

**1995**

**Margaret A. Titus**

Meg Titus had considered herself a biophysicist when she had an epiphany during a summer stay at the Marine Biological Laboratory (MBL) at Woods Hole. A trained muscle biochemist, it was there that Titus realized, working with faculty such as Bob Goldman and Tim Hunt, that there was a whole exciting world out there. She joined the ASCB shortly thereafter, displaying her signature "get on with it" approach to life and science. Titus, at age 36, is now Assistant Professor of Cell Biology at Duke.

Titus lived in South America, where her stepfather worked for IBM, during her middle school years. She attended British schools there, receiving a classical education. While in Argentina, her introduction to biology was in Spanish, where she had an "infectious" biology teacher that made science exciting. Titus found that the harder she worked, the more interesting science became.

The early exposure to science initially led Titus to consider pursuing a career in medicine. Upon entering Smith College, she found herself immersed in the lab, which stimulated her to apply to graduate schools. Titus graduated in 1981 with honors in Biochemistry.

Her interests focused on myosin from the beginning, with the goal of applying knowledge of its function in muscle cells to the study of non-muscle myosins. This led her to Brandeis University, where she pursued her PhD under thesis advisor Andrew G. Szent-Gyorgyi.

The strong desire to study non-muscle myosins resulted in Titus joining Jim Spudich's lab at Stanford in 1987 for her post-doctoral training. There she had a second awakening as she was exposed to molecular genetic approaches to the study of myosins. After a relatively brief three-year postdoc, she began the search for a job.

Titus had known Mike Sheetz from the MBL. Sheetz suggested at the 1989 ASCB Annual Meeting in Houston that Titus consider a faculty position at Duke, where he was beginning to build a new department of cell biology. Part of the attraction of Duke for Titus was an opportunity to be involved with subsequent recruitment and forming a new collegial community. It was an exciting move for her because of the explosive growth in both cell biology and all scientific disciplines at the university.

Sheetz says that Titus has "been strongly influenced by the MBL approach to science that basically says you need to live it before you can really appreciate it. Like a skier attacking a slope, an active approach to science can be all-consuming and exhilarating. Meg was inspired by her experiences at the MBL and has tried to pass on that feeling to the next generation through her participation in the Physiology Course at the MBL."

Titus directs a lab, similar to her experience at MBL, for incoming grad students at Duke's Marine Lab. This has been a highlight for incoming students and some have even called it "essential." Titus particularly appreciated the opportunity to work with

colleagues and mentors at the MBL, such as Beth Luna and Mark Mooseker, whose scientific rigor and advice on projects and manuscripts was invaluable. Luna commented on how Titus is so "full of energy and ideas, a real dynamo in the lab."

Titus' laboratory at Duke is attempting to define the spectrum of cellular actin - based movements powered by the unconventional myosins. The laboratory has also initiated a project to identify all unconventional myosins present in Dictyostelium through a physical mapping approach. Titus' lab is expanding their studies of the unconventional myosin family to a multicellular organism that is amenable to genetic analysis, *Caenorhabditis elegans*. Together, this work will permit her lab to define and characterize the role of the unconventional myosin family in two model systems. The ultimate goal of her lab is to build an integrated picture of unconventional myosin function in both Dictyostelium and *C. elegans*. Titus hopes this approach will allow the lab to examine the contribution of the unconventional myosins to single cell motility, as well as to the integrated motile events that occur during development and morphogenesis.

Titus' commitment to science and science education is longstanding. As a graduate and a postdoctoral student, she was involved in one - on - one training of students. She has had a Howard Hughes high school student, as well as several undergraduates, working in her lab every year at Duke.

Titus personally believes that science is so much fun that everyone should want to be a scientist. But more pragmatically, she gives time to young people because she believes that the country needs an educated and scientifically literate population regardless of if they practice science.

Unquestionably consumed and exhilarated by her work, Titus is a self - described "hard core lab rat." Nonetheless, even she finds the current grant-seeking process disheartening. Serving on committees, managing budgets, and reviewing and writing grants is something that scientists are not well trained to do, and, she feels, when in large enough doses, these distractions can seriously undermine even the most committed scientist's passion. Titus admits she has no remedy, but does think that there is an oversupply of scientists that is placing great strains on the present system. She also feels the system awards the established elite of scientists too readily, and small labs like hers have a difficult time taking the risks that make science and discovery so great, ultimately limiting creativity of science. However, she believes that, on balance, the thrill of research and discovery more than compensates for these drawbacks. Titus contends that this is an exciting time to be starting a lab, and that she is looking forward to many more exciting discoveries about how myosins function in the cell.