



Debra G.B. Leonard, MD, PhD, FCAP

Building Things

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National DNA Day fell on Friday of Lab Week this year. The CAP celebrated, in part, by broadcasting a webinar on personalized medicine, presented by Debra G.B. Leonard, MD, PhD, FCAP.

Dr. Leonard is director of clinical laboratories and attending physician in the Molecular Pathology Laboratory, Department of Pathology and Laboratory Medicine, at New York Presbyterian-Weill Cornell Medical Center in New York City. At Weill Cornell Medical College, she is professor and vice chair for laboratory medicine and pathology residency training program director. She also co-chairs the CAP Personalized Health Care Committee and serves on the Council on Government and Professional Affairs.

Dr. Leonard showed up at the CAP headquarters a few hours before the webinar to give the staff a brief in-service session on personalized medicine for non-MDs. When she was finished, it took a while to clear the room. People clustered around her, reluctant to leave; she's that kind of teacher. And her passion for the science is contagious.

“This is how we will go beyond looking through a microscope,” Dr. Leonard says. “Our most basic understanding of diseases and therapies will be derived from our understanding of the human genome, its variations, and its role in disease. If all we do is look down a microscope or whatever else we are currently doing, we are going to become dinosaurs. We can either evolve and survive and contribute or be left behind, because molecular understanding of disease is where we are at. This is the way diagnostics are being done now and will be done in the future. If we see ourselves as the diagnosticians, we have to recognize that the molecular part of the diagnosis is very important. Everybody has to understand it and do it or the pathologist is going to lose it.”

Strong words, but Dr. Leonard has the credentials to back them up. A former president of the Association for Molecular Pathology, Dr. Leonard currently chairs their Strategic Planning Committee. She also chairs the, Diagnostic Applications Working Group of the Institute of Medicine Roundtable for Translating Genomic-Based Research for Health.

“I like leadership,” Dr. Leonard says. “I like doing things better. I like to build things.” At every institution where she has taught, Dr. Leonard has found a way to help young people—especially young women—realize their potential. Dr. Leonard is Weill Cornell’s first chief diversity officer and faculty advisor to the Female Association of Clinicians, Educators, and Scientists (or FACES) sponsored by the Weill Cornell/Rockefeller/Sloan-Kettering Tri-Institutional MD-PhD Program.

“Women are raised in a female culture that rewards cooperation and getting along with all girls being equal,” she says. “Boys are raised in a competitive and hierarchical environment of sports. They learn that when the coach says, ‘Go down the field and take a left,’ you don’t say, ‘Don’t you mean a right?’ But when girls play, and one wants to play doctor and the other wants to play house, they agree that one will have sick kid that they bring to the doctor and everyone wins. Nobody realizes that there are male and female cultures and there are misunderstandings between men and women in the workplace as a result.”

Dr. Leonard’s own experience enables her to appreciate the importance of support for those coming up and the need to help them search out what they will do best. She enrolled in the MD/PhD program at New York University to pursue primary care medicine in an academic setting, but the pathology elective took her by surprise. “I really liked it,” Dr. Leonard remembers. “I was crucial, as a pathologist, to the care of the patients, and I was talking a lot with the clinicians.” She loved the surgical pathology and post-doc research fellowships that followed too, so the next step was a quandary. “I needed a way to integrate research and academics with my clinical practice,” Dr. Leonard says. But most jobs were not set up that way at the time.

And so, brick by brick, at Case Western Reserve, at the University of Pennsylvania, and now at New York Presbyterian Hospital-Weill Cornell Medical College, Dr. Leonard found colleagues and mentors who would support her in establishing or expanding first-rate molecular pathology laboratories. She found her niche in academic medicine while earning a national reputation in molecular genetic pathology, her passion as a scientist. And she discovered an equal passion for mentoring.

“As director of the pathology residency training program, I think a lot about how to successfully mentor people,” she says. “And I have come to understand the importance of helping people figure out where they want to end up, in order to better plan what they will do in training.”

Mentoring, Dr. Leonard explains, is at the heart of lifelong learning; helping residents, fellows, and faculty to achieve their very best and succeed in their chosen career paths is part of what she seeks to do.

She is enormously positive about the competence of the young people she meets today in training. Those who are focusing on molecular pathology, Dr. Leonard says, will be the leaders in personalized medicine. They are up to the task, which is good, because personalized medicine will define the future of the specialty.

“I have 22 residents, and all of them are brilliant,” she concludes.

The CAP webinar on personalized medicine is archived on the Transformation Web page under the Institute tab. Dr. Leonard's presentation covers both the science and the opportunities that genomics presents for pathology.