

EYE CONTACT

Volume 9, Issue 3 | 2015

Feature Story - Chan Retires After 33 Years of Eye Opening Research

An internationally-renowned expert on eye disease pathology and diagnosis, Dr. Chi-Chao Chan, retired from NEI at the end of May after 33 years with the institute. Chan served as chief of the institute's Immunopathology Section since 1992 and as chief of the NEI Histopathology Core since 1999. She'll continue to provide her expertise as a Scientist Emeritus.

Over the course of her career, Chan contributed to our understanding of several eye diseases. Her research led to novel ways of diagnosing primary vitreoretinal lymphoma (PVRL), a rare and often fatal malignancy of the eye. Diagnosing PVRL is tricky. Misdiagnosis is common because PVRL mimics other eye diseases such as chronic uveitis, an inflammatory eye disease that



"Chi is a very generous person – generous with knowledge, generous with teaching and training. All of us have heard Chi say that it's important to give something back, so today is the day for NEI to give a little back to Chi." – NEI Director Paul A. Sieving, M.D., Ph.D.

requires entirely different treatment. Historically, the diagnosis of PVRL was made primarily based on cellular changes seen in tissue specimens. Chan's team discovered that certain changes at the protein and molecular level could be used to help diagnose PVRL earlier, enabling patients to start chemotherapy sooner. In addition to PVRL, Chan's work has led to new insights about the pathology of uveitis and von Hippel-Lindau disease and advanced our understanding of the genetics and pathogenesis of age-related macular degeneration (AMD), a blinding disease prevalent among older individuals.



"Chi's parents brought modern ophthalmology to China, and [they] focused on looking after the needy as well. Ophthalmology is in her DNA. She can't avoid it." – NEI Deputy Clinical Director Emily Chew, M.D.

Chan's histopathology lab bustles with activity, fielding hundreds of requests each year from physicians around the world seeking help to diagnose mysterious eye diseases. A coauthor on more than 600 publications, Chan credits that hefty number of papers to her lab's natural ability to collaborate with numerous researchers across NIH and the world.

The trust Chan built with surgical teams at the clinical center formed a "marriage made in heaven," says Liliana Guedez, Ph.D., an NCI scientist who works in Chan's Immunopathology Section. Often, the lab knows about surgeries at the clinical center well in advance, and is ready to receive tissue specimens delivered by the surgeon him or herself, Guedez noted. "That degree of immediacy of getting a specimen to pathology doesn't happen elsewhere."

Chan completed her medical degree at what is now Sun Yat-sen University in China just as the country was falling under the influence of the Cultural Revolution. She came to the

United States via Hong Kong and re-started her life and career from scratch. First learning English at Boston University and taking undergraduate courses at Kent State University in Ohio and Johns Hopkins University, she then earned a second medical degree from Hopkins.

"When I came to the U.S. in 1968, China had no diplomatic relations with the U.S. and was not a member of [the World Health Organization]. Therefore, my medical education in China was not recognized here," she said. "Today, a person who holds a medical degree from China can take an exam to qualify to practice in the U.S."



"From the moment I met Chi, I knew that she was a person to move things forward. Her father and mother were both individuals driven to do what was right for patients and the world, and Chi inherited that." – NEI Chief of the Laboratory of Immunology Robert Nussenblatt, M.D., M.P.H.

After a residency in ophthalmology at Stanford and a postdoctoral fellowship at Hopkins' Wilmer Ophthalmological Institute, she joined NEI in 1982 for a second postdoctoral fellowship in clinical ocular immunology/uveitis in the laboratory of Dr. Robert Nussenblatt.

Throughout her career at NEI, Chan has maintained strong ties to the vision research community in China where her parents, the late Drs. Winifred Mao and Eugene Chan, were pioneers of modern ophthalmology in China.

"Dr. Chan's storied medical career from China to the NEI has been remarkable," said Dr. Paul A. Sieving, director of the NEI. "Her experienced hands in eye disease pathology have been essential in the diagnosis of many challenging cases of ocular tumors and inflammatory diseases. At the same time, her deep commitment to mentoring young trainees has inspired and empowered several generations of budding ophthalmologists



Dr. Chan closed the Festschrift with a quote from Nicholas Sparks: "Don't think there are no second chances. Life always offers you a second chance.... It's called tomorrow." "For me, my 'tomorrow' is my retirement," she added.

and physician-scientists."

Her numerous recognitions include the American Academy of Ophthalmology's Senior Achievement Award in 2013, a Gold Fellow appointment from the Association for Research in Vision and Ophthalmology in 2011, and the Chinese Ophthalmology Society's Outstanding Achievement Award in Ophthalmology and Visual Science for Overseas Chinese in 2010.

Chan said she is most proud of the dozens of fellows and postbaccalaureate trainees that

she has mentored. Her face lights up as she ticks off all the names of her postbacs and where they've earned medical degrees and doctorates since leaving her lab.

She plans to settle next in San Francisco, where her son lives with his family, including Chan's first grandchild, Dylan Eugene. From her West coast base, she looks forward to working on a book on animal models for a variety of eye diseases.



"What luck I had in joining this big family." – Chi-Chao Chan, M.D.

[Next »](#)