

Leah Tolosa Croucher (chemist)



Leah Tolosa Croucher is a Program Officer at the National Center for Translational Sciences (NCATS), Institutes of Health (NIH), U.S. Department of Health and Human Services. NIH is the nation's biomedical research agency and is 27 different components called Institutes and Centers. NCATS is one of them. Each has its own specific research agenda, often focusing on diseases or body systems. All but three of these components receive their funding directly from Congress and administrate their own budgets. Leah has a BS and MS in Chemistry from the University of Santo Tomas (UST) and a PhD in Bioanalytical Chemistry from the University of Connecticut.

Her science journey began when Leah Tolosa was born in Manila, Philippines in 1960 but grew up in Bamban, Tarlac, Philippines. Leah is the oldest of the four children of Restituto and Catalina Tolosa. Her younger sister Naomi followed her into the UST Chemistry Department but went in a different direction. Naomi is now a successful contractor/manager for a multinational company in the Philippines. Leah graduated from the University of Santo Tomas High School in 1976. She was pretty good at her science subjects in high school. She thought about majoring in biology in college because it was her favorite subject but at that time biology was simply a Pre-Med course and she did not want to go to medical

school. So, when she got accepted into the UST College of Science, she decided to major in chemistry. At least she would have a chance to career as a chemist! At the vocational guidance seminar held at UST High School, Ms. Cecilia Bayquen, a faculty member of the UST Department of Chemistry, made a good impression on Leah and so she enrolled at the UST College of Science majoring in chemistry.

Leah received her BS Chemistry degree in 1980 at the young age of 19 1/2 years old. Her professor Dr. Beatrice Guevara encouraged her to go to graduate school.

After graduation, she interviewed for a job teaching at the UST Department of Chemistry. It was the only job she applied for and was accepted after the interview. At the same time, she started graduate school and received her MS in Chemistry from UST in 1988. She then moved to the United States to attend graduate school at the University of Connecticut in Storrs, Connecticut. At graduate school, she did



a lot of fluorescence spectroscopy which helped her get the job at the Center for Fluorescence Spectroscopy at the University of Maryland Medical School under Dr. Joseph Lakowitz. Dr. Lakowitz is a Professor of Biochemistry and has written a book on the

principles of Fluorescence Spectroscopy. Leah received her PhD in Bioanalytical Chemistry from the University of Connecticut in 1994 and started working as a Postdoc at Brandeis University in Massachusetts. In 1997, she worked at the University of Maryland Medical School Center for Fluorescence Spectroscopy. After five years, she moved to the Chemical and Biochemical Engineering Department at the University of Maryland Baltimore County (UMBC). She was a Research Professor at UMBC and amassed 25 patents over the 19 years she worked there.

Asked to compare working in the Philippines and working in the US, Leah said the jobs were different so there was really no comparison. In the Philippines, her work consisted of teaching undergraduate students in chemistry while at the University of Connecticut and Brandeis University, she did mostly research work. As a

program officer at NIH, she no longer does research and write proposals to get funding, but she has to be updated with current technology so that she can create programs for NIH to support. She can then influence the direction and focus of her institute on new technologies.

One of the programs she developed at NIH was called SCENT, which stands for Screening Conditions by Electronic Nose Technology. The objective of this



program was to develop a platform for diagnosing diseases based on odors and scents emanating from the skin. This is the automated response to disease-sniffing dogs but trained by artificial intelligence and machine learning.

She plans to retire in the near future. She and her husband, Art Croucher, are homebodies so not much travel is in store

for them in the future. She has a lot of hobbies she plans to take on after she retires. She said she may become more active in the Philippine-American Academy for Science and Engineering (PAASE). PAASE is a non-profit organization composed of scientists and engineers of Philippine descent who have distinguished themselves in scholarly and research related activities. PAASE was founded and incorporated in the State of Indiana on April 23, 1980. The Founding President was Severino Koh, former Chair of the Department of Civil and Environmental Engineering Department at UMBC.

WORK-LIFE BALANCE

Since the requirement of the new administration to return to work took effect, Leah has some difficulty with the long commute. She and her husband live in Annapolis, Maryland, and she commutes to Rockville, MD for work twice a week. She considered retirement but found working with her colleagues very enjoyable. She might stay for a little while. She said she does try to have a work-life balance by lowering her standards for tidiness in the house despite a husband and three dogs. She doesn't mind ordering pizza delivery for dinner, a welcome treat for her

husband. Since she has no small children, the change in work routine does not bother her that much.

MENTORING OTHER WOMEN SCIENTISTS

In her previous job as a Research Professor at the University of Maryland Baltimore County (UMBC), Leah has mentored many students. For her, it was easier to mentor women because they are not afraid to ask for help.

ADVICE TO NEW GRADUATES

Leah's advice to new graduates is to not forget that they also have a personal life. There should be a balance between career and family. Make sure you have both! Sometimes, it takes time. Just be patient!

HOW DO WE GET YOUNG GIRLS INTERESTED IN SCIENCE?

Leah said that she got interested in science because her father encouraged curiosity. Learning about nature is fun and her father was an example. Parents should be the first teachers! If that's not possible, then they should show their enthusiasm towards science as an example to their young charges whether boys or girls. Excitement is contagious!

HER SCIENCE JOURNEY

1960- Leah Tolosa was born in Manila, Philippines

1972-Graduated from elementary school in Bamban, Tarlac

1976- Graduated from the University of Santo Tomas (UST) High School

1980 -Received her BS in Chemistry from UST

- Started teaching at UST Department of Chemistry

1988 - Received her MS in Chemistry from the UST Graduate School

- Started graduate school at the University of Connecticut in Storrs, Connecticut

1994-Received her PhD in Bioanalytical Chemistry from the University of Connecticut

- Worked as a Postdoc at Brandeis University in Massachusetts

1997 – Worked at the Center for Fluorescence Spectroscopy at the University of Maryland Medical School under Dr. Joseph Lacowicz.

2001 -Moved to the Chemical and Biochemical Engineering Department at UMBC

2020- Started working at National Institutes of Health (NIH) in Rockville, MD