

CORNELL CHRONICLE**Of mice and women: Ithaca-Weill collaborations boost research and recruiting, say panelists**

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Lindsay France/University Photography

Weill Cornell physician-scientist Anne Moscona drew applause during a panel on Weill-Ithaca research collaboration when she reported that her microphotos of viruses were used in the movie "Contagion." To her left are Paula Cohen and David Russell of the Vet School faculty. At right is panel moderator Robin Davisson, who holds appointments on both campuses.

Collaborations between researchers at Weill Cornell Medical College and the Ithaca campus yield results that might otherwise be impossible, according to an Oct. 21 panel "Convergence of Care for All Forms of Life," moderated by Robin Davisson, professor of biomedical sciences, who holds appointments on both campuses.

Many collaborations involve faculty in the College of Veterinary Medicine and are important not only for the light they shed on human ailments, but also to better care for our animals, said Paula Cohen, associate professor of biomedical sciences and director of Cornell's Center for Reproductive Genetics, which involves about 100 faculty members at Ithaca and Weill.

Cohen studies the genetics of meiosis, the process by which chromosomes are divided to create eggs and sperm. This is easy in mice, Cohen said, especially with the vast expertise on the mouse reproductive system available in Ithaca. But the researchers turn to the fertility clinic at Weill Cornell for human genetic material to compare.

David Russell, professor of molecular microbiology in the Vet School, studies tuberculosis -- still rampant in underdeveloped countries -- and is testing thousands of compounds for effectiveness against tuberculosis. This is the place to do it, he said, because "the best pathologists in the world are in vet colleges." Members of his lab have commuted regularly between Ithaca and Manhattan to use Weill Cornell's robotic drug test equipment. With the expertise they acquired, he has now set up a robotic test facility in Ithaca. The association with Weill Cornell, he said, has made it much easier to obtain research funding and the cooperation of commercial pharmaceutical companies -- all the more remarkable, he said, because "There's no money in it. The people who have tuberculosis don't have any money."

Anne Moscona, M.D., professor of pediatrics and of microbiology and immunology, and vice chair for research of pediatrics at Weill Cornell, studies how viruses invade cells, and she collaborates with Vet School researchers who study viral infections in dogs and cats. One of the key questions, she said, is how an animal virus can adapt to infect a human. She also collaborates with Moonsoo Jin, assistant professor of biomedical engineering, who is developing nanotechnology to synthesize antibodies.

Davisson studies the cardiovascular system, and lately has focused on preeclampsia, the sudden occurrence of high blood pressure late in pregnancy. Constantly commuting between Ithaca and New York City, she works with a strain of mice genetically predisposed to the condition, comparing their genes with those of human patients in New York to find biomarkers that will warn doctors before the condition arises in women. Like it or not, Davisson noted, we share about 95 percent of our genes with mice.

"They are extraordinary models to study human diseases," she said. Members of her labs in Ithaca and New York City hold videoconferences about three times a week, and these "face-to-face" contacts have sparked additional collaborations, she added.

The panelists agreed that the connection between Ithaca and Weill Cornell has been an asset in recruiting top graduate students. It offers them unusual opportunities, not even matched at other schools that have both medical and veterinary colleges and enhanced by graduate school policies that allow students to move seamlessly from one campus to the other without administrative red tape, Davisson said.

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