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Mary Hendrix

Even in the midst of moving her life and her lab from Iowa City to Chicago, Mary Hendrix remains calm. "I grew up in a Navy family," Hendrix says, "and Navy families move around a lot." On the first of January, Hendrix becomes the new President and Scientific Director of Children's Memorial Institute for Education and Research (CMIER), the freestanding research component of Children's Memorial Hospital and the pediatric research arm for Northwestern University's Feinberg School of Medicine. By July, her University of Iowa lab will be up and running in Chicago.

In between, Hendrix will pack up her Iowa medical school lab and her duties as Head of the Department of Anatomy and Cell Biology and Deputy Director of the Holden Comprehensive Cancer Center. In Chicago, she will assume directorship of the recently expanded CMIER, a 150,000 square foot, state-of-the-art research wing and start recruiting world-class investigators to fill it. The Navy heritage comes from her father, Charles Hendrix, a decorated WWII Navy submarine officer who upon retiring from active service, moved the family to a farm near Shepherdstown, West Virginia, and commuted to Annapolis, Maryland, where he taught Oceanography at the U.S. Naval Academy. "It was two hours each way every day," Hendrix recalls, "and I didn't really appreciate that until I started looking for housing in Chicago. Two hours away from the CMIER seems to be where the affordable housing is in Chicago!"

In Annapolis, her father is remembered at the Naval Academy by the Hendrix Oceanography Research Laboratory building. In Shepherdstown, her grandfather is still remembered as an MD with a PhD in pathology who practiced surgery in nearby Martinsburg. Mary Hendrix remembers her grandfather as the source of her scientific curiosity. "I was still pretty young when we moved to Shepherdstown, but my grandfather would take me on rounds in the local hospital and even on house calls. I would always ask him, 'What caused this disease? What are you going to do to fix the patient?' He would try to answer my questions, but usually ended with, 'But we don't really know what causes this condition.' I was always interested in causes."

That interest led Mary Hendrix to study biology at Shepherd College, a small liberal arts school less than three miles from the Hendrix farmhouse, and then onto a graduate program in anatomy at George Washington University in 1974. Two years into a developmental study of early-stage cardiac septation in the chick and human fetus, her thesis advisor left GWU. While still a graduate student, Hendrix inherited a laboratory and her advisor's remaining funding. "I just saw it as an opportunity to become self-motivated and independent," she recalls. "I would check in with my former advisor by phone and my department chairman came by regularly, but basically I worked night and day to finish my thesis in three years."

Only then did Hendrix meet her true scientific mentor, Elizabeth Hay, at Harvard Medical School. It was Betty Hay, says Hendrix, who taught her how to do science, not only at the bench but in publications and in the public arena. "I learned so many things in Betty's lab," says Hendrix. "How to do immunohistochemistry; How to make conventional and monoclonal antibodies; How to apply my microscopy skills to a new problem like cornea development in the chick model. But I also learned how to write a manuscript. Betty taught me the great importance of packaging your data in a professional manner. I tell my students, 'This is how it should be done because this is how Betty Hay set the standards.' I still call her and e-mail her and seize every opportunity to talk science with her."

Betty Hay returns the compliment. "I am very proud of Mary," says Hay. "Beyond all her other scientific talents, she has this special ability in dealing with people. I don't think it would be telling tales but when Mary first went to Iowa, she had a very tough job in rescuing that department. I'm sure her personal attitude and her energy were a big reason why she was offered this new position in Chicago."

Back in 1980, Hendrix's first appointment after her HMS fellowship was an assistant professorship at the University of Arizona in Tucson. She set up her lab to continue with corneal development, but her attention was caught by a local statistic—Tucson had the highest incidence of melanoma in the country. Hendrix was drawn to the question of aggressiveness in various strains of melanoma cells. To find a sorting mechanism, the Hendrix lab developed an "aggressiveness/invasiveness" assay, a membrane invasion culture system that has since been adapted for mass screening of potential anti-cancer drugs.

Her melanoma work also taught Hendrix about the importance of government at all levels in funding research. After the Arizona legislature earmarked a percentage of its "sin tax" on cigarettes to fund local cancer and cancer-related research, Hendrix helped draft the funding rules and served on the new Arizona Disease Control Research Commission. The grants were small, says Hendrix, but enough for Arizona scientists to obtain preliminary data that could be used to support larger applications for federal and foundation funding.

Hendrix attributes involvement to another of Betty Hay's lessons. "Betty instilled in all her students the

importance of being good scientific citizens. That meant being an active member of distinguished scientific groups like the ASCB or the FASEB societies and to be pro-active on public scientific policies. Later when I was FASEB president, I had the responsibility of testifying before Congress in support of the NIH and NSF budgets, but by then I'd already had experience at the state level in Arizona and Iowa. More recently, I've been active in support of stem cell research. As scientists, that is one area that deserves our continued vigilance and requires our direct involvement. In my lab, any time we get a national alert from a group like ASCB to please contact your congressional representatives, believe me, they hear from us right away."

Hendrix left the University of Arizona in 1993 for a short stint at the St. Louis University Medical School and its affiliate, the Cardinal Glennon Children's Hospital Institute. In 1996, she took over as Head of what was the Anatomy Department at the University of Iowa Carver College of Medicine, expanding the cell biology component and renaming the program "Anatomy and Cell Biology." The Hendrix lab at Iowa continued its focus on the plasticity of tumors, moving most recently into the identification of stem cell populations within highly aggressive tumors. "Our new work has taken us back to the principles that govern developmental processes," says Hendrix, "and it's taken me back to my first training in development biology. Only now I am applying those principles to cancer biology." This stem cell work will move with her to Chicago.

Richard Seftor, a Senior Research Scientist in the Hendrix lab, will also be making the move to Chicago. Originally a photosynthesis biochemist, Seftor entered the Hendrix lab at the University of Arizona under a NIH retraining grant for cancer biology, and never left. He worked with his wife, Elizabeth, in the Hendrix lab and together the Seftors gladly followed Mary Hendrix's scientific enterprise to St. Louis and then to Iowa City, trusting in Hendrix's sense of scientific direction. "Mary's able to anticipate where the science is going to go next," says Seftor. "She is absolutely on top of everything that is happening in the lab and we usually have between 20 and 25 people. She's one of the hardest workers I've ever met. In 18 years, I can't remember ever seeing Mary discouraged or frazzled. I've seen her stop to quietly evaluate when something went wrong, but then the next morning she'd be in fresh and chipper and ready to go on."

As for her personal life, Hendrix largely keeps it personal. Outside of science, her interests revolve around tennis, her alma mater Shepherd College, and her father's Oceanography program at the Naval Academy. Each spring she takes her mother Jessie to Annapolis to present a midshipman with the Hendrix Oceanography Award for Excellence in Research, a tribute from a family still fascinated by why and how.