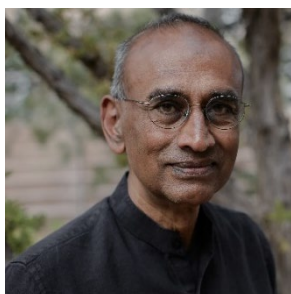


2nd Yale Center for Research on Aging (Y-Age) Symposium

Speakers



Keynote Speaker:

Dr. Venki Ramakrishnan, PhD

Professor

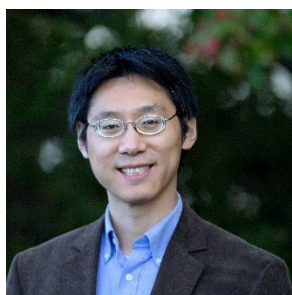
MRC Laboratory of Molecular Biology, Nobel Laureate in Chemistry

"Some thoughts on aging and the efforts to combat it"

Dr. Venki Ramakrishnan, PhD received his bachelor's degree in physics from Baroda University in India in 1971 and his Ph.D. in physics from Ohio University in 1976. He then studied biology for two years at the University of California, San Diego before beginning his postdoctoral work with Peter Moore at Yale University. After a long career in the USA at Brookhaven National Laboratory and the University of Utah, he moved to England in 1999, where he has been a group leader at the MRC Laboratory of Molecular Biology in Cambridge. He received the Nobel Prize for Chemistry in 2009 and was the president of the Royal Society from 2015-2020.

In 2000, Ramakrishnan's laboratory determined the atomic structure of the 30S ribosomal subunit and its complexes with ligands and antibiotics. This work led to insights into how the ribosome "reads" the genetic code, as well as antibiotic function. Ramakrishnan's lab subsequently determined high-resolution structures of functional complexes of the entire ribosome at various stages along the translational pathway, which led to insights into its role in protein synthesis during decoding, peptidyl transfer, translocation and termination. For the last decade, his laboratory has been applying cryoelectron microscopy to study eukaryotic and mitochondrial translation, especially initiation of translation and translational regulation.

Ramakrishnan is the author of two popular books, *Gene Machine* (2018), a very frank popular memoir about the race for the structure of the ribosome, and more recently, *Why We Die: The New Science of Aging and the Quest for Immortality* (2024).



Dr. Rong Fan, PhD

Harold Hodgkinson Professor of Biomedical Engineering

Yale University School of Medicine

Y-Age

"Mapping Senescence"

Dr. Rong Fan, PhD is the Harold Hodgkinson Professor of Biomedical Engineering and of Pathology. His research interest has been centered on the development and deployment of single-cell and spatial omics technologies to investigate normal development, aging, and disease. He received a B.S. in Applied Chemistry from University of Science and Technology of China, a Ph.D. in Chemistry from the University of California at Berkeley, and then completed his postdoctoral training at California Institute of Technology, prior to joining the faculty of Department of Biomedical Engineering at Yale University in 2010.



Dr. Laura Niedernhofer, MD, PhD

Professor of Biochemistry, Molecular Biology and Biophysics

University of Minnesota Medical School

"Role of endogenous DNA damage in driving aging"

Dr. Laura Niedernhofer, MD, PhD founded and directs the Masonic Institute on the Biology of Aging and Metabolism at the University of Minnesota Medical School. Prior to that, she was at the Scripps Research Institute where her lab helped discover a new class of gerotherapeutics called senolytics, which target senescent cells. She completed her B.S. in Chemistry at Duke University, an M.D., Ph.D. program at Vanderbilt University, and a post-doctoral fellowship at Erasmus Medical Center in Rotterdam, the Netherlands. Her expertise is in DNA damage and repair, with a particular emphasis on the health impact of endogenous DNA damage. Laura's current research program is focused on studying fundamental mechanisms of aging with a primary focus on cellular senescence. Laura is currently serving on the Scientific Advisory Panel of the Hevolution Foundation, the Board of the Academy for Health and Lifespan Research, and the Executive Steering Committee of the SenNet Consortium.



