protein-coupled estrogen receptor 1 in nongenomic signaling by bisphenol A.** L. Yu[1], K. Blatchford[1,2], L. Castro[1], X. Gao[3], J. Plair[1,4], D. Dixon[1]; [1]Molecular Pathogenesis Group, National Toxicology Program Laboratory (NTPL), Division of the NTP (DNTP), National Institute of Environmental Health Sciences, NIH, DHHS, Research Triangle Park, NC, [2]North Carolina State University, Raleigh, NC, [3]DS Technologies, Incorporated, Morrisville, NC, [4]Saint Augustine's University, Raleigh, NC

B1207/P1420 **Corticotropin-releasing Factor Receptor 1 and 2α form Heteromers with Distinct Cytoskeletal Interactions.** B. Hasdemir[1], J.A. Oses-Prieto[2], A.L. Burlingame[2], A. Bhargava[1,3]; [1]The Osher Center for Integrative Medicine, University of California San Francisco, San Francisco, CA, [2]Department of Pharmacology and Chemistry, University of California San Francisco, San Francisco, CA, [3]Department of Ob-Gyn, University of California San Francisco, San Francisco, CA

B1208/P1421 **Mapping the HER2 Interactome Using Extracellular Proximity-based Tagging.** T.M. Thaker[1,2], S. Pollock[1,3], J.A. Wells[1,3], N. Jura[1,2]; [1]Department of Cellular and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA, [2]Cardiovascular Research Institute, University of California, San Francisco, Francisco, CA, [3]Department of Pharmaceutical Chemistry, University of California, San Francisco, San Francisco, CA

Signaling Networks Governing Cell Migration

B1210/P1422 **Connexin43 hemichannels rather than Gap junctions participate in astrocyte migration.** R. Lagos-Cabré[1], A. Alvarez[2], A.F. Quest[1], L. Leyton[1]; [1]Cellular Communication Laboratory, Advanced Center for Chronic Diseases (ACCDiS). Center for Molecular Studies of the Cell (CEMC), Instituto de Ciencias Biomédicas, Facultad de Medicina., Universidad de Chile, Santiago, Chile, [2]Faculty of Sciences, Universidad San Sebastián, Santiago, Chile

B1211/P1423 **Regulation of Epithelial Migration by Epithelial Cell Adhesion Molecule (EpCAM).** A. Barth[1], H. Kim[1], I. Riedel-Kruse[1]; [1]Bioengineering, Stanford University, Stanford, CA

B1212/P1424 **Down-regulation of MLCK promotes cell migration and invasive behavior of breast epithelial cells via increased expression of EGFR and ERK/JNK signaling.** D. Kim[1], D.M. Helfman[1]; [1]Biological Sciences, Korea Advanced Institute of Science and Technology, Daejeon, Korea

B1213/P1425 **The role of -adrenergic signaling in regulation of cell deformability and motility.** T. Kim[1,2], E.K. Sloan[1,3,4,5], A.C. Rowat[2]; [1]Semel Institute for Neuroscience and Human Behavior, University of California at Los Angeles, Los Angeles, CA, [2]Department of Integrative Biology and Physiology, University of California at Los Angeles, Los Angeles, CA, [3]Institute of Pharmaceutical Sciences, Monash University, Melbourne, Australia, [4]Division of Cancer Surgery, Peter MacCallum Cancer Centre, Melbourne, Australia, [5]Jonsson Comprehensive Cancer Center and AIDS Institute, University of California at Los Angeles, Los Angeles, CA

B1214/P1426 **VRK1 protein kinase: overexpression accelerates cell proliferation in 3D acinus cultures, retards cell migration and leads to an MET-like profile of gene expression.** A.M. Mon[1], P. Traktman[1]; [1]Microbiology and Immunology, Medical University of South Carolina, Charleston, SC

B1215/P1427 **ADP-ribosylation factor-like 4A promotes cell migration via interacting with PAK1.** K.J. Chen[1], T.C. Chiang[1], C.J. Yu[2], F.J. Lee[1,3]; [1]Institute of Molecular Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan, [2]Department of Cell and Molecular Biology, Chang Gung University, Tao-Yuan, Taiwan, [3]Department of Medical Research, National Taiwan University Hospital, Taipei, Taiwan

B1216/P1428 **Small molecule-mediated inhibitions of transcriptional cofactor MKL and its downstream target profilin impedes endothelial cell migration and angiogenesis.** D. Gau[1], W. Veon[1], T. Capasso[2], M.E. Joy[1], B. Roman[2], D. Koes[3], P. Roy[1,4,5]; [1]Bioengineering, University of Pittsburgh, Pittsburgh, PA, [2]Human Genetics, University of Pittsburgh, Pittsburgh, PA, [3]Computational and Systems Biology, University of Pittsburgh, Pittsburgh, PA, [4]Cell Biology, University of Pittsburgh, Pittsburgh, PA, [5]Pathology, University of Pittsburgh, Pittsburgh, PA

B1217/P1429 **Polarized cadherin fingers guide collective endothelial cell migration.** A. Hayer[1], L. Shao[2], M. Chung[1], L. Joubert[3], H. Yang[1], F. Tsai[1], A. Bisaria[1], E. Betzig[2], T. Meyer[1]; [1]Chemical and Systems Biology, Stanford University, Stanford, CA, [2]Janelia Research Campus/Howerd Hughes Medical Institute, Ashburn, VA, [3]Cell Sciences Imaging Facility, Stanford University, Stanford, CA

B1218/P1430 **Wnt5a signaling through organelle dynamics controls cell polarity and drives directional persistence in migrating melanoma cells.** M.T. Connacher[1,2], N. Ahn[1]; [1]Biochemistry, University of Colorado, Boulder, CO, [2]American Cancer Society, Boulder, CO

B1219/P1431 **Optogenetics-based dissection of chemotactic signaling and adaptation in neutrophils.** B.R. Graziano[1], D. Gong[1], K.E. Anderson[2], A.R. Goldberg[1], O.D. Weiner[1]; [1]Cardiovascular Research Institute, UCSF, San Francisco, CA, [2]The Babraham Institute, Cambridge, United Kingdom

B1220/P1432 **Laser-mediated ablation of zebrafish pronephric duct cells as a model to study acute kidney injury.** T. Yakulov[1], K. Slanchev[1], M. Seifert[1], S. Küchlin[1], M. Schöls[1], A. Bunjes[1], A. Kramer-Zucker[1], G. Walz[1]; [1]Medicine, University Freiburg Medical Center, Freiburg, Germany

B1221/P1433 **Protein Phosphatase 1 activity promotes a collective rather than single cell mode of migration.** D. Ramel[1], Y. Chen[2], G. Aranjuez[3], A. Burtscher[3], K. Sawant[2,3], M. Lawas[2], X. Wang[1], J.A. McDonald[2]; [1]LBCMCP, Centre de Biologie Intégrative (CBI), Université de Toulouse, CNRS, Toulouse, France, [2]Division of Biology, Kansas State University, Manhattan, KS, [3]Department of Cellular and Molecular Medicine, Lerner Research Institute, Cleveland Clinic, Cleveland, OH

B1222/P1434 **Active Moesin regulates the formation of a supracellular actin structure restricting the formation of protrusions during the migration of cell clusters.** C. Plutoni[1], S. Keil[1], S. Carreno[1], P.P. Roux[1], G. Emery[1]; [1]IRIC / University of Montreal, Montreal, QC

B1223/P1435 **Placenta derived mesenchymal stem cells increase invasion ability of trophoblast via enhancing mitochondrial function.** J. Seok[1], C. Gu[1], J. Choi[1], H. Jeong[1], G. Kim[1]; [1]Biomedical Science, CHA University, Seongnam, Korea, South

B1224/P1436 **Alteration of ADM/ADM2 by hypoxia regulates migration and immunomodulation of trophoblast.** C. Gu[1], J. Choi[1], S. Jin[1], H. Jang[1], J. Park[2], Y. Bhang[3], G. Kim[1]; [1]Department of Biomedical Science, CHA University, Seongnam-si, Korea, South, [2]Department of Biomedical Sciences and Pharmacology, Seoul National University College of Medicine, Seoul, Korea, South, [3]SeouLin Bioscience, Seongnam-si, Korea, South

B1225/P1437 **TRPM4 channels regulate migration and invasiveness of melanoma cells.** D. Morales[1], J. Canales[1], A. Morgan[1], C. Blanco[1], M. Saldias[1], I. Silva[1], J. Rivas[1], D. Riquelme[2], E. Leiva-Salcedo[2], M. Cáceres[1], O. Cerda[1]; [1]Programa de Biología Celular y Molecular, Instituto de Ciencias Biomédicas, Facultad de Medicina, Universidad de Chile, Santiago, Chile, [2]Facultad de Química y Biología, Universidad de Santiago de Chile, Santiago, Chile

B1226/P1438 **The *Drosophila* TNF ortholog Eiger regulates myosin phosphorylation and cell stiffness through the Crumbs complex to facilitate embryonic macrophage tissue invasion.** A. Ratheesh[1], J. Vesela[1], J. Biebl[1], A. Gyoergy[1], M. Smutny[1], D. Siekhaus[1]; [1]IST Austria, Klosterneuburg, Austria

B1227/P1439 **SHANK3 Structure Reveals a RAS-associated Domain Regulating Integrin Activation.** J. Lilja[1], T. Zacharchenko [2], M. Georgiadou[1], H. Kreienkamp[3], I. Barsukov[2], J. Ivaska[1]; [1]Turku Centre for Biotechnology, University of Turku, Turku, Finland, [2]University of Liverpool, Liverpool, United Kingdom, [3]University Medical Center Hamburg-Eppendorf, Institute for Human Genetics, Hamburg, Germany

B1228/P1440 **Role of PI3K/Akt2 on MCF10A cell migration induced by extracellular vesicles from MDA-MB-231 breast cancer cells stimulated with linoleic acid.** E. Leal-Orta[1], J. Ramirez-Ricardo[1], O. Hernandez[1], P. Cortes-Reynosa[1], E.P. Salazar[1]; [1]Biologia Celular, Cinvestav-IPN, Mexico City, Mexico

B1229/P1441 **Plasma Membrane PI(4,5)P2 Levels Regulate Excitability During Changes in Cellular Morphology.** C.J. Janetopoulos[1], D. Jowhar[1], G. Wright[1], M. Housman[1], H. Mohammed[1], M. Beshay[1], N. Bawazir[1], B. Chen[1], E. Betzig[1], R. Khodadai[1]; [1]BIological Sciences, University of the Sciences, Philadelphia, PA

B1230/P1442 **FGFR2 activating mutations potentiate migration and invasion in endometrial cancer cells.** R. Ju[1,2], M.N. Adams[1,2], S.J. Stehbens[1,2], P.M. Pollock[1,2]; [1]Translational Research Institute Australia (TRI), Brisbane, Australia, [2] Institute of Health and Biomedical Innovation (IHBI), Queensland University of Technology (QUT), Brisbane, Australia

B1231/P1443 **Effects of Substance P on proliferation and migration of normal and diabetic dermal fibroblasts.** J. Yu[1], N. Jung[1], K. Park[2], Y. Son[1]; [1]Graduate School of Biotechnology, Kyung Hee University, Seoul, Korea, South, [2]East-West Medical Research Institute, Kyung Hee University, Seoul, Korea, South

MONDAY

Cytoskeleton-Membrane Interactions

B1232/P1444 **How do septins interact with lipids and deform membranes?** A. Bertin[1], C. Taveneau[1], A. Beber[1], D. Levy[1], A. Di cicco[1], s. mangenot[1], P. Milhiet[2], M. Mavrakis[3]; [1]PCC, Institut Curie, Paris, France, [2]CBS, CNRS, Montpellier, France, [3]Institut Fresnel, CNRS, Marseille, France

B1233/P1445 **Cellular, molecular and structural mechanisms of phosphorylation-dependent inhibition of IRSp53 by 14-3-3.** D.J. Kast[1], R. Dominguez[1]; [1]Physiology, University of Pennsylvania, Philadelphia, PA

