

# Commencement Program

Mayo Clinic Graduate School of Biomedical Sciences

September 11, 2021

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# Mayo Clinic College of Medicine and Science

Mayo Clinic College of Medicine and Science is comprised of five schools.

- · Mayo Clinic Alix School of Medicine
- Mayo Clinic Graduate School of Biomedical Sciences
- Mayo Clinic School of Continuous Professional Development
- Mayo Clinic School of Graduate Medical Education
- Mayo Clinic School of Health Sciences

Academic degrees are granted by the Mayo Clinic Board of Trustees on recommendation of the deans and the faculty of Mayo Clinic College of Medicine and Science.

The faculty is drawn from the clinical and scientific staff of Mayo Clinic and is augmented by area physicians. Faculty members participating in this graduation ceremony represent a total faculty of approximately 3,700.

### Mayo Clinic Graduate School of Biomedical Sciences

The mission of the Mayo Clinic Graduate School of Biomedical Sciences (MCGSBS) is to develop the next generation of leaders in biomedical science and education. First established in 1915, Mayo's graduate degrees were initially awarded in partnership with the University of Minnesota. Mayo Clinic Graduate School of Biomedical Sciences became an independent degree-granting institution in 1983. For the past quarter century, our world-renowned faculty have worked within Mayo Clinic's unique 3-shield environment of the clinic, research, and education to recruit. empower and nurture future scientists (M.S. and Ph.D.) and physician scientists (M.S./M.D. and M.D./Ph.D.) to explore the world and innovate in order to rapidly develop cures and solutions that solve unmet health care needs. Integral to the goals of Mayo Clinic Graduate School of Biomedical Sciences is the creation of a diverse workforce that is prepared to improve health equity through discovery and innovation.

Mayo Clinic Graduate School of Biomedical Sciences has also been a vital part of the expansion of Mayo Clinic into a three-site institution—from the original site in Rochester, Minnesota to major graduate training in Jacksonville, Florida and both Scottsdale and Phoenix, Arizona. This novel configuration and nearly three-decade experience in distance graduate education has been showcased in the challenges presented by the recent COVID pandemic, demonstrating both the global reach and substantive local impact at each campus.

This special dual-year commencement is also the first for the Mayo Clinic Graduate School of Biomedical Sciences and articulates the critical nature of fundamental research in addressing major societal needs. Each of these graduates from the classes of 2020 and 2021 represent new cutting-edge technology, innovations in health care delivery, public policy and regulatory science, and new methods to make innovations more broadly available across the world through entrepreneurship, partnerships, and novel ventures.

#### LEADERSHIP

#### Dean

Stephen C. Ekker, Ph.D.

#### Administrator

Karen S. Nation, MBA/HCM

# Commencement Program

#### **SEPTEMBER 11, 2021**

Welcome and 9/11 Moment of Silence	Fredric B. Meyer, M.D.
Introduction of Anthony S. Fauci, M.D.	Gianrico Farrugia, M.D.
Conferring of Honorary Degree and Robing of Anthony S. Fauci, M.D.	Gianrico Farrugia, M.D. Stella P. Hartono, M.D., Ph.D.
Commencement Address	Anthony S. Fauci, M.D.
Introduction of Franklyn G. Prendergast, M.D., Ph.D.	Stephen C. Ekker, Ph.D.
Conferring of Honorary Degree and Robing of Franklyn G. Prendergast, M.D., Ph.D.	Fredric B. Meyer, M.D. Stephen C. Ekker, Ph.D.
Commencement Remarks	Franklyn G. Prendergast, M.D., Ph.D.
Dean's Commencement Address	Stephen C. Ekker, Ph.D.
Announcement of 2020 and 2021 Ph.D. Degrees	Bruce F. Horazdovsky, Ph.D.
Student Address	Alaa Koleilat, Ph.D.
Announcement of 2020 and 2021 Masters' Degrees	Pamela J. McLean, Ph.D. John D. Fryer, Ph.D.
Concluding Remarks	Fredric B. Meyer, M.D.

# Platform Participants

#### Anthony S. Fauci, M.D.

Honorary Degree Recipient Director, National Institute of Allergy and Infectious Diseases

#### Franklyn G. Prendergast, M.D., Ph.D.

Honorary Degree Recipient Mayo Clinic Distinguished Alumnus

#### Gianrico Farrugia, M.D.

President & CEO, Mayo Clinic John H. Noseworthy, M.D., and Jay Alix Chair Professor of Medicine and Physiology, Mayo Clinic College of Medicine and Science

#### Fredric Meyer, M.D.

Juanita Kious Waugh Executive Dean of Education, Mayo Clinic College of Medicine and Science Dean, Mayo Clinic Alix School of Medicine Alfred Uihlein Family Professor of Neurologic Surgery

#### Stephen C. Ekker, Ph.D.

Dean, Mayo Clinic Graduate School of Biomedical Sciences Professor of Biochemistry and Molecular Biology, Mayo Clinic College of

Medicine and Science

#### Bruce F. Horazdovsky, Ph.D.

Associate Dean of Academic Affairs, Mayo Clinic Graduate School of Biomedical Sciences

Associate Professor of Biochemistry and Molecular Biology, Mayo Clinic College of Medicine and Science

#### Pamela J. McLean, Ph.D.

Professor of Neuroscience, Mayo Clinic College of Medicine and Science

#### John D. Fryer, Ph.D.

Associate Dean-Arizona, Mayo Clinic Graduate School of Biomedical Sciences

Professor of Neuroscience, Mayo Clinic College of Medicine and Science



### Honorary Degree Recipient and Commencement Speaker

ANTHONY S. FAUCI, M.D.

Dr. Fauci was appointed director of National Institute of Allergy & Infections Diseases in 1984. He oversees an extensive portfolio of basic and applied research to prevent, diagnose, and treat established infectious diseases such as HIV/AIDS, respiratory infections, diarrheal diseases, tuberculosis and malaria as well as emerging diseases such as Ebola and Zika. NIAID also supports research on transplantation and immune-related illnesses, including autoimmune disorders, asthma and allergies. The NIAID budget for fiscal year 2021 is an estimated \$6.1 billion.

Dr. Fauci has advised seven presidents on HIV/AIDS and many other domestic and global health issues. He was one of the principal architects of the President's Emergency Plan for AIDS Relief (PEPFAR), a program that has saved millions of lives throughout the developing world.

Dr. Fauci also is the longtime chief of the Laboratory of Immunoregulation. He has made many contributions to basic and clinical research on the pathogenesis and treatment of immune-mediated and infectious diseases. He helped pioneer the field of human immunoregulation by making important basic scientific observations that underpin the current understanding of the regulation of the human immune response. In addition, Dr. Fauci is widely recognized for delineating the precise ways that immunosuppressive agents modulate the human immune response. He developed effective therapies for formerly fatal inflammatory and immunemediated diseases such as polyarteritis nodosa, granulomatosis with polyangiitis (formerly Wegener's granulomatosis), and lymphomatoid granulomatosis. A 1985 Stanford University Arthritis Center Survey of the American Rheumatism Association membership ranked Dr. Fauci's work on

the treatment of polyarteritis nodosa and granulomatosis with polyangiitis among the most important advances in patient management in rheumatology over the previous 20 years.

Dr. Fauci has made seminal contributions to the understanding of how HIV destroys the body's defenses leading to its susceptibility to deadly infections. Further, he has been instrumental in developing treatments that enable people with HIV to live long and active lives. He continues to devote much of his research to the immunopathogenic mechanisms of HIV infection and the scope of the body's immune responses to HIV.

In