Dr. Miriam Merad, MD, PhD

Dean of Translational Research and Therapeutic Innovation

Chair of the Department of Immunology and Immunotherapy Director of the Precision

Immunology Institute at Mount Sinai School of Medicine in New York

Director of the Mount Sinai Human Immune Monitoring Center (HIMC)

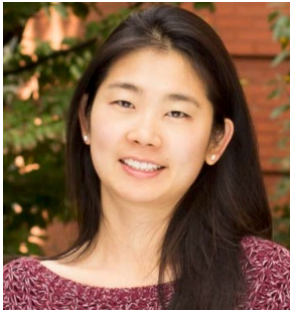
Mt. Sinai School of Medicine

"Myeloid cell mediated perturbation of homeostasis in aging"

Dr. Miriam Merad, MD, PhD is the Dean of Translational Research and Therapeutic Innovation, Chair of the Department of Immunology and Immunotherapy, Director of the Precision Immunology Institute at Mount Sinai School of Medicine in New York and the Director of the Mount Sinai Human Immune Monitoring Center (HIMC).

She is an internationally acclaimed physician-scientist and a leader in the fields of dendritic cell and macrophage biology with a focus on their contribution to Human diseases. Dr. Merad identified the tissue-resident macrophage lineage and revealed its distinct role in organ physiology and pathophysiology. She established the contribution of this macrophage lineage to cancer progression and inflammatory diseases and is now working on developing novel macrophage-targeted therapies for these conditions. In addition to her work on macrophages, Dr. Merad is known for her work on dendritic cells, which control adaptive immunity. She identified a new subset of dendritic cells, now considered a key antiviral and antitumor immunity target.

Dr. Merad leads the Precision Immunology Institute at the Icahn School of Medicine (PrISM) and is the founding chair of the Department of Immunology and Immunotherapy (DII). Dr. Merad has authored more than 300 primary papers and reviews in high-profile journals. Her work has been cited several thousand times. She currently serves as the President of the International Union of Immunological Societies (IUIS). She is an elected member of the National Academy of Sciences and the National Academy of Medicine, the most prestigious body of science in the United States, in recognition of her contributions to the field of Immunology and Cancer Immunology. She is also an elected member of the American Society of Clinical Investigation, an elected fellow of the American Association for Cancer Research (AACR) Academy and the Academy of Immuno-Oncology and the recipient of the William Coley Award and the Leopold Griffuel cancer prize award.



Dr. Hattie Chung, PhD

Assistant Professor
Yale School of Medicine
Y-Age
“Ovarian Aging”

Dr. Hattie Chung, PhD is an Assistant Professor at Yale School of Medicine in the Department of Medicine with secondary appointments in the Department of Molecular, Cellular and Developmental Biology (MCDB) and the Department of Obstetrics, Gynecology and Reproductive Sciences. She is a systems and computational biologist with a strong track record of designing cutting-edge methods for obtaining and analyzing high-dimensional genomic data, applied to uncover the cellular organization of tissues.

Hattie completed her postdoctoral training with Aviv Regev and Fei Chen at the Broad Institute of MIT and Harvard during which she developed multi-modal single-cell methods that have been widely recognized. She obtained her Ph. D. in Systems Biology from Harvard University, studying evolutionary dynamics during infections with Roy Kishony, and her B.S. in Biological Engineering from the Massachusetts Institute of Technology. She is a recipient of the Paul and Daisy Soros Fellowship and an Emerging Leader in Biosecurity Fellowship.



Dr. Bérénice Benayoun, PhD

Associate Professor of Gerontology, Biological Sciences, and Cancer Biology
USC Leonard Davis School of Gerontology
Molecular and Computational Biology Department
USC Dornsife College of Letters, Arts and Sciences
Biochemistry and Molecular Medicine Department
USC Keck School of Medicine
USC Norris Comprehensive Cancer Center
USC Stem Cell initiative
University of Southern California

“Sex-dimorphic regulation of innate immune cells during aging”

Dr. Bérénice Benayoun, PhD is an Associate Professor of Gerontology, Biological Sciences, and Cancer Biology at the USC Leonard Davis School of Gerontology. Her lab’s research focuses on 'omic' remodeling with aging in vertebrates, and how these changes interact with overlooked cues such as biological sex. Her lab is also one of the pioneering labs in the development of a naturally short-lived vertebrate as a new model for aging research, the African turquoise killifish *Nothobranchius furzeri*.



Dr. Jarrod Dudakov, PhD

Associate Professor

Fred Hutch Cancer Center

“Age-related thymic involution”

Dr. Jarrod Dudakov, PhD is an Associate Professor in the Division of Translational Science and Therapeutics and a Member of the Immunotherapy Integrated Research Center at the Fred Hutchinson Cancer Center, as well as an Affiliate Associate Professor in the Department of Immunology at the University of Washington. Dr. Dudakov graduated with a PhD in Immunology and Stem Cell Biology from Monash University, and completed a postdoctoral fellowship in the Immunology Program at Memorial Sloan Kettering Cancer Center in New York. In 2016 Dr. Dudakov moved to Seattle to establish his lab at the Fred Hutch and is working to understand the mechanisms underlying natural thymic regeneration so that new therapies can be developed to enhance T cell immunity.



Dr. Navdeep S. Chandel, PhD

David W. Cugell Professor of Medicine, Biochemistry, and Molecular Genetics

Feinberg School of Medicine, Northwestern University

“Mitochondria dysfunction: cause or consequence of physiologic aging?”

Dr. Navdeep S. Chandel, PhD is the David W. Cugell Professor of Medicine, Biochemistry, and Molecular Genetics at Northwestern University. He received his BA in Mathematics and Ph.D. in Cell Physiology at the University of Chicago as well as a post-doctoral fellowship at the University of Chicago. He started his laboratory at Northwestern University on the concept of “Mitochondria as signaling organelles”. He has written a widely utilized introductory book entitled “Navigating Metabolism” (Cold Spring Harbor Press). He received the Clarence Ver Steeg Faculty Mentor Award in 2013, which recognizes faculty members from any department throughout Northwestern University for their outstanding mentorship of graduate students. In 2023, he was co-recipient of the FNIH Lurie Prize in Biomedical Science.



Dr. Hee-Hoon Kim, PhD

Postdoctoral Associate in Pathology
Yale University School of Medicine
Y-Age

“New rodent model of exceptional healthy longevity”

Dr. Hee-Hoon Kim, PhD, is a postdoctoral associate in the Dixit lab at the Department of Pathology, Yale School of Medicine. Dr. Kim earned his PhD from the Korea Advanced Institute of Science and Technology (KAIST) in South Korea, specializing in liver diseases and immunometabolism. Dr. Kim is a former National Research Foundation of Korea postdoctoral fellow and has authored over 20 peer-reviewed publications in prestigious journals such as *Nature Aging*, *Cell Metabolism*, and *Cell Reports*. At the Dixit lab, Dr. Kim’s research focuses on uncovering molecular mechanisms with the potential to mitigate inflammaging and extend healthspan. His work involves characterizing a novel healthy aging model organism to identify immunometabolic resistors that counteract age-associated chronic inflammation and functional decline.



Dr. Vadim Gladyshev, PhD

Professor of Medicine
Brigham and Women’s Hospital, Harvard Medical School
“Systems biology of aging”

Dr. Vadim Gladyshev, PhD is a Professor of Medicine at Harvard Medical School, Director of the Center for Redox Medicine at Brigham and Women's Hospital, and faculty member of the Broad Institute. Dr. Gladyshev’s lab focuses on studying aging, rejuvenation and lifespan control using a combination of experimental and computational approaches. He has published approximately 500 articles. Dr. Gladyshev is the recipient of NIH Pioneer, Transformative and Eureka awards and is an elected member of the National Academy of Sciences, USA.

Panelists/Chairs



Dr. Vishwa Deep Dixit, DVM, PhD

Waldemar Von Zedtwitz Professor of Pathology and Professor of Immunobiology
Director, Yale Center for Research on Aging (Y-Age)
Yale School of Medicine, Pathology
Y-Age

Dr. Vishwa Deep Dixit, DVM, PhD is the son of teachers and grew up in Hisar (Northwest India). Deep studied Veterinary Medicine in India, did PhD Research in University of Hannover Germany and postdoc research at the NIH. His lab studies biology of aging with goal of identifying immunometabolic checkpoints of inflammation that drive chronic diseases. Among notable findings, Dixit lab discovered nerve-associated macrophages as the regulators of age-related inflammation and helped establish NLR family pyrin domain containing 3 (NLRP3), as a metabolic inflammasome that controls inflammaging driven disorders. Working on the interface of metabolism and immune system, Dixit and colleagues found that ketogenesis restrains inflammasome and elevating tissue FGF21 protects against thymic involution, immune-senescence and organismal aging. Through interdisciplinary team science, Deep's laboratory discovered that the moderate calorie restriction (CR) in humans revealed CR-mimetic targets (SPARC, PLA2G7 and Cysteine metabolism) that reigns in inflammaging and enhanced metabolic healthspan. His papers (>100) are published in leading scientific journals. Dixit's service is recognized by multiple awards, including the Glenn award and National Institute on Aging's Nathan Shock Award for his pioneering work on Immunometabolism of aging.



Dr. Ruth R. Montgomery, PhD

Professor of Medicine and Epidemiology
Director, Yale CyTOF Facility
Associate Dean for Scientific Affairs, Dept Clinical: Internal Medicine
Yale School of Medicine, Microbial Diseases
Y-Age

Dr. Ruth R. Montgomery received her B.A with Distinction in Biology from the University of Pennsylvania and a Ph.D. in Cellular Immunology at Rockefeller University working with Zenvil Cohn and Carl Nathan. She came to Yale School of Medicine for postdoctoral work with Ira Mellman in the Department of Cell Biology and has remained at Yale where she is now Professor of Internal Medicine and Associate Dean for Scientific Affairs.

Dr. Montgomery's research focus is the function of innate immune cells and use of novel technology to advance translational studies. Her research work is notable for use of primary cells in systems wide studies to demonstrate individual differences in immune responses. Her group elucidates the effects of aging on immunity employing single cell functional studies, CyTOF multiparameter immune profiling, imaging platforms, and computational modeling in infections (e.g., COVID, West Nile, dengue, and Zika viruses, leptospirosis, Lyme disease), and in chronic inflammatory diseases (e.g., asthma). She is Director of the Yale CyTOF facility, PI of Yale's HIPC consortium (Human Immunology Project Consortium) and the immunophenotyping group in the NIH-supported IMPACC cohort (IMmunophenotyping Assessment in a CCOVID-19 Cohort) and co-PI of our U54 SenNet Cellular Senescence Network (SenNet) Program.



Albert C. Shaw, MD, PhD

Professor of Medicine (Infectious Diseases)

Yale University School of Medicine

Y-Age

Dr. Albert C. Shaw, MD, PhD is Professor of Medicine in the Section of Infectious Diseases at Yale School of Medicine and a member of Y-AGE. He received his MD from Harvard Medical School and the Harvard-MIT Program in Health Sciences and Technology and obtained a PhD in Genetics, where he was student of Phil Leder. After residency and fellowship training at the Massachusetts General Hospital, he was a postdoc with Fred Alt before joining the faculty at Yale. He is a practicing infectious diseases clinician who recently served on the CDC Advisory Committee on Immunization Practices from 2024-2025. His research has a longstanding focus on age-related alterations in immunity, with particular interests in immunologic and gene expression signatures of vaccine response and mechanisms of innate immune dysregulation.

Yale School of Medicine Leadership



Dr. Anthony Koleske, PhD

Ensign Professor of Molecular Biophysics and Biochemistry and of Neuroscience
Yale University School of Medicine

Dr. Tony Koleske, PhD studies the biochemical mechanisms that regulate neuronal dendrite and synapse development and function and how these mechanisms become compromised in neurodevelopmental disorders. After receiving a BS in Biochemistry and Molecular Biology at the University of Wisconsin-Madison, Dr. Koleske performed his PhD studies at the Whitehead Institute/Massachusetts Institute of Technology. Dr. Koleske joined the Department of Molecular Biophysics and Biochemistry at Yale University in 1998, where he currently is Professor and holds a joint appointment in the Department of Neuroscience. Since 2020, Dr. Koleske has been Deputy Dean for Basic Science.



Dr. Chen Liu, MD, PhD

Anthony N. Brady Professor of Pathology
Chair of the Department of Pathology
Yale University School of Medicine

Dr. Chen Liu, MD, PhD is the Anthony N. Brady Professor of Pathology and Chair of the Department of Pathology at Yale University School of Medicine, as well as the Chief of Pathology at Yale New Haven Hospital.

Before joining Yale, he served as Chair of Pathology, Immunology, and Laboratory Medicine, as well as Chair of the Center for Dermatology at Rutgers New Jersey Medical School and Robert Wood Johnson Medical School from 2015 to 2020. Prior to his appointments at Rutgers in 2015, he was a Professor and Vice Chair of Pathology, Immunology, and Laboratory Medicine at the University of Florida, where he also held an endowed chair in gastrointestinal and liver research.

Dr. Liu is a GI/liver pathologist and physician-scientist, focusing on the pathogenesis and therapy of viral hepatitis, liver cancer, epigenetics, and immunotherapy. His research has been consistently funded by the National Institutes of Health and various research foundations for the past twenty years. He has published more than 320 peer-reviewed papers.