B1234/P1446 **Role of the coiled-coil domain of septins in membrane binding and geometry recognition.** K. Cannon[1], A. Bridges[2], M. Garten[3], J. Zimmerberg[3], A.S. Gladfelter[1]; [1]Biology, University of North Carolina at Chapel Hill, 27516, NC, [2]Biology, Dartmouth College, Hanover, NH, [3]Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD

B1235/P1447 **Ezrin recruitment in curved membrane regions.** F. Tsai[1], A. Bertin[1], S. Miserey-Lenkei[2], H. Bousquet[2], L. Picas[3], B. Goud[2], E. Coudrier[2], P. Bassereau[1]; [1]UMR 168, Institut Curie, PSL Research University, and CNRS, Paris, France, [2]UMR 144, Institut Curie, PSL Research University, and CNRS, Paris, France, [3]CNRS UMR 5048 and INSERM U1054, Centre de Biochimie Structurale, CNRS, INSERM and Université de Montpellier, Montpellier, France

B1236/P1448 **Role of cytoskeleton in morphological changes of blood platelets.** A. Mathur[1], S. Dmitrieff[1], S. Correia[1], R. Gibeaux[1,2], I. Kalinina[1], T. Quidwai[1], J. Ries[1], F. Nedelec[1]; [1]Cell Biology and Biophysics, European Molecular Biology Laboratory, Heidelberg, Germany, [2]Department of Molecular Cell Biology, University of California, Berkeley, CA

B1237/P1449 **The desmosome/intermediate filament linkage regulates cell mechanics.** J.A. Broussard[1,2], R. Yang[3], C. Huang[3], S. P. Nathamgari[3], A.M. Beese[3], L.M. Godsel[1], S. Lee[1], F. Zhou[3], N.J. Sniadecki[4], H.D. Espinosa[3,5], K.J. Green[1,2]; [1]Department of Pathology, Northwestern University, Chicago, IL, [2]Department of Dermatology, Northwestern University, Chicago, IL, [3]Department of Mechanical Engineering, Northwestern University, Evanston, IL, [4]Departments of Mechanical Engineering and Bioengineering, University of Washington, Seattle, WA, [5]Theoretical and Applied Mechanics Program, Northwestern University, Evanston, IL

B1238/P1450 **Study Cell Elasticity in Different Directions Using Atomic Force Microscopy (AFM) and Microfluidic Devices.** C. Wang[1], C. Lin[2], C. Peng[2], W. Liao[2], Y. Tung[2]; [1]Civil Engineering, Tamkang University, New Taipei City, Taiwan, [2]Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan

B1239/P1451 **A Podosome Scaffold Protein Tks5 Regulates Dynamin-2 to Promote Myoblast Fusion.** M. Chuang[1], Y. Liu[1]; [1]Insititute of Molecular Medicine, National Taiwan University, Taipei, Taiwan

B1240/P1452 **Molecular mechanisms of membrane remodeling during regulated secretion in live animals.** A. Shitara[1], O. Milberg[2], M.S. Tora[1,2], S. Ebrahim[1], R. Weigert[1]; [1]Laboratory of Cellular and Molecular Biology, National Cancer Institute, Center for Cancer Research, Bethesda, MD, [2]Intracellular Membrane Trafficking Section, National Institute of Dental and Craniofacial Research, Bethesda, MD

B1241/P1453 **The Drosophila ortholog of Sorting nexin 9 is required for egg chamber development and border cell migration.** L.J. Hicks[1], G.B. Gonsalvez[1]; [1]Cellular Biology and Anatomy, Augusta University, Augusta, GA

B1242/P1454 **CD2AP is a novel regulator of the mechanosensitive adhesion receptor ICAM-1 and Rac1 activity to control leukocyte transmigration.** A. Schaefer[1,2], T. van Duijn[3], J. Majolee[3], K. Burridge[1,2], P.L. Hordijk[3,4]; [1]Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Dept.of Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]Dept. of Molecular Cell Biology, Sanquin Research and Landsteiner Laboratory, University of Amsterdam, Amsterdam, Netherlands, [4]Dept. of Physiology, VU University Medical Center, Amsterdam, Netherlands

B1243/P1455 **Apoptotic forces in tissue morphogenesis.** B. Monier[1], M. Gettings[1], A. Ambrosini[1], T. Mangeat[1], S. Schott[1], M. Suzanne[1]; [1]Univ de Toulouse, CNRS, UPS, LBCMCP, CBI, Toulouse, France

B1244/P1456 **Septins form rigid films on model biomembranes that slow down lipid diffusion.** A. Szuba[1], N. Aissaoui[2], A. Bertin[3], R. Richter[2], M. Mavrakis[4], G. Koenderink[1]; [1]Biological Soft Matter, FOM Institute AMOLF, Amsterdam, Netherlands, [2]Biosurfaces Lab, CIC biomaGUNE, San Sebastian, Spain, [3]Institute Curie, Paris, France, [4]Aix Marseille Univ, CRNS, Centrale Marseille, Institut Fresnel, Marseille, France

B1245/P1457 **Role of GTP in septin assembly and dynamics.** A. Khan[1], A.S. Gladfelter[1]; [1]Biology, Dartmouth College, Hanover, NH

B1246/P1458 **Noninvasive acoustic force spectroscopy for measuring apical surface membrane tension and intercellular adhesive forces in polarized epithelium.** A.X. Cartagena-Rivera[1], C.M. Van Itallie[2], J.M. Anderson[2], R.S. Chadwick[1]; [1]National Institute on Deafness and Other Communications Disorders, National Institutes of Health, Bethesda, MD, [2]National Hearth, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD

B1247/P1459 **The number distribution of elastic modulus of brewery yeast investigated by atomic force microscopy.** R. Tanaka[1], R. Aritomo[2], T. Shioi[2], T. Okajima[1]; [1]Graduation school of information science and technology, Hokkaido University, Sapporo, Japan, [2]Sapporo Breweries LTD, Eniwa, Japan

Cadherins and Cell-Cell Interactions

B1249/P1460 **A role for NF-protocadherin in ventral motor neuron differentiation in Xenopus.** P. Puettmann[1], R. Bradley[1]; [1]Cell Biology and Neuroscience, Montana State University, Bozeman, MT

B1250/P1461 **Endogenous Sheet Tension within a Symmetric Epithelial Cell Colony is Anisotropic.** V. Maruthamuthu[1], S. Dumbali[1]; [1]Mechanical & Aerospace Engineering, Old Dominion University, Norfolk, VA

B1251/P1462 **CTLA-4 expressed in human breast cancer cells exerts pN-scale forces to displace its ligand CD80.** S. Park[1], L. Cruz[2], L. Lin[2], B. Kim[3], M. Jo[3], T. Ha[3], L. Lu[2], Y. Chen[1]; [1]Mechanical Engineering, Johns Hopkins University, Baltimore, MD, [2]Biological Sciences, University of California-San Diego, San Diego, CA, [3]Biophysics and Biophysical Chemistry, Johns Hopkins University, Baltimore, MD

B1252/P1463 **Roles of the E-cadherin/Beta-Catenin Complex in the Mechanical Induction of Epithelium-to-Mesenchyme Transition.** C. Gayrard[1], C. Bernaudin[1], C. Seiler[1], N. Borghi[1]; [1]CNRS UMR7592, Institut Jacques Monod / Université Paris 7, Paris, France

B1253/P1464 **Rigidity-dependent E-cadherin adhesion activates distinct GTPase and actin assembly pathways to initiate and expand cell-cell contacts.** C. Collins[1], W.J. Nelson[1]; [1]Biology, Stanford University, Stanford, CA

B1254/P1465 **Mechanical force across E-cadherin regulates homeostasis of epithelial acini.** D.E. Conway[1], V. Narayanan[1]; [1]Biomedical Engineering, Virginia Commonwealth University, Richmond, VA

B1255/P1466 **The Mechano-Responsive E-cadherin/LGN Complex Instructs Epithelial Cell Division Orientation.** M. Gloerich[1], K.C. Hart[1], J.M. Bianchini[1], K.A. Siemers[1], D.J. Cohen[1], J. Tan[2], J. Sim[3], B.L. Pruitt[3,4,5], W.J. Nelson[1,4]; [1]Biology, Stanford University, Stanford, CA, [2]Biophysics Program, Stanford University, Stanford, CA, [3]Mechanical Engineering, Stanford University, Stanford, CA, [4]Molecular and Cellular Physiology, Stanford University, Stanford, CA, [5]Bioengineering, Stanford University, Stanford, CA

B1256/P1467 **E-cadherin and LGN align epithelial cell divisions with tissue tension independently of cell shape.** K.C. Hart[1], J. Tan[2], K.A. Siemers[1], J. Sim[3], M. Gloerich[4], W.J. Nelson[1]; [1]Biology, Stanford University, Stanford, CA, [2]Biophysics, Stanford University, Stanford, CA, [3]Mechanical Engineering, Stanford University, Stanford, CA, [4]Molecular Cancer Research, UMC Utrecht, Utrecht, Netherlands

B1257/P1468 **Platform for Modeling Intercellular Binding Forces Using a Novel Cell-Stretcher.** J. Kim[1], C. Lin[2], Y. Chen[1]; [1]Mechanical Engineering, Johns Hopkins University, Baltimore, MD, [2]Mechanical Engineering, Texas AM, College Station, TX

B1258/P1469 **The Role of Vinculin in Cardiomyocyte Adhesion and Mechanical Continuity.** C.D. Merkel[1], R.M. O'Dowd[1], A.V. Kwiatkowski[1]; [1]Cell Biology, University of Pittsburgh School of Medicine, Pittsburgh, PA

B1259/P1470 **Adhesion and Fusion of Muscle Cells are Promoted by Filopodia.** D. Segal[1], N. Dhanyasi[1], E.D. Schejter[1], B. Shilo[1]; [1]Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

B1260/P1471 **Nanoscale architecture of cadherin-based cell adhesions.** C. Bertocchi[1], Y. Wang[1], A. Ravasio[1], Y. Hara[1], Y. Wu[1], T. Sailov[2], M.A. Baird[3], M.W. Davidson[4,5], R. Zaidel-Bar[1,6], Y. Toyama[1,7,8], B. Ladoux[1,9], R. Mege[9], P. Kanchanawong[1,6]; [1]Mechanobiology Institute, National University of Singapore, Singapore, Singapore, [2]Singapore Centre on Environmental Life Sciences Engineering, Nanyang Technological University, Singapore, Singapore, [3]National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD, [4]National High Magnetic Field Laboratory, The Florida State University, Tallahassee, FL, [5]Department of Biological Science, The Florida State University, Tallahassee, FL, [6]Department of Biomedical Engineering, National University of Singapore, Singapore, Singapore, [7]Department of Biological Sciences, National University of Singapore, Singapore, Singapore, [8]Temasek Life Sciences Laboratory, National University of Singapore, Singapore, Singapore, [9]Institut Jacques Monod, Université Paris Diderot and CNRS, Paris, France

B1261/P1472 **TRIP6 inhibits the Hippo signaling pathway in response to tension at cell-cell junctions.** S. Dutta[1], S. Mana-Capelli[1], D. McCollum[1]; [1]Biochemistry, University of Massachusetts Medical School, Worcester, MA

B1262/P1473 **Positioning a neuron-glia attachment site through localized cell adhesion.** I.G. McLachlan[1,2], E.R. Lamkin[1,2], M.G. Heiman[1,2]; [1]Division of Genetics and Genomics, Boston Children's Hospital, Boston, MA, [2]Department of Genetics, Harvard Medical School, Boston, MA

B1263/P1474 **N-cadherin strengthens VE-cadherin adhesion through a Rac1/Trio signaling axis.** K.J. Kruse[1], F. Huang[1], Y. Sun[1], S.M. Vogel[1], A.B. Malik[1], Y.A. Komarova[1]; [1]Pharmacology, University of Illinois at Chicago, Chicago, IL

B1264/P1475 **Twist1$^+$ epithelial cells retain adhesive and proliferative capacity throughout dissemination.** E.R. Shamir[1,2], K. Coutinho[2,3], D. Georgess[2], M. Auer[3], A.J. Ewald[2]; [1]Pathology, University of California, San Francisco, San Francisco, CA, [2]Cell Biology and Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, [3]Life Sciences, Lawrence Berkeley National Laboratory, Berkeley, CA

B1265/P1476 **Epidermal growth factor receptor is required for E-cadherin force transduction.** D. Leckband[1], P. Sehgal[1], I. Muhamed[2], J. Wu[1], X. Kong[2]; [1]Chemical Sciences, University of Illinois, Urbana, IL, [2]Biochemistry, University of Illinois, Urbana, IL

B1266/P1477 **Study of epithelial-mesenchymal transition markers in mammary epithelial cells MCF10A in response to collagen type I.** A. Garcia-Hernandez[1], R. Diaz-Aragon[1], P. Cortes-Reynosa[1], E.P. Salazar[1]; [1]Biología Celular, Cinvestav-IPN, MEXICO, Mexico

B1267/P1478 **Eucalyptol ameliorates high glucose-induced epithelial to mesenchymal transition and renal tubulointerstitial fibrosis.** D. Kim[1], M. Kang[1], Y. Kang[1]; [1]Department of Food Science and Nutrition, Hallym University, Chuncheon, Kangwon-do, Korea, South

B1268/P1479 **Regulation of Adhesion Proteins During Choroid Fissure Closure in Zebrafish.** A. Smith[1], A.E. James[1]; [1]Biology Department, University of Northern Colorado, Greeley, CO

B1269/P1480 **Visualization of cell-cell interactions dynamics in early *Xenopus* embryos reveals direct interaction between PAPC and XCC at the gastrula stage.** F.B. Riquet[1,2,3,4], F. Sipieter[1,2,4], A. Leray[5,6], C. Spriet[3,5], H. Badache[4,7], D. Vicogne[3,4], L. Heliot[5,8], Y. Saka[4,9]; [1]Molecular Signaling and Cell Death Unit, Department of Biomedical Molecular Biology, Ghent University, Ghent, Belgium, [2]Molecular Signaling and Cell Death Unit, Inflammation Research Center (IRC), a VIB-UGent department, VIB, Ghent, Belgium, [3]Structural and Functional Glycobiology Unit (UGSF), CNRS UMR 8576, Lille 1 University, Villeneuve d'Ascq, France, [4]Multicellular Dynamics group, Interdisciplinary Research Institute of Lille, CNRS IRI USR 3078, CNRS/Lille1 University, Villeneuve d'Ascq, France, [5]Equipe Biophotonique Cellulaire Fonctionnelle, Interdisciplinary Research Institute of Lille, CNRS IRI USR 3078, CNRS/Lille1 University, Villeneuve d'Ascq, France, [6]Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR 6303 CNRS,, CNRS/Université Bourgogne Franche-Comté, Dijon, France, [7]Service TP Biologie cellulaire, Département de Biologie, Université Paris Sud, Orsay, France, [8]Team Biophotonique Cellulaire Fonctionnelle, Laboratoire de Physique des Lasers, Atomes et Molécules (PhLAM), CNRS UMR 8523, CNRS/Lille1 University, Villeneuve d'Ascq, France, [9]Institute of Medical Sciences, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Aberdeen, United Kingdom

B1270/P1481 **Alpha-T-catenin Ligand Interactions and Their Regulation by Phosphorylation.** J.A. Heier[1], I.W. Dale[1], C.D. Merkel[1], A.V. Kwiatkowski[1]; [1]Cell Biology, University of Pittsburgh School of Medicine, Pittsburgh, PA

Glycoproteins, Invadosomes, and Remodeling

B1271/P1482 **Identification of a novel Cripto/Myosin II interaction that promotes stem cell mediated tissue regeneration.** M. Hoover[1], E. Duell[1], E. Booker[2], B. Williams[1], C. Arellano-Garcia[1], W. Fischer[2], P. Gray[2], J.A. Kelber[1]; [1]Biology, California State University Northridge, Northridge, CA, [2]Clayton Foundation for Peptide Biology, The Salk Institute, La Jolla, CA

B1272/P1483 **Membrane-bound thrombomodulin interacts with fibronectin to regulate angiogenesis.** H. Wu[1], Y. Shu[1], G. Shi[1]; [1]Department of Biochemistry and Molecular Biology, College of Medicine, National Cheng Kung University, Tainan, Taiwan

B1273/P1484 **Migration through Hyaluronic Acid Matrices is Supported by CD44-dependent Microtentacles.** K.J. Wolf[1,2], S.J. Kenny[3], K. Xu[3,4], S. Kumar[1,2,5]; [1]Bioengineering, University of California, Berkeley, Berkeley, CA, [2]Bioengineering, UC Berkeley - UCSF Graduate Program, Berkeley, CA, [3]Chemistry, University of California, Berkeley, Berkeley, CA, [4]Division of Molecular Biophysics and Integrated Bioimaging, Lawrence Berkeley National Laboratory, Berkeley, CA, [5]Chemical and Biomolecular Engineering, University of California, Berkeley, Berkeley, CA

B1274/P1485 **Hic-5 regulation of invadopodia rosette formation and organization.** A.C. Gulvady[1], C.E. Turner[1]; [1]Department of Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY

B1275/P1486 **Active mRNA translation into invadosomes revealed by combination of laser capture and proteomic analysis.** Z. Ezzoukhry[1], f. Cordelières[2], J. Dupuy[3], M. Maitre[3], V. Moreau[1], A. Raymond[4], F. Saltel[1]; [1]U1053, INSERM, Bordeaux, France, [2]UMS 3420 CNRS, bordeaux, France, [3]Neurocentre Magendie, Bordeaux, France, [4]U1035, Inserm, Bordeaux, France

B1276/P1487 **Extracellular matrix malleability regulates breast cancer cell invasion.** K.M. Wisdom[1], R.M. Desai[2], D.J. Mooney[2], O. Chaudhuri[1]; [1]Mechanical Engineering, Stanford University, Stanford, CA, [2]School of Engineering and Applied Sciences, Harvard University, Cambridge, MA

B1277/P1488 **Human neutrophils secrete MMP-9 and MMP-8 during adhesion to fibronectin in the presence of insulin.** S.I. Galkina[1], N.V. Fedorova[1], M.V. Serebryakova[1], L.A. Baratova[1], G.F. Sud'ina[1]; [1]Belozersky institute, Lomonosov Moscow State University, Moscow, Russia

Structure and Function of the Extracellular Matrix

B1278/P1489 **Understanding the Mechanics of Adhesion Dependent and Independent Neutrophil Migration in Three-Dimensional Extra-Cellular Matrices.** J.J. François[1], J.C. Del Alamo[2], R.A. Firtel[3], J. Lasheras[2]; [1]Bioengineering, University of California, San Diego, La Jolla, CA, [2]Mechanical and Aerospace Engineering, University of California, San Diego, La Jolla, CA, [3]Section of Cell and Developmental Biology, University of California, San Diego, La Jolla, CA

B1279/P1490 **Identification of laminin □5 short arm peptides active for endothelial cell attachment and tube formation.** Y. Sugawara[1]; [1]Clinical Biochemistry, Tokyo University of Pharmacy and Life Sciences, Hachioji, Japan

B1280/P1491 **Novel Role of Septin2 in Endothelial Cell Podosome Formation and Matrix Degradation.** K.B. Collins[1], H. Kang[1], J. Klomp[1], A.V. Karginov[1], A.B. Malik[1]; [1]Molecular and Cellular Pharmacology, University of Illinois at Chicago, Chicago, IL

MONDAY

B1281/P1492 **Remodeling and internalization of the hyaluronan-dependent pericellular matrix during adipogenic differentiation of 3T3-L1 cells.** S.S. Sellers[1], C.B. Knudson[1]; [1]Anatomy and Cell Biology, East Carolina University, Greenville, NC

B1282/P1493 **Small mineralized crystals formed by osteogenic cells in 3D collagen gel culture.** C. Umezu[1]; [1]Graduate of Environmental Engineering, The University of Kitakyushu, Fukuoka, Japan

B1283/P1494 **Expression of Osteopontin in Human Fetal Osteoblast Cells (hFOB1.19) After Graphene Oxide, Folate and Copper Sulfide Nanoparticle Treatment.** S.C. Gonzales[1], E.C. Regisford[1], L. Carson Ph.D[1], A. Oki[1], D. Gilbert[1], H. Roberson[1], J. Lewis[2]; [1]Chemistry, Prairie View AM University, Prairie View, TX, [2]Biology, Prairie View AM University, Prairie View, TX

B1284/P1495 **Effects of Sex Hormones and Prolactin on Matrix Deposition and Expression of Pro-Inflammatory Factors by Corneal Fibroblasts.** T. McKay[1], D. Karamichos[1,2]; [1]Cell Biology, University of Oklahoma Health Sciences Center, Norman, OK, [2]Ophthalmology, Dean McGee Eye Institute, Oklahoma City, OK

B1285/P1496 **Dynamics of ECM based *in vitro* microfluidic vessels in response to physical perturbations.** D. Maity[1], D. Vig[2], A. Wong[3], Y. Chen[2,4], S. Sun[2]; [1]Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, [2]Mechanical Engineering, Johns Hopkins University, Baltimore, MD, [3]Materials Science Engineering, Johns Hopkins University, Baltimore, MD, [4]Centre for Cell Dynamcis, Johns Hopkins University, Baltimore, MD

B1286/P1497 **The role of fibroblast-specific canonical TGFb signaling in cardiac fibrosis.** H. Khalil[1], O. Kanisicak[1], J.D. Molkentin[1]; [1]Cardiovascular Biology, Cincinnati Children's Hospital, Cincinnati, OH

B1300/P1498 **Crosslinking enzyme Tissue Transglutaminase 2 elevates Intraocular Pressure in mice.** U. Raychaudhuri[1], C. Millar[1], C.M. McDowell[1], A.F. Clark[1]; [1]Visual Sciences, University of North Texas Health Science Center, Fort Worth, TX

B1301/P1499 **Evolution of collagen IV and basement membrane enabling multicellularity.** A.L. Fidler[1], S.V. Chetyrkin[1], C.E. Darris[1], V.K. Pedchenko[1], S.P. Buodko[1], W.G. Jerome[2], J. Hudson[3], A. Rokas[4], B.G. Hudson[1]; [1]Medicine, Vanderbilt University Medical Center, Nashville, TN, [2]Pathology, Microbiology, and Immunology, Vanderbilt University Medical Center, Nashville, TN, [3]Medical Education and Administration, Vanderbilt University Medical Center, Nashville, TN, [4]Biological Sciences, Vanderbilt University Medical Center, Nashville, TN

B1302/P1500 **Imbalance of matrix metalloproteinase in the obesity-associated asthma.** C.P. Vieira[1], L.P. Oliveira[2], M.B. da Silva[2], D.M. André[1], E.B. Tavares[1], E.R. Pimentel[2], E. Antunes[1]; [1]Pharmacology, State University of Campinas, Campinas, Brazil, [2]Structural and Functional Biology, State University of Campinas, Campinas/SP, Brazil

B1303/P1501 **Regulation of larval zebrafish wound healing through the formation of collagen projections.** D.C. LeBert[1], J. Squirrell[2], C. Freisinger[1], K. Eliceiri[2], A. Huttenlocher[1]; [1]Medical Microbiology and Immunology, University of Wisconsin-Madison, Madison, WI, [2]Laboratory for Optical and Computational Instrumentation, University of Wisconsin-Madison, Madison, WI

B1304/P1502 **Biophysical properties of the corneal stroma influence apoptosis of myofibroblasts.** I. Jalilian[1], A. Robinson[1], V. Raghunathan[2], J. Sermeno[1], S. Muppala[1], S.M. Thomasy[1], C.J. Murphy[1,3]; [1]Department of Surgical Radiological Sciences, School of Veterinary Medicine, University of California, Davis, Davis, CA, [2]The Ocular Surface Institute, College of Optometry, University of Houston, Houston, TX, [3]Department of Ophthalmology Vision Science, School of Medicine, University of California, Davis, Davis, CA

B1305/P1503 **A peptide, P1, from the extracellular matrix glycoprotein fibronectin, enhances growth factor driven angiogenesis.** M.M. McTigue[1], M.G. Tonnesen[2,3], R.A. Clark[1,3]; [1]Biomedical Engineering, Stony Brook University, Stony Brook, NY, [2]Dermatology, Northport Veterans Affairs Medical Center, Northport, NY, [3]Dermatology, Stony Brook University, Stony Brook, NY

B1306/P1504 **Impaired PV and PNN expression in CA1 hippocampus may underlie contextual recall deficits after auditory fear conditioning in FMR1 knockout mice.** S. Afroz[1], S. Reinhard[2,3], K. Pendi[1], Y. Hanania[1], K. Razak[3], I.M. Ethell[1]; [1]Biomedical Sciences, UCR, Riverside, CA, [2]Neuroscience Graduate Program, UCR, Riverside, CA, [3]Psychology, UCR, Riverside, CA

B1307/P1505 **Simvastatin improves gait recovery and tendon healing after partial tenotomy.** L.P. Oliveira[1], C.P. Vieira[2], F.D. Guerra[3], G.F. Simões[1], A.L. Oliveira[1], E.R. Pimentel[1]; [1]Department of Structural and Functional Biology, University of Campinas, Campinas, Brazil, [2]Department of Pharmacology, University of Campinas, Campinas, Brazil, [3]Department of Anatomy, Federal University of Alfenas, Alfenas, Brazil

Chaperones, Protein Folding, and Quality Control 2

B1309/P1506 **Fic-mediated AMPylation of the ER chaperone BiP is required to maintain visual neurotransmission.** A.T. Moehlman[1], A.K. Casey[2], J. Zhang[2], K. Orth[2,3], H. Kramer[1,4]; [1]Neuroscience, UT Southwestern Medical Center, Dallas, TX, [2]Molecular Biology, UT Southwestern Medical Center, Dallas, TX, [3]Howard Hughes Medical Institute, Dallas, TX, [4]Cell Biology, UT Southwestern Medical Center, Dallas, TX

B1310/P1507 **Detection of ER stress markers in laminitic lamellar tissue from horses with endocrinopathy-associated laminitis.** L. Cassimeris[1], H. Galantino-Homer[2]; [1]Biological Sciences, Lehigh University, Bethlehem, PA, [2]Clinical Studies, University of Pennsylvania School of Veterinary Medicine, New Bolton Center, Kennett Square, PA

B1311/P1508 **The Sec61 translocon controls IRE1 activity during the unfolded protein response.** A. Sundaram[1], R. Plumb[1], S. Appathurai[1], M. Mariappan[1]; [1]Department of Cell Biology, Nanobiology Institute, Yale University, West Haven, CT

B1312/P1509 **A conformational RNA zipper promotes non‐conventional *XBP1* mRNA splicing.** J. Peschek[1], D. Acosta-Alvear[1], A.S. Mendez[1], P. Walter[1]; [1]Department of Biochemistry and Biophysics, UC San Francisco/HHMI, San Francisco, CA

B1313/P1510 **An unfolded protein-induced conformational switch activates mammalian IRE1.** G. Karagöz[1], V. Chen[1,2], J. Schaefer[1,3], P. Walter[1]; [1]Department of Biochemistry and Biophysics, University of California, San Francisco/HHMI, San Francisco, CA, [2]Department of Plant Biology, Carnegie Institution for Science, Stanford, CA, [3]Center for Molecular Biology, University of Heidelberg, Heidelberg, Germany

B1314/P1511 **The unfolded protein response and protein targeting to the endoplasmic reticulum converge on the stress sensor IRE1.** D. Acosta-Alvear[1,2], G. Karagöz[2], F. Fröhlich[3,4], T. Walther[3], P. Walter[2]; [1]Current address: Department of Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA, [2]Department of Biochemistry and Biophysics and Howard Hughes Medical Institute, University of California, San Francisco, San Francisco, CA, [3]Harvard School of Public Health and Howard Hughes Medical Institute, Harvard Medical School, Boston, MA, [4]Current address: Molecular Membrane Biology (SFB Research Group), Universität Osnabrück, Osnabrück, Germany

B1315/P1512 **The mitochondrial Lon protease is an adaptive, stress-responsive, proteinase whose induction is both sex- and age-dependent in D. melanogaster.** L. Corrales-Diaz Pomatto[1], S. Wong[1], J. Tower[1,2], K. J.A. Davies[1,2]; [1]Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA, [2]Molecular and Computational Biology Program, Department of Biological Sciences, University of Southern California, Los Angeles, CA

B1316/P1513 **Quality control of protein folding in the cytosol.** S.N. Chan[1,2], R. Prasad[2], D. Ng[1,2]; [1]NUS Graduate School for Integrative Sciences and Engineering (NGS), National University of Singapore (NUS), Singapore, Singapore, [2]Cell Stress and Homeostasis, Temasek Life Sciences Laboratory (TLL), Singapore, Singapore

B1317/P1514 **Dimethyl Sulfoxide-derived ROS Impairs Preimplantation Embryo Development via Accumulation of $Ca2^+$ and ER Stress in Mice.** M. Kang[1], D. Um[1], S. Kim[1], Y. Choi[1], J. Kim[1]; [1]Department of Stem Cell and Regenerative Biology, Konkuk University, Seoul, Korea

B1318/P1515 **Sigma 1 Receptors Modulate Endoplasmic Reticulum Stress Response to Tunicamycin Treatment.** N. Ahlskog[1], L.A. Tassé[1], M.J. Abraham[1], P. Chudalayandi[2], A.Y. Wong[2], J.K. Ngsee[1,2], R. Bergeron[1,2]; [1]Department of Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, [2]Neuroscience, Ottawa Hospital Research Institute, Ottawa, ON

B1319/P1516 **Characterization of cell-type specific responses to misfolded protein stress in *C. elegans*.** C. Gormley[1], K. Hoffman[1], R. Ihsan[1], T. Bloss[1]; [1]Biology, James Madison University, Harrisonburg, VA

B1320/P1517 **Impaired recovery from ER stress in Mouse Embryonic Fibroblasts lacking the Sigma-1 receptor.** L.A. Tassé[1], P. Chudalayandi[1], N. Ahlskog[1], M.J. Abraham[1], K.L. Ferguson[1], J. Ngsee[1,2], A.Y. Wong[2], R. Bergeron[1,2]; [1]Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, [2]Neuroscience, Ottawa Hospital Research Institute, Ottawa, ON

B1321/P1518 **Survive or die drying: investigating the roles of Hsp12 and trehalose in desiccation tolerance.** S.X. Kim[1], G. Camdere[1], D.E. Koshland[1], H. Tapia[1]; [1]Molecual and Cell Biology, University of California, Berkeley, Berkeley, CA

B1322/P1519 **Dissecting the decision points in secretory pathway protein quality control.** B.S. Park[1], P. Satpute-Krishnan[2]; [1]Undergraduate Bioinformatics Program, Baylor University, Waco, TX, [2]Biochemistry and Molecular Biology, Uniformed Services University, Bethesda, MD

B1323/P1520 **80S ribosome-binding proteins link translation arrest to nascent chain degradation.** C.S. Sitron[1], J.H. Park[1], O. Brandman[1]; [1]Department of Biochemistry, Stanford University, Stanford, CA

B1324/P1521 **Overexpression of Nuclear Protein Localization-3 Induces Intracellular Prion-Like Aggregates in Saccharomyces cerevisiae.** D.P. Bracho-Rincon[1], I. Serrano-Lachapel[1], L.E. Martinez-Rodriguez[1], C.I. Gonzalez-Vargas[1]; [1]Biology, University of Puerto Rico-Río Piedras, San Juan, PR

B1325/P1522 **Secretion of the Neuroprotective J Protein, Cysteine String Protein.** J. Braun[1]; [1]Department of Biochemistry, University of Calgary, Calgary, AB

Ubiquitin and Proteasome Function

B1326/P1523 **Sexual Dimorphism and the 20S Proteasome in Oxidative Stress and Adaptive Homeostasis.** S. Wong[1], L. Corrales-Diaz Pomatto[1], J. Tower[1,2], K. J.A. Davies[1,2]; [1]Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA, [2]Molecular and Computational Biology USC Dornsife College of Letters, Arts, and Sciences, University of Southern California, Los Angeles, CA

B1327/P1524 **Oxidative stress in mitochondria of TKD adipocytes may increase histone carbonylation in nuclei via retrograde signaling.** M.L. Hart[1], A. Hauck[1], D.A. Bernlohr[1]; [1]Biochemistry, Molecular Biology, Biophysics, University of Minnesota, Minneapolis, MN

B1328/P1525 **SCF^{Slmb} mediates degradation of SMN monomers.** K.M. Gray[1], Y. Wen[2], K. Kaifer[3], C. Lorson[4], A.G. Matera[1,2]; [1]Curriculum in Genetics and Molecular Biology, University of North Carolina, Chapel Hill, NC, [2]Department of Biology, University of North Carolina, Chapel Hill, NC, [3]Molecular Pathogenesis and Therapeutics Graduate Program, University of Missouri, Columbia, MO, [4]Molecular Microbiology Immunology, University of Missouri, Columbia, MO

B1329/P1526 **Role of Cullin activities in skeletal muscle development.** J. Blondelle[1], P. Shapiro[1], S. Lange[1]; [1]School of Medicine, Division of Cardiology, University of California, San Diego, San Diego, CA

B1330/P1527 **Understanding regulated degradation of CEBPB in early adipogenesis.** P. Gupta[1], K.M. Kovary[1], M.N. Teruel[1]; [1]Chemical and Systems Biology, Stanford University, Stanford, CA

B1331/P1528 **The pseudophosphatase STYX regulates SCF-FBW7.** V. Reiterer[1], H. Farhan[1], C. Behrends[2], P. DiFiore[3]; [1]Molecular medicine, University of Oslo, Oslo, Norway, [2]Biochemistry, University of Frankfurt, Frankfurt, Germany, [3]IFOM, Milano, Italy

B1332/P1529 **Regulation of two neural receptors by ERAD E3 ubiquitin ligases in *C. elegans*.** L.L. Dahlberg[1], S. Witus[1,2], A. Townsend[1]; [1]Biology, Western Washington University, Bellingham, WA, [2]Biochemistry, University of Washington, Seattle, WA

B1333/P1530 **Lipid disequilibrium disrupts ER proteostasis by impairing ERAD substrate glycan trimming and dislocation.** M. To[1], C.W. Peterson[1], M.A. Roberts[1], J.L. Counihan[1,2,3], T.T. Wu[1], M.S. Forster[1], D.K. Nomura[1,2,3], J.A. Olzmann[1]; [1]Department of Nutritional Sciences and Toxicology, University of California, Berkeley, CA, [2]Department of Chemistry, University of California, Berkeley, CA, [3]Department of Molecular and Cell Biology, University of California, Berkeley, CA

B1334/P1531 **Tau oligomer post-translational modification and the dysregulation of the proteasome in Alzheimer's disease.** A.N. Nilson[1,2], J. Deger[1,2], J.E. Gerson[1,2], R. Kayed[1,2]; [1]Neuroscience, University of Texas Medical Branch, Galveston, TX, [2]Neurology, Mitchell Center for Neurodegenerative Diseases, Galveston, TX

B1335/P1532 **Identification of novel regulators of Amyloid Precursor Protein by High Content Imaging siRNA Screening.** H.A. Bustamante[1], Y.I. Cheuquemilla[1], G.E. Valenzuela [2], G.A. Mardones[1,3], A. Rojas-Fernandez[3], R.T. Hay[4], P.V. Burgos[1,3]; [1]Physiology Department, Universidad Austral de Chile, Valdivia, Chile, [2]Biochemistry and Microbiology Department, Universidad Austral de Chile, Valdivia, Chile, [3]Centro Interdisciplinario de Estudios del Sistema Nervioso (CISNe), Universidad Austral de Chile, Valdivia, Chile, [4]College of Life Sciences, University of Dundee, Dundee, United Kingdom

B1336/P1533 **Modulation of SQSTM1 activity by UBA domain ubiquitination.** Y. Lee[1], T. Chou[2], C.C. Weihl[1]; [1]Neurology, Washington University in St. Louis, St. Louis, MO, [2]Pediatrics, Harbor-UCLA Medical Center and Los Angeles Biomedical Research Institute, Torrance, CA

B1337/P1534 **Activation of WW-HECT ubiquitin ligases by substrate clustering.** T. Mund[1], H. . Pelham[1]; [1]Cell Biology, MRC, Laboratory of Molecular Biology, Cambridge, United Kingdom

Computational Cell Biology and Bioinformatics

B1339/P1535 **Population dynamics of mitochondria in mammalian cells.** K. Kornick[1], M. Das[1]; [1]Physics and Astronomy, Rochester Institute of Technology, Rochester, NY

B1340/P1536 **A generalized mathematical framework to model diffusion in curved surfaces reveals geometry-based cargo sorting in membrane tubules.** C.J. Klaus[1], K. Raghunathan[2], E. DiBenedetto[1,2], A.K. Kenworthy[2,3]; [1]Department of Mathematics, Vanderbilt University, Nashville, TN, [2]Department of Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN, [3]Department of Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B1341/P1537 **Computational Drug Design of Nucleotide Excision DNA Repair Inhibitors for Improved Cancer Therapy.** F. Gentile[1], J.A. Tuszynski[1,2], K.H. Barakat[3]; [1]Physics, University of Alberta, Edmonton, AB, [2]Oncology, University of Alberta, Edmonton, AB, [3]Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, AB

B1342/P1538 ***In-silico* assessment of phytochemicals as dengue virus E protein inhibitors.** M. Ahmed[1], S.S. Malik[1]; [1]Microbiology and Molecular Genetics, University of the Punjab, Lahore, Pakistan

B1343/P1539 **Brownian ratchet mechanism of plasmid segregation.** L. Hu[1], A.G. Vecchiarelli[2], K. Mizuuchi[2], K.C. Neuman[1], J. Liu[1]; [1]National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD, [2]National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD

B1344/P1540 **Multi-label prediction of subcellular localization in confocal images using deep neural networks.** C.F. Winsnes[1], D.P. Sullivan[1], K. Smith[2], E. Lundberg[1]; [1]Biotechnology, Science for Life Laboratory (KTH), Solna, Sweden, [2]Computer Science and Communications, Science for Life Laboratory (KTH), Solna, Sweden

B1345/P1541 **SourceData: a semantic platform to make data and figures discoverable.** T. Lemberger[1], N. George[1], R. Liechti[2], L. Götz[2], S. El-Gebali[1], I. Crespo[2], I. Xenarios[2]; [1]EMBO, Heidelberg, Germany, [2]Vital-IT Swiss-Prot, Swiss Institute of Bioinformatics, Lausanne, Switzerland

B1346/P1542 **Annotations of Important Biological Processes in Domesticated and Endangered Animals.** C.B. Steemer[1], D. Grogan[1], L. Carson Ph.D[1], G. Regisford Ph.D[2], J. Hu Ph.D[3]; [1]Agriculture, Prairie View AM University, Prairie View, TX, [2]Biology, Prairie View AM University, Prairie View, TX, [3]Biochemistry, Texas AM University, College Station, TX

MONDAY

B1347/P1543 **Using Bioinformatics to Characterize the Novel Gene, KIAA1586.** A.J. Green[1], D. Ritter, PhD[1], E.C. Regisford[1]; [1]Biology, Prairie View AM University, Prairie View, TX

B1348/P1544 **GeneLab: Scientific partnerships and an open-access database to maximize usage of omics data from space biology experiments.** S.S. Reinsch[1], J.M. Galazka[1], D.C. Berrios[1,2], K. Chakravarty[1,3], H. Fogle[1,4], S. Lai[1,5], V. Boyko[1,5], L.R. Timucin[1,2], P.B. Tran[1], M. Skidmore[1]; [1]Space Biosciences Division, NASA-Ames Research Center, Moffett Field, CA, [2]University Affiliated Research Center, Moffett Field, CA, [3]Logyx LLC, Moffett Field, CA, [4]Bionetics, Moffett Field, CA, [5]Wyle Labs, Moffett Field, CA

B1349/P1545 **Data-driven approaches to studying disease cell biology: study of neuroblastoma proliferation guided by URSAHD and GIANT functional networks.** C.L. Theesfeld[1], Y. Lee[1,2], C.S. Greene[3], A. Krishnan[1], A.K. Wong[4], E. Riciotti[3], R.A. Zelaya[3], D.S. Himelstein[3], R. Zhang[5], S.C. Sealfon[6], G.A. FitzGerald[3], K. Dolinski[1], T. Grosser[3], O.G. Troyanskaya[1,2,4]; [1]Lewis Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ, [2]Department of Computer Science, Princeton University, Princeton, NJ, [3]Systems Pharmacology and Translational Therapeutics, Perelman School of Medicine at The University of Pennsylvania, Philadelphia, PA, [4]Simons Foundation, New York, NY, [5]Department of Molecular Biology, Princeton University, Princeton, NJ, [6]Icahn School of Medicine, Mount Sinai, New York, NY

Embryogenesis 1

B1351/P1546 **Decoding Embryonic Developmental Pathways Using 4D-High Content Imaging of *C. elegans* embryos.** R. Khaliullin[1,2], S.D. Ochoa[1,2], Z. Zhao[1,2], S. Wang[1,2], R. Biggs[1,2], A. Gerson[1,2], L. Galanti[3], K. Gunsalus[3], A.B. Desai[1,2], K. Oegema[1,2], R.A. Green[1,2]; [1]Cellular and Molecular Medicine, University of California, San Diego, San Diego, CA, [2]Ludwig Institute for Cancer Research, San Diego, CA, [3]New York University, New York, NY

B1352/P1547 **3D visualization of developmental toxicity of 2,4,6-trinitrotoluene in zebrafish embryogenesis using light-sheet microscopy.** B.J. Hwang[1], J. Eum[2], Y. Kee[2]; [1]Dept. of Molecular Bioscience, Kangwon National University, Chuncheon, Korea, [2]Division of Biomedical Convergence, Kangwon National University, Chuncheon, Korea

B1353/P1548 **The role of division orientation in embryonic patterning.** L.I. Rathbun[1], J. Amack[1], H. Hehnly[1]; [1]Cell and Developmental Biology, State University of New York Upstate Medical University, Syracuse, NY

B1354/P1549 **Imaging How Cells Choose their Fate, Shape and Position in the Early Mouse Embryo.** N. Plachta[1]; [1]Institute of Molecular and cell Biology, A*STAR, Singapore, Singapore

B1355/P1550 **Alternating muscle contractions establish planar polarity during *C. elegans* morphogenesis.** X. Yang[1,2], T. Ferraro[1], J. Pontabry[2], N. Maghelli[3], L. Royer[3], S.W. Grill[3], G. Myers[3], M. Labouesse[1,2]; [1]Developmental biology laboratory, Institut Biologie Paris-Seine, Paris, France, [2]Development and stem cells, Institut de Genetique et de Biologie Moleculaire et Cellulaire, Illkirch, France, [3]Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

B1356/P1551 **Rif1 controls the development of late replication at the *Drosophila* Mid-Blastula Transition.** C.A. Seller[1], P.H. O'Farrell[1]; [1]Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA

B1357/P1552 **Quantification of centromeric protein dynamics during early embryogenesis of C. elegans.** L. Smith[1], C.A. Barnhardt[2], P.S. Maddox[2]; [1]Curriculum in Genetics and Molecular Biology, University of North Carolina, Chapel Hill, NC, [2]Department of Biology, University of North Carolina, Chapel Hill, NC

B1358/P1553 **Cellular and Molecular Dynamics Of In-vitro 2D and 3D Cultured Blastocysts Throughout The Implantation Process.** S. Karahuseyinoglu[1], D. Yucel[2], G.N. Sahin[3], A. Kocabay[4], A.C. Taskin[4]; [1]Histology and Embryology, Koç University School Of Medicine, Istanbul, Turkey, [2]Histology and Embryology, Acıbadem University School Of Medicine, Istanbul, Turkey, [3]Reproductive Biology, Koç University Graduate School Of Health Sciences, Istanbul, Turkey, [4]Animal Research Facility, Koç University College of Sciences, Istanbul, Turkey

B1359/P1554 **A protein complex directs assembly of the vitelline layer of the *C. elegans* eggshell.** H. Lamb[1], D. Partida[1], Z. Wilson[1], S.K. Olson[1]; [1]Biology, Pomona College, Claremont, CA

B1360/P1555 **The spatiotemporal limits of developmental Erk signaling.** H.E. Johnson[1], Y. Goyal[2], N. Pannucci[1], G.M. Schupbach[1], S.Y. Shvartsman[2], J.E. Toettcher[1]; [1]Molecular Biology, Princeton University, Princeton, NJ, [2]Chemical Engineering, Princeton University, Princeton, NJ

B1361/P1556 **Functional roles of hnRNPA2/B1 by RNA epigenetic modification in mammalian embryonic development.** J. Kwon[1]; [1]Animal science, Chungbuk national university, Cheongju, Korea, South

B1362/P1557 **Do amyloid-like complexes control development? An examination of amyloids in *Xenopus* oocytes and early embryos.** M. Hayes[1,2], S. Skuodas[3], J.S. Fassler[3], D.L. Weeks[1,2]; [1]Biochemistry, University of Iowa, Iowa City, IA, [2]Molecular and Cellular Biology, University of Iowa, Iowa City, IA, [3]Biology, University of Iowa, Iowa City, IA

B1363/P1558 **A model for how multiprotein regulatory complexes regulate morphogenesis: Abelson tyrosine kinase, Crk, and embryonic development.** A.J. Spracklen[1], A.N. Bonner[2], E.M. Rogers[2], M. Peifer[1,2]; [1]Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, [2]Department of Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B1364/P1559 **Expression and functional analysis of Smyd5 in zebrafish.** T. Fujii[1], H. Sagara[2], M. Munakata[1], Y. Hisaki[1], T. Sekiya[1], Y. Furukawa[3], K. Sakamoto[4], S. Watanabe[5]; [1]Department of Cancer Genome Research, Sasaki Institute, Sasaki Foundation,, Tokyo, Japan, [2]Fine Morphological Analysis Group Medical Proteomics Laboratory, Institute of Medical Science, The University of Tokyo, Tokyo, Japan, [3]Division of Clinical Genome Research, Institute of Medical Science, The University of Tokyo, Tokyo, Japan, [4]Department of Coloproctological Surgery, Juntendo University, Faculty of Medicine, Tokyo, Japan, [5]Division of Molecular and Developmental Biology, Institute of Medical Science, The University of Tokyo, Tokyo, Japan

B1365/P1560 **ADAM 13 cleaves PCNS and regulates its expression via AP2a to promote cranial neural crest cell migration.** V. Khedgikar[1], K. Mathavan[1], H. Cousin[1], D. Alfandari[1]; [1]Dept. of Veterinary and Animal Sciences, University of Massachusetts, Amherst, MA

B1366/P1561 **Role of antiapoptotic genes in developmental biology: A tale of TMBIM family proteins in Zebra fish.** R. JUNJAPPA[1], M. Handigund[1], K.R. Bhattarai[1], H.K. Kim[1], H.R. Kim [1], H.J. Chae[1]; [1]Department of Pharmacology, School of Medical Science, Chonbuk National University, Jeonju, Jeollabuk-do, Korea

B1367/P1562 **A Molecular Genetic Analysis of the Role of Carbonic Anhydrases in Tracheal Filling of *Drosophila melanogaster*.** G.H. Jean[1], M. Keroles[1], S. McGriff[1], J. Nair[1], C. Kowalczyc[1], B. Russel[1], J. Arvedon[1], J. Baker[1]; [1]Biology, University of Miami, Coral Gables, FL

B1368/P1563 **xDACH1 regulates neural development via regulating transcription of tissue specific genes.** K. Yookyung[1], T. Ismail[1], G. Park[1], H. Lee[1]; [1]Biotechnology, BK21 Plus KNU Creative BioResearch Group, Kyungpook National University, DAEGU, Korea, South

B1369/P1564 **Histone demethylase Kdm3a/Jmjd1a regulates craniofacial and neural development.** H. Lee[1], Y. Jeong[1], C. Kim[1], H. Lee[1]; [1]Biotechnology, Kyungpook National University, Daegu, Korea, South

B1370/P1565 **Safe dose of bisphenol A to mothers during gestation and lactation increases proliferative rate and neoplastic lesions in mammary gland of female gerbil (Meriones unguiculatus) offspring.** E.R. Leonel[1], S.P. Campos[1], D. Leonel[1], L. Falleiros-Junior[1], S. Taboga[1]; [1]Departament of Biology, São Paulo State University (IBILCE/UNESP), São José do Rio Preto, Brazil

Signaling in Tissue Development and Morphogenesis

B1400/P1566 **B cell Specific Knockout of Gps2 leads to defective B cell development and aberrant BCR/TLR activation.** C. Lentucci[1], A. Belkina[1], C.T. Cederquist[1], M. Chan[1], H.E. Johnson[1], S. Prasad[1], A. Lopacinski[1], b. Nikolajczyk[1], S. Monti[1], J. Snyder-Cappione[1], B. Tanasa[2], M.D. Cardamone[1], V. Perissi[1]; [1]Biochemistry, Boston University, Boston, MA, [2]Pediatrics, Stanford University, Stanford, CA

B1401/P1567 **Neprilysin facilitates adipogenesis through potentiation of the PI3K signaling pathway.** J. Kim[1], D. Han[1], S. Byun[1], M. Kwon[1], K. Yoon[1]; [1]Genetic Engineering, Sungkyunkwan Univ, Suwon, Korea, South

B1402/P1568 **Regenerative activation of *wingless* regulates loss of cell polarity and neoplastic transformation in *lgl* mutant epithelia.** R. Jaszczak[1], R. Bhandari[1], T. Tran[1], A. Halme[1]; [1]Cell Biology, University of Virginia School of Medicine, Charlottesville, VA

B1403/P1569 **Endocytosis of Wingless via a dynamin-independent pathway is necessary for signalling in Drosophila wing discs.** A. Hemalatha[1], C. Prabhakara[1], S. Mayor[1]; [1]Cellular Organization and Signaling, National Centre for Biological Sciences, Bangalore, India

B1404/P1570 **Roles for Wnt signaling in synapse organization revealed by CRISPR/Cas9-mediated mutagenesis in the mouse retina.** S. Sarin[1], E. Zuniga-Sanchez[2], M.B. Patel[1], K. Zhang[2], H. Cousins[1], J.R. Sanes[1], S. Zipursky[2]; [1]Molecular and Cellular Biology, Harvard University, Cambridge, MA, [2]Biological Chemistry, University of California, Los Angeles, Los Angeles, CA

B1405/P1571 **Role of Notch signaling during ommatidial rotation in Drosophila eye.** Y. Koca[1], M. Mlodzik[1]; [1]Developmental and Regenerative Biology, Icahn School of Medicine at Mount Sinai, New York, NY

B1406/P1572 **SFI1 recruits USP9X to stabilize the microcephaly protein STIL.** A.T. Kodani[1,2], J.F. Reiter[2], C.A. Walsh[1]; [1]Genetics and Genomics, Boston Children's Hospital, Boston, MA, [2]Biochemistry and Biophysics, UCSF, San Francisco, CA

B1407/P1573 **ASP suppresses microcephaly through spindle-independent pathways.** T.A. Schoborg[1], L. Smith[1], C.J. Fagerstrom[1], N.M. Rusan[1]; [1]National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD

B1408/P1574 **Spatially patterned EGF receptor signaling controls cell mechanics and square cell packing.** M. Tamada[1], J. Zallen[1]; [1]Developmental Biology Program, Sloan Kettering Institute, New York, NY

B1409/P1575 **Fine tuning of G-Protein Coupled Receptors (GPCRs) signaling during epithelial morphogenesis.** A. Jha[1], S. Kerridge[1], J. Phillippe[1], T. Lecuit[1]; [1]Development biology, Institut de Biologie du Développement de Marseille, Marseille, France

B1410/P1576 **A tough egg to crack: how does BMP signaling regulate epithelial morphogenesis in the *Drosophila* ovary?** J.C. Duhart[1], J. Guerrero[1], T.T. Parsons[1], L.A. Raftery[1]; [1]School of Life Sciences, University of Nevada, Las Vegas, Las Vegas, NV

B1411/P1577 **Klf2 is required for myocardial wall integrity in zebrafish.** S.J. Rasouli[1], D. Stainier[1]; [1]Dept.III- Developmental Genetics, Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany

B1412/P1578 **Genetic Variants in NPPA are Associated with Ventricular Septal Defects.** Y. Feng[1], X. Ma[1], Y. Yang[1], J. Zhu[1], Q. Wu[2], X. Mo[3], R.S. Adelstein[1]; [1]Laboratory of Molecular Cardiology, NHLBI/NIH, Bethesda, MD, [2]Molecular Cardiology, Cleveland Clinic, Cleveland, OH, [3]Department of Cardiothoracic Surgery, Children's Hospital of Nanjing Medical University, Nanjing, China

B1413/P1579 **Macrolactin F inhibits RANKL-mediated osteoclastogenesis by suppressing Akt, MAPK and NFATc1 pathways and promotes osteoblastogenesis through a BMP-2/smad/Akt/Runx2 signaling pathway.** Y. Soh[1], L. Li[1], M. Sapkota[1]; [1]Department of Dental Pharmacology, School of Dentistry, Chonbuk National University, Jeonju, Korea, South

B1414/P1580 **Role of Shh signaling in mouse sacral intervertebral disc.** R. Bonavita[1], R. Pinelli[1], E. De Jesus[1], C.L. Dahia[1,2]; [1]Hospital for Special Surgery, New York, NY, [2]Weill Cornell Medical College, New York, NY

B1415/P1581 **TGF-b Signaling Regulates Cementum Formation via Osterix during Tooth Development.** H. Choi[1], Y. Ahn[1], T. Kim [1], C. Bae[1], J. Lee [1], H. You[2], E. Cho[1]; [1]Dental school, Chonbuk National University, Jeonju, Dem People, [2]School of Dentistry, Wonkwang University, Iksan, Dem People

B1416/P1582 **Proteomic Characterization of Epicardial-Myocardial Signaling Reveals Novel Regulatory Networks Including a Role for NF-□B in Epicardial EMT.** Y. Li[1], A. Urban[2], D. Midura[2], H. Simon[2], Q. Wang[1]; [1]Department of Biological Sciences, University of Illinois at Chicago, CHICAGO, IL, [2]Department of Pediatrics, Northwestern University, Chicago, IL

B1417/P1583 **The E3 ubiquitin ligase, Fbxw7, regulates many aspects of Schwann cell development and myelination by controlling mTOR levels.** B.L. Harty[1], S.D. Ackerman[1], J.P. Golden[2,3], M. Stephen[4], M. MacEwan[4], A.L. Herbert[1], C.L. Johnson[1], R.W. Gereau[2,3], K.R. Monk[1,5]; [1]Developmental Biology, Washington University School of Medicine, St Louis, MO, [2]Anesthesiology, Washington University School of Medicine, St Louis, MO, [3]Washington University Pain Center, St Louis, MO, [4]Neurosurgery, Washington University School of Medicine, St Louis, MO, [5]Hope Center for Neurological Disorders, St Louis, MO

B1418/P1584 **MARVELD1 Regulates Cerebellar Development by Controlling Neuron Migration.** W. Liu[1], S. Qu[1], C. Wang[1], F. Han[1], H. Sun[1], Y. Li[1]; [1]school of life science and technology, Harbin Institute of Technology, Harbin, China

B1419/P1585 **Unidirectional Eph/Ephrin signaling drives cell segregation by the generation of a cortical actin differential.** J.O. Bush[1], A.K. ONeill[1], T.K. Niethamer[1], A.A. Kindberg[1]; [1]Department of Cell and Tissue Biology and Program in Craniofacial Biology, University of California at San Francisco, San Francisco, CA

B1420/P1586 **Characterization of the spatiotemporal localization of the growth factor Neuregulin-3 in the central nervous system.** A. Rahman[1], J.L. Weber[2], C. Lai[1], A.L. Prieto[1]; [1]Psychological and Brain Sciences, Indiana University, Bloomington, IN, [2]Neuroscience, University of California San Diego, San Diego, CA

B1421/P1587 **Contributions of TGF-beta Signaling in Insulin-induced Angiogenic Response.** E.H. Budi[1], R. Derynck[1]; [1]Department Cell and Tissue Biology, University of California at San Francisco, San Francisco, CA

B1422/P1588 **The effects of low-level copper exposure on axonal pathfinding in the embryonic zebrafish.** J. Pagnotta[1], K. Figueroa[1], I. Mazaharul[1], A.L. Dell[1,2]; [1]Biology, St. Francis College, Brooklyn, NY, [2]Neuroscience, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

B1423/P1589 **MicroRNA-430 is important for proper endodermal and cardiac cell migration during early zebrafish heart development.** M. Sandoval[1], A.A. Kuwahara[1], C. Doganli[1], D. Hart[1]; [1]CVRI, University of California, San Francisco, San Francisco, CA

B1424/P1590 **Involvement of phospholipase C-related but catalytically inactive protein in the early stage of osteoclast differentiation.** M. Matsuda[1], A. Murakami[1], M. Hirata[1]; [1]Faculty of Dental Science, Kyushu University, Fukuoka, Japan

B1425/P1591 **Coordination of neural patterning and morphogenesis in the frog by repression of *oct4* family pluripotency factors.** C. Exner[1], R.M. Harland[1]; [1]Molecular & Cell Biology, University of California, Berkeley, Berkeley, CA

B1426/P1592 **Ultrastructural evidence that basally located cells in the epididymal epithelium constitute distinct cell types with unique gene regulators.** L. Hermo[1], R. Oliveira[1], J. Dufresne[2], M. Gregory[2], D.G. Cyr[1,2]; [1]Anatomy and Cell Biology, McGill University, Montreal, QC, [2]Toxicology and Pharmacology, INRS-Institut Armand-Frappier, Laval, QC

B1427/P1593 **Nicotine activation of an epidermal wound response during *Drosophila* puncture injury.** M.T. Juarez[1]; [1]Sophie Davis Program in Biomedical Education, City College New York, New York, NY

Cell Biology of Protists and Viruses

B1429/P1594 **Regulation of Plasmodium falciparum origin recognition complex subunit 1 (ORC1) function through phosphorylation mediated by CDK-like kinase PK5.** M. Agarwal[1], A.S. Deshmukh[1], S.K. Dhar[1]; [1]Special center for molecular medicine, Jawaharlal Nehru university, New Delhi, India

B1430/P1595 **Discovery of an Anti-Malarial Inhibitor with a Novel Mechanism of Action Targeting Secondary Plastid Biogenesis.** K. Amberg-Johnson[1], K. Hong[2], E. Yeh[1,2]; [1]Microbiology and Immunology, Stanford University, Stanford, CA, [2]Biochemistry, Stanford University, Stanford, CA

MONDAY

B1431/P1596 **Preliminary Data on Interactions Between Carnivorous *Amoeba proteus* and Pathogenic *Listeria monocytogenes*.** Y. Podlipaeva[1], V. Pushkareva[2], S. Ermolaeva[2], A. Goodkov[1]; [1]Institute of Cytology, Saint Petersburg, Russia, [2]Gamaleya Research Institute of Epidemiology and Microbiology, Moscow, Russia

B1432/P1597 **The role of the vacuolar ATPase in alphavirus replication.** R. Schuchman[1], R. Vancini[1], A. Piper[1], D. Breuer[1], M. Ribeiro[1], D. Farreira[1], J. Magliocca[1], V. Emmerich[1], R. Hernandez[1], D. Brown[1]; [1]Department of Molecular and Structural Biochemistry, North Carolina State University, Raleigh, NC

B1433/P1598 **Control of acidocalcisome phosphate transport by 5-diphosphoinositol pentakisphosphate (IP_7) in *Trypanosoma brucei*.** C. Cordeiro[1,2], E. Potapenko[1], G. Huang[1], H.J. Jessen[3], A. Saiardi[4], R. Docampo[1,2]; [1]Center for Tropical and Emerging Global Diseases, University of Georgia, Athens, GA, [2]Department of Cellular Biology, University of Georgia, Athens, GA, [3]Department of Chemistry and Pharmacy, University of Zürich, Zurich, Switzerland, [4]Department of Cell and Developmental Biology, University College London, London, United Kingdom

B1434/P1599 **Septins suppress the release of vaccinia virus from infected cells.** J. Pfanzelter[1], M. Way[1], S. Mostowy[2]; [1]Cellular signalling and cytoskeletal function, The Francis Crick Institute, London, United Kingdom, [2]MRC Centre for Molecular Bacteriology and Infection, Imperial College London, London, United Kingdom

B1435/P1600 **Caveolae provide a specialized membrane environment for respiratory syncytial virus assembly.** A. Ludwig[1], T.H. Nguyen[1], S. Sandin[1], R.J. Sugrue[1]; [1]School of Biological Sciences, Nanyang Technological University, Singapore, Singapore

B1436/P1601 **Multi-purpose use of endoplasmic reticulum membranes by coronaviruses as revealed by large volume electron tomography.** E.M. Mihelc[1], S.C. Baker[2], J.K. Lanman[1]; [1]Biological Sciences, Purdue University, West Lafayette, IN, [2]Microbiology Immunology, Loyola University Chicago Stritch School of Medicine, Maywood, IL

B1437/P1602 **Roles for HIV-1 Matrix, Rho Family GTPases, and Extracellular Viscosity in Regulating Envelope-Induced Cell-Cell Fusion.** N.M. Sherer[1], J.C. Gardiner[1]; [1]McArdle Laboratory for Cancer Research and Institute for Molecular Virology, University of Wisconsin-Madison, Madison, WI

B1438/P1603 **Histone-deacetylase 6 links autophagy induction with reactivation of Kaposi's Sarcoma Associated Herpesvirus from latency.** H. Mello[1], H. Shin[1], D. Palmeri[1], D. Lukac[1]; [1]Department of Microbiology, Biochemistry and Molecular Genetics, Graduate School of Biomedical Sciences, Rutgers University, Newark, NJ

B1439/P1604 **Post-translational modifications of the Human Papillomavirus type 16 Major capsid protein that mediate virion assembly and viral infectivity.** D.C. Pim[1], P. Massimi[1], J. Broniarczyk[1,2], M.P. Myers[3], R.L. Garcea[4], L. Banks[1]; [1]Dept. of Tumour Virology, International Centre for Genetic Engineering and Biotechnology, Trieste, Italy, [2]Dept. of Molecular Virology, Adam Mickiewicz University, Poznan, Poland, [3]Dept. of Protein Networks, International Centre for Genetic Engineering and Biotechnology, Trieste, Italy, [4]The BioFrontiers Institute, University of Colorado, Boulder, CO

B1440/P1605 **Characterising the spatio-temporal role of cargo protein sorting nexin 17 in human papillomavirus trafficking.** M. Bergant[1], S. Peternel[1], D.C. Pim[2], J. Broniarczyk[2,3], L. Banks[2]; [1]Centre for Biomedical Sciences and Engineering, University of Nova Gorica, Nova Gorica, Slovenia, [2]Tumour Virology, International Centre for Genetic Engineering and Biotechnology, Trieste, Italy, [3]Department of Molecular Virology, Adam Mickiewicz University, Poznan, Poland

B1441/P1606 **A Screen of Host-Targeting Compounds identifies Potential Inhibitors of Zika Virus Infection.** R. Khachatoorian[1], V. Arumugaswami[2], S.W. French[1]; [1]Pathology and Laboratory Medicine, University of California, Los Angeles, Los Angeles, CA, [2]Surgery, Cedars-Sinai Medical Center, Los Angeles, CA

B1442/P1607 **Temporal Variation in the Prevalence of Human Intestinal Parasite in Two Bivalve Species Collected from Orchard Beach, NY.** F.F. Tei[1], S. Kowalyk[1], M. Presta[1], J. Reid[1], C. Annabi[1], M. Fazeem[1], J. Annabi[1], G. Mayer[1]; [1]Biology, Manhattan College, Riverdale, NY

B1443/P1608 **Temporal and Spatial Variation in the Prevalence of Human Intestinal Parasites in Domestic Dogs from the Eastern United States.** J. Munoz[1], E. Bailey[1], D. Frederick[2], T. Porter[2], C. Woods[2], P. Jackson-Miller[2], J. Riley[2], A. Kennedy[1], S.O. Kwabena[2], C. Hines[2], J.M. Porter-Kelley[2], G. Mayer[1]; [1]Biology, Manhattan College, Riverdale, NY, [2]Biological Sciences, Winston Salem State University, Winston Salem, NC

B1444/P1609 **Genetic and Small-molecule Approaches Establish Casein Kinase 1.2 as a Regulator of Basal Body Biogenesis in the African Trypanosome.** C. Sullenberger[1], J. Wiedeman[1], K.A. Mensa-Wilmot[1]; [1]Cellular Biology, University of Georgia, Athens, GA

B1445/P1610 **Identification of a unique Plasmodium protein and its possible role in modifying the host erythrocyte.** G.T. Cortés[1], M.F. Wiser[2], C.J. Gómez[3]; [1]Departamento de Salud Pública, Facultad de Medicina, Universidad Nacional de Colombia, Bogotá, D.C., Colombia, [2]Department of Tropical Medicine, School of Public Health and Tropical Medicine, Tulane University, New Orleans, LA, [3]Departamento de Farmacia, Facultad de Ciencias, Universidad Nacional de Colombia, Bogotá, D.C., Colombia

B1446/P1611 **The Lifecycle of a Haemohormidium-like Parasite infecting Caribbean Stegastes damselfishes.** J.B. Robinson[1], A.K. Halliday[1], S.M. Liburd[1], P.C. Sikkel[2], A.G. Campbell[3]; [1]College of Science and Math, University of the Virgin Islands, St. Thomas, VI, [2]Department of Biology, Arkansas State University, Jonesboro, AR, [3]Bio Med Molecular, Microbiology Immunology, Brown University, Providence, RI

B1447/P1612 **Characterization of the Microbiome of a Geothermal Pool Proximal Species Pisolithus tinctorius.** C. Cole[1], I. Rubio[1], H. Warbington[1], M. Kaze[1]; [1]Biological Sciences, California State University East Bay, Hayward, CA

B1448/P1613 **Uncovering the path of death: following the evolution of erythrocyte invasion.** J. Toscani Field[1], J. Weinberg[1], R. Sehgal[1]; [1]Biology, San Francisco State University, San Francisco, CA

B1449/P1614 **Variations in Arsenite Resistance of the Gliding *Euglena*.** D.G. Cole[1], N.L. Rosendo Mercado[1,2]; [1]Biological Sciences, University of Idaho, Moscow, ID, [2]Science and Technology, Inter American University of Puerto Rico, Barranquitas, PR

B1450/P1615 **RNA-sequencing in diatoms: identifying genes and mechanisms related to cell wall morphology.** J.J. Russell[1], J.A. Theriot[2]; [1]Biology, Stanford University, Stanford, CA, [2]Biochemistry, Stanford University, Stanford, CA

Host-Pathogen/Host-Commensal Interactions 1

B1451/P1616 **The usefulness of enteroids-derived monolayers in the study of enteric infections.** E. Lim[1], K. Suarez[1], R. Jayaratne[2], Y. Chuang[1], K. Barrett[2], S. Das[1]; [1]Pathology, University of California, San Diego, San Diego, CA, [2]Medicine, University of California, San Diego, La Jolla, CA

B1452/P1617 **Genome-wide landscape of phage secondary integration sites and their phenotypic effects on host physiology.** Y. Tanouchi[1], M.W. Covert[1]; [1]Bioengineering, Stanford University, Stanford, CA

B1453/P1618 **Characterization of Peptide Binding by a Protective Ebola Antibody.** E.C. Gierman[1,2], D. Martinez-Guzman[1], J. Berry[1], E.A. Booth[1]; [1]Immunochemistry Research, Grifols Diagnostic Solutions, Emeryville, CA, [2]School of Public Health, University of California, Berkeley, Berkeley, CA

B1454/P1619 **Studying E-Cadherin's Role in Facilitating L. monocytogenes Cell-Cell Spread Between Adjacent Epithelial Cells.** P. Radhakrishnan[1], J.A. Theriot[1], F.E. Ortega[1]; [1]Biochemisty, Stanford University, Stanford, CA

B1455/P1620 **Early activation of STAT1 induced by influenza virus is independent of cytokines and Jak kinases and critically required for initial antiviral immunity.** S. Liu[1], J. Hu[1], J. Chen[2], Z. Yu[2]; [1]Institute of Microbiology, Chinese Academy of Sciences, Beijing, China, [2]College of Animal Science, Fujian Agriculture and Forestry University, Fuzhou, China

B1456/P1621 **Electrophysiological properties of macrophage-like cell line J774A.1 during the internalization of outer membrane vesicles (OMV) from Escherichia coli JC8031.** A.F. Leal[1,2], M.M. Camacho[1], J.D. Valderrama[2], M.E. Forero[2]; [1]Universidad Nacional de Colombia, Bogota, Colombia, [2]Universidad Antonio Nariño, Bogotá, Colombia

B1457/P1622 **Characterization of Adenovirus SUMO E3 Ligase E4-ORF3: A Viral Polymer Protein Enhances SUMO Polymerization.** S. Sohn[1], P. Hearing[1]; [1]Molecular Genetics and Microbiology, School of Medicine, Stony Brook University, Stony Brook, NY

B1458/P1623 **Field detection of Borrelia burgdorferi, Anaplasma phagocytophilium and Babesia microti in Ixodes scapularis samples.** A.J. Prunuske[1], C. Fisher[2], N. Lipiniski[2], J. van Westrienen[3]; [1]Microbiology and Molecular Genetics, Medical College of Wisconsin, Wausau, WI, [2]Chemistry and Biochemistry, University of Minnesota Duluth, Duluth, MN, [3]Biomeme, Philadelphia, PA

B1459/P1624 **The role of sterol transfer in coral-algal symbiosis.** E.A. Hambleton[1], N. Bechtoldt[1], A. Guse[1]; [1]Centre for Organismal Studies, Heidelberg University, Heidelberg, Germany

B1460/P1625 **Protective activities of oligomer of GlcNAc against mycelial growth of *Candida albicans in vitro* and *in vivo*.** S.A. Ishijima[1], T. Fukamizo[2], K. Satoh[3], T. Noguchi[3], Y. Guo[1], T. Yamada[1], S. Abe[1]; [1]Institute of Medical Mycology, Teikyo University, Tokyo, Japan, [2]Department of Advanced Bioscience, Kindai University Faculty of Agriculture, Nara, Japan, [3]Koyo Chemical Co., LTD., Osaka, Japan

B1461/P1626 **Association of *Tobacco mosaic virus* (TMV) 126 kDa protein with prevacuolar/tonoplast syntaxins.** A. Ibrahim[1], K. Cooper[1], X. Yang[1], J. Schoelz[2], R. Nelson[1]; [1]Plant Biology Division, The Samuel Roberts Noble Foundation, Ardmore, OK, [2]Division of Plant Sciences, University of Missouri, Columbia, MO

B1462/P1627 **Infection of *Pseudomonas aeruginosa* selectively affects human leukocyte antigen (HLA) gene expression.** A. Caobi[1], S. Mustafi[2], S. Singh[1], M. Veisaga[1], M.T. Dorak[3], M.A. Barbieri[1]; [1]Biology, Florida International University, Miami, FL, [2]John P. Hussman Institute for Human Genomics, University of Miami, Miami, FL, [3]Health Sciences, Liverpool Hope University, Liverpool, United Kingdom

B1463/P1628 **Microbiota diversity on healthy women's face in relation to skin biophysical characteristics.** C. Heusèle[1], V. Jeronimo-Monteiro[1], S. Quéniot[1], B. Beaufrère-Seron[1], S. Schnebert[1], M. Dumas[1], E.K. Kim[2], W.J. Lee[2]; [1]Life Sciences, LVMH Recherche, Saint Jean de Braye, France, [2]School of Biological Sciences, Seoul National University, Seoul, Korea

B1464/P1629 **A quantitative analysis of single-cell TLR signaling dynamics in response to *Salmonella* infection.** K. Lane[1], M. Andres Terre[2], T. Kudo[1], D. Monack[2], M.W. Covert[1]; [1]Bioengineering, Stanford University, Stanford, CA, [2]Microbiology and Immunology, Stanford University, Stanford, CA

B1465/P1630 **A new zebrafish model for the study of biofilm formation and eradication.** P. Rodriguez[1], L.R. Vega[1], B. Schoffstall[1]; [1]Biology, Barry University, Miami, FL

B1466/P1631 **Adrenergic Receptor Antagonists Mediate Differential Transcriptomic Responses During Neuroendocrine Crosstalk with the Skin Microbiome that Ameliorate Bacterial Growth and Biofilm Formation.** J.J. Fuentes[1], S. Singh[1], R.R. Isseroff [2], R.W. Crawford[1]; [1]Biological Sciences, California State University, Sacramento, Sacramento, CA, [2]Dermatology, University of California, Davis, Davis, CA

B1467/P1632 **Understanding the roles of vacuolar - ATPase proton pumps in the pathogenic fungus *Candida albicans*.** M.M. Grimes[1], S.R. Hayek[1], H. Rane[2], S.A. Lee [2,3], K.J. Parra[1]; [1]Biochemistry and Molecular Biology, University of New Mexico, Albuquerque, NM, [2]Division of Infectious Disease, New Mexico Veterans Healthcare System, Albuquerque, NM, [3]Division of Infectious Disease, University of New Mexico, Albuquerque, NM

B1468/P1633 **Microbiome-Free Fatty Acid Cross-Talk in the Human Pilosebaceous Gland and Consequences for Colonization Resistance.** S. Singh[1], W. Burney[2], J.J. Fuentes[1], T.L. Davis[1], E.E. Andersen[1], N. Foolad[2], R. Sivamani[2], R.W. Crawford[1]; [1]Department of Biological Sciences, California State University, Sacramento, Sacramento, CA, [2]Department of Dermatology, University of California, Davis, Sacramento, CA

B1469/P1634 **Novel post-integration species-specific barriers affecting persistent HIV-1 gene expression in non-human cells.** E.L. Evans[1], J.T. Becker[1], S.L. Fricke[1], N.M. Sherer[1]; [1]Oncology and Institute for Molecular Virology, University of Wisconsin-Madison, Madison, WI

B1470/P1635 **Novel Proteomics Tools to Probe the Roles of ADP-ribosylation in RNA granules and RNA Virus Infection.** A.K. Leung[1]; [1]Department of Biochemistry and Molecular Biology, Johns Hopkins University, Baltimore, MD

Cell Signaling in Normal and Diseased Organs

B1472/P1636 **Deletion of DGK epsilon attenuates lipolytic activity in adipocytes under high fat diet conditions.** T. Nakano[1], K. Goto[1]; [1]Anatomy and Cell Biology, Yamagata University, Yamagata City, Japan

B1473/P1637 **Implication of autophagy and ceramide production in lipotoxicity effects on human kidney epithelial cells.** G. Li[1], M.N. Juma'at[1], M.M. Tong[1], C.S. Yap[1], Y.M. Bee[2]; [1]Department of Clinical and Translational Research, Singapore General Hospital, Singapore, Singapore, [2]Department of Endocrinology, Singapore General Hospital, Singapore, Singapore

B1474/P1638 **KCNMA1 contributes to the regulation of insulin signalling in mature adipocytes.** M. Nishizuka[1], W. Horinouchi[1], E. Yamada[1], S. Osada[1], M. Imagawa[1]; [1]Department of Molecular Biology, Graduate School of Pharmaceutical Sciences, Nagoya City University, Nagoya, Aichi, Japan

B1475/P1639 **Immune cell-specific transcriptional profiling highlights distinct molecular pathways controlled by Tob1 upon experimental autoimmune encephalomyelitis.** A. Didonna[1], E. Cekanaviciute[1], J.R. Oksenberg[1], S.E. Baranzini[1]; [1]Neurology, University of California San Francisco, San Francisco, CA

B1476/P1640 **Selenoproteins regulate B cell functions by targeting B cell receptor-mediated antigen presentation pathway.** B. Katkere[1], R.L. Markley[1], D.R. Williamson[1], A.E. Shay[1], K.S. Prabhu[1], G.S. Kirimanjeswara[1], B.A. Carlson[2]; [1]Veterinary and Biomedical Sciences, Penn State University, University Park, PA, [2]National Cancer Institute, National Institutes of Health, Bethesda, MD

B1477/P1641 **Tyramine Function within the Mouse Uterus.** B. Obayomi[1], M. Agre[1], D.P. Baluch[1]; [1]School of Life Sciences, Arizona State University, Tempe, AZ

B1478/P1642 **Regulation of hepcidin expression by IL-1beta-NFkappaB signaling.** Y. Kanamori[1], M. Murakami[2], T. Matsui[1], M. Funaba[1]; [1]Graduate School of Agriculture, Kyoto University, Kyoto, Japan, [2]School of Veterinary Medicine, Azabu University, Sagamihara, Japan

B1479/P1643 **The role of the TGF-beta signaling effector SMAD3 in adipogenesis.** E. Bielczyk-Maczynska[1], M. Teruel[1]; [1]Department of Chemical and Systems Biology, Stanford University, Palo Alto, CA

B1480/P1644 **Anti-melanogenic potential of Heracleum moellendorffii extract via ERK1/2-mediated MITF degradation.** M. Alam[1], B. Seo[1], P. Zhao[1], H. Son[1], C. Jeong[1], J. Byeon[1], H. Kim[2], S. Lee[1]; [1]Food Science and Biotechnology, Kyungpook National University, Daegu, Korea, South, [2]MR Innovation, Convergence Technology Bldg., Kyungpook National University, Daegu, Korea, South

B1481/P1645 **Anti-Diabetic effect of Glyceollin, a soybean isoflavone, via a CaMKK-AMPK pathway in L6 myotubes.** E. Yoon[1], C. Yoo[1], Y. Kim[1], S. Lee[1], Y. Kim[2], S. Lee[1]; [1]Food Science and Biotechnology, Kyungpook National University, Daegu, Korea, South, [2]NB Co., Ltd., Techno Building,, kyungpook National University, Daegu, Korea, South

B1482/P1646 **Inhibition of melanin biosynthesis by sesamol via the intracellular cAMP and p38/JNK signaling pathways.** S. Baek[1], M. Alam[2], H. Lee[2], K. Kwon[2], H. An[2], S. Lee[2]; [1]Nanobiotech, Bio Venture Center, Daejeon, Korea, South, [2]Food Science and Biotechnology, Kyungpook National University, Daegu, Korea, South

B1483/P1647 **Ca^{2+}/Calmodulin-mediated Tie2 suppression acts as a developmental brake during embryonic angiogenesis.** C. Yang[1,2], E. Kim[2], J. Kim[2], D. Park[1], C. Kim[2]; [1]School of Biological Sciences, Seoul National University, Seoul, Korea, South, [2]Department of Life Sciences, Korea University, Seoul, Korea, South

B1484/P1648 **Systemic pharmacological HIF stabilization protects retinal vasculature from oxygen toxicity and prevents ischemic retinopathy.** G. Hoppe[1], S. Yoon[1], E.R. Chan[2], J.E. Sears[1]; [1]Cole Eye Institute, Cleveland Clinic, Cleveland, OH, [2]Institute for Computational Biology, Case Western Reserve University School of Medicine, Cleveland, OH

MONDAY

B1485/P1649 **Polyphenolic compounds protect platelet cells during storage through reducing activation, apoptosis and sialidases activity.** M. Handigund[1], Y.G. Cho[1,2], J. Lee[1]; [1]Department of Laboratory Medicine, Chonbuk National University Medical School, Jeonju, AK, [2]Biomedical Research Institute of Chonbuk National University, Research Institute of Clinical Medicine of Chonbuk National University, Jeonju, AR

Digestive and Excretory Organs

B1486/P1650 **Investigation of the role(s) of a macromolecular complex of CFTR-NHERF2-LPA2 in the fluid hemostasis and inflammatory responses in intestinal epithelial cells.** S. Kong[1]; [1]Pediatrics, University of Tennessee Health Science Center, Memphis, TN

B1487/P1651 **Fibrosis and cholangiocyte damage are decreased in l-histidine decarboxylase knockout mice (HDC$^{-/-}$) fed a chronic high-fat diet via dysregulated leptin signaling.** L. Kennedy[1,2], L. Hargrove[3], J. Demieville[2], F. Meng[1,2,3], H.L. Francis[1,2,3]; [1]Internal Medicine, Texas AM HSC COM, Temple, TX, [2]Research, Central Texas Veterans Health Care System, Temple, TX, [3]Academic Operations, Baylor Scott White Health, Temple, TX

B1488/P1652 **Gastric 17β-estradiol synthesis and secretion in rats.** H. Kobayashi[1], S. Yoshida[1], Y. Sun[1], N. Shirasawa[2], A. Naito[1]; [1]Anatomy and Structural Science, Yamagata university, Yamagata, Japan, [2]Rehabilitation, Tohoku Bunka Gakuen University, Sendai, Japan

B1489/P1653 **Simulating acetaminophen pharmacology and idiosyncratic responses using a virtual human liver.** X. Fu[1,2], J.P. Sluka[1,3], M. Swat[1], J.M. Belmonte[1,2], S.G. Clendenon[1,3], J.F. Wambaugh[4], J.A. Glazier[1,2,3]; [1]Biocomplexity Institute, Indiana University Bloomington, Bloomington, IN, [2]Department of Physics, Indiana University Bloomington, Bloomington, IN, [3]Department of Intelligent Systems Engineering, Indiana University Bloomington, Bloomington, IN, [4]National Center for Computational Toxicology, US EPA, Research Triangle Park, NC

B1490/P1654 **Analysis of early biomarkers of acute kidney injury in Chinese kidney transplant patients.** Y. Huang[1], L. Shuai[1], J. Zhang [1], W. Shang[2], A. Qiu[1]; [1]School of Life Sciences and Technology, Tongji University, Shanghai, China, [2]The First Affiliated Hospital, Zhengzhou University, Zhengzhou, China

B1491/P1655 **Coagulation factor IX improves the prognosis of pulmonary edema under the hypoxia.** Y. Fujiwara[1], H. Kitano[2], A. Mamiya[2], C. Hidai[1], K. Shinichiro[1]; [1]Biomedical Sciences, Nohon University School of Medicine, Tokyo, Japan, [2]Division of Dental Surgery, Nihon University School of Medicine, Tokyo, Japan

B1492/P1656 **Exosomes produced by normal hepatocytes reverse experimental liver fibrosis and hepatocyte injury.** L. Chen[1], R. Chen[1], S. Kemper[1], D.R. Brigstock[1,2]; [1]Clinical and Translational Research, Nationwide Childrens Hospital, Columbus, OH, [2]Surgery, The Ohio State University, Columbus, OH