ASIAN AMERICAN, NATIVE HAWAIIAN, & PACIFIC ISLANDER SCIENTIST SHOWCASE

Ji-Hyun Lee, PhD

1982–

Statistician

Background

Ji-Hyun Lee was born and raised in rural South Korea where much of her early life was shaped by post-war economic and political uncertainty. Despite completing a master's in sociology and finding work as a research assistant, there were few professional opportunities available, especially for a woman.

Biostatistics Career

In the late 90s, Lee applied to the University of North Carolina at Chapel Hill, largely because she found the name beautiful. Moving to the United States and becoming a student again after a decade of professional work was daunting, but she completed her master's in **biostatistics** in 2000 and earned her PhD in 2003.

After graduating, Lee spent over a decade at the Moffitt Cancer Center & Research Institute in Tampa working on oncology trials and teaching at the institute and other local schools. She specializes in designing clinical trials for cancer studies and analyzing the data they produce and currently works in quantitative science at the UF Health Cancer Center. In 2023, Lee was elected as the 120th president of the American Statistical Association. She is both the first Korean American and the first cancer-center-based biostatistician to hold this position.

STEM Vocabulary Word

Biostatistics—a specialized branch of statistics that applies statistical methods to data related to life sciences and health care.

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Roseli Ocampo-Friedmann, PhD

1937–2005

Microbiologist

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Background

Roseli Ocampo-Friedmann was born and raised in Manila, Philippines, and completed her bachelor's degree in botany from the University of the Philippines in 1958. In 1966, she earned her master's degree at the Hebrew University of Jerusalem before returning to the Philippines to work at the National Institute of Science and Technology. In 1968, she moved to the United States to pursue her PhD at Florida State University. There, she worked closely with Dr. Imre Friedmann, a Hungarian Holocaust survivor, whom she married in 1974, a year after completing her PhD.

Geology Career

Much of Ocampo-Friedmann's work involved traveling to remote locations of the world to study **extremophiles** and their relationships with the environment. In the mid-1970s, she and her husband travelled to Antarctica's Ross Desert to study crypto-endoliths, tiny organisms growing in sandstone in the geological formation known as the Beacon Supergroup. Due to environmental similarities, this research was cited by NASA as the basis for life potential on Mars after the Viking 1 landed in 1976.

Ocampo-Friedmann collected over 1,000 samples of extremophiles from hostile environments all over the world. In 1981, Ocampo-Friedmann received the Antarctic Service Medal from the National Science Foundation. Friedmann Peak, part of Antarctica's Darwin Mountains, is named for her.

STEM Vocabulary Word

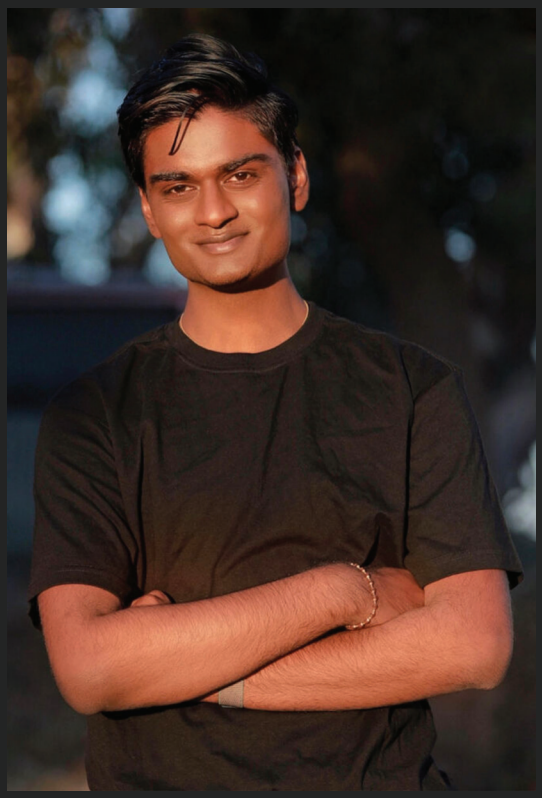
Extremophile—organisms that are capable of living in extreme environments.

ASIAN AMERICAN, NATIVE HAWAIIAN, & PACIFIC ISLANDER SCIENTIST SHOWCASE

Kevin Patel

2000–

Climate Activist



Background

Kevin Patel was born and raised in Los Angeles, California. His parents are first-generation immigrants who left India after extreme droughts made farming incredibly difficult. At just 12 years old, he was diagnosed with a heart condition that was directly tied to air quality; Los Angeles consistently ranks among the most polluted cities in the country. He also noticed that there was little discussion around **food accessibility** as well as a large disconnect in his classmates' understanding of where food actually came from.

Climate Activism Career

As a freshman at LA's Santee Education Complex, Patel founded an environmental club which he headed for the rest of his high school career. The club created several initiatives, including collecting recyclables for deposit, then using those funds to provide food donations for local homeless shelters.

In 2019, Patel began studying political science at Loyola Marymount University. That September, he also launched OneUpAction during New York City's United Nations General Assembly Week. The organization focuses on centering BIPOC youth leadership and pushing for mass mobilization in tandem with direct political action.

Patel currently serves as OneUpAction's executive director and is a commissioner in the Los Angeles Youth Climate Commision, which was formed in 2022.

STEM Vocabulary Word

Food accessibility—the ability of a person or household to physically and financially access fresh, healthy, affordable food.

ASIAN AMERICAN, NATIVE HAWAIIAN, & PACIFIC ISLANDER SCIENTIST SHOWCASE

Leon Ong Chua

1936–

Computer Scientist & Electrical Engineer

Background

Leon Chua was born and raised in the Philippines. His parents were ethnically Hoklo (Han Chinese) but had left Jinjiang, China, for the Philippines. In 1959, he graduated from the Mapúa Institute of Technology in Manila with a bachelor's degree in electrical engineering.

Computer Engineering Career

Chua worked for a year at Mapúa before receiving a scholarship to MIT, which brought him to the United States. He completed his master's degree in 1961, then continued his studies at University of Illinois Urbana-Champaign, where he earned his PhD in 1964 with his thesis, *Nonlinear Network Analysis—The Parametric Approach*. Chua worked at Purdue University from 1964 to1970 before joining UC Berkeley in 1970 as a professor of electrical engineering.

Chua is recognized in the computer science and electrical engineering fields as the father of nonlinear circuit theory and cellular neural networks. In 1971, he created the memristor (short for memory resistor), a component that limits electrical flow in a circuit while remembering how much charge has already passed through it. In 1983, Chua also developed a simple circuit that satisfied all three criteria for displaying **chaotic behavior**.

STEM Vocabulary Word

Chaotic behavior—unpredictable, non-repeating oscillations generated by some electronic circuits.