



Aaron Shatkin Memorial Lecture 2020

“Small Molecules From the Human Microbiota”

Michael Fischbach, PhD

Tuesday, October 6, 2020

Hosted by the Center for Advanced Biotechnology and Medicine

RUTGERS
BIOMEDICAL AND
HEALTH SCIENCES

Aaron Shatkin

MEMORIAL LECTURE



Aaron J. Shatkin, PhD, was a professor of molecular genetics, microbiology and immunology, founding director of the Center for Advanced Biotechnology and Medicine (CABM) and a member of The Cancer Institute of New Jersey at Robert Wood Johnson Medical School until his passing in 2012. Dr. Shatkin earned a bachelor's degree in chemistry, *summa cum laude*, from Bowdoin College and was awarded a Rockefeller Fellowship to attend Rockefeller University where he trained in microbiology with Nobel Laureate E. L. Tatum, PhD.

After receiving his doctorate in 1961, he joined the laboratories of Harry Eagle, MD, and Norman Salzman, PhD, at the National Institutes of Health as a research scientist. He spent a sabbatical year in 1968 as a visiting investigator at the Salk Institute with Nobel Laureate Renato Dulbecco, MD, then moved to the newly established Roche Institute of Molecular Biology in New Jersey where he was head of the laboratory of molecular virology and later chair of the department of cell biology. In 1986, he was appointed director of the nascent Center for Advanced Biotechnology and Medicine, a joint institute of Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey, where Dr. Shatkin was University Professor of Molecular Biology. He also taught at several other universities and trained many future scientists in his laboratory.

Dr. Shatkin discovered mRNA capping and made other fundamental contributions to gene expression mechanisms in animal cells and viruses. In honor of his achievements in biomedical research, he received the 1977 U.S. Steel Award in Molecular Biology from the National Academy of Sciences, the Thomas Alva Edison Science Award, the New Jersey Pride Award in Science and Technology, the Association of American Medical Colleges 2003 Award for Distinguished Research in the Biomedical Sciences and the 2009 Edward J. Ill Outstanding Medical Research Scientist Award. His alma mater, Bowdoin College, granted him an Honorary Doctorate of Science in recognition of his work.

The founding editor of *Molecular and Cellular Biology*, Dr. Shatkin served on numerous organizing and advisory committees including the Asilomar Meeting on Recombinant DNA, the Howard Hughes Medical Institute and the Cleveland Clinic Lerner Research Institute. He authored more than 230 publications that provided new insights into diseases including cancer, AIDS and other viral infections. He was an elected member of the U.S. National Academy of Sciences and a fellow of the American Academy of Arts and Sciences, the American Academy of Microbiology, and the American Association for the Advancement of Science.

This lecture series is to honor and memorialize his contributions to science, his leadership and mentoring skills, and love for his chosen field.

MICHAEL FISCHBACH, PhD

*Associate Professor, Bioengineering and Microbiology & Immunology
Stanford University*

Michael Fischbach is an Associate Professor in the Departments of Bioengineering and Microbiology & Immunology at Stanford University, an institute scholar of Stanford ChEM-H, and the director of the Stanford Microbiome Therapies Initiative. Fischbach is a recipient of the NIH Director's Pioneer and New Innovator Awards, an HHMI-Simons Faculty Scholars Award, a Fellowship for Science and Engineering from the David and Lucille Packard Foundation, a Medical Research Award from the W.M. Keck Foundation, a Burroughs Wellcome Fund Investigators in the Pathogenesis of Infectious Disease award, and a Glenn Award for Research in Biological Mechanisms of Aging. His laboratory uses a combination of genomics and chemistry to identify and characterize small molecules from microbes, with an emphasis on the human microbiome. Fischbach received his Ph.D. as a John and Fannie Hertz Foundation Fellow in chemistry from Harvard in 2007, where he studied the role of iron acquisition in bacterial pathogenesis and the biosynthesis of antibiotics. After two years as an independent fellow at Massachusetts General Hospital, Fischbach joined the faculty at UCSE, where he founded his lab before moving to Stanford in 2017. Fischbach is a co-founder and director of Federation Bio, a co-founder of Revolution Medicines, and a member of the scientific advisory board of NGM Biopharmaceuticals.



SHATKIN LECTURERS

(Affiliation at Time of Lecture)

- 2012 **Inaugural Lecture**
Harold Varmus, MD
National Cancer Institute
- 2013 **David Baltimore, PhD**
California Institute of Technology
- 2014 **Joseph L. Goldstein, MD**
Michael S. Brown, MD
The University of Texas
Southwestern Medical Center at Dallas
- 2015 **Thomas R. Cech, PhD**
University of Colorado Boulder
- 2016 **William N. Hait, MD, PhD**
Janssen, Pharmaceutical Companies of Johnson & Johnson
- 2017 **Nahum Sonenberg, FRS**
McGill University
- 2018 **Michael G. Rossmann, PhD**
Purdue University
- 2019 **Margaret J. McFall-Ngai, PhD**
University of Hawai'i at Mānoa

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as a tribute to our founding director.*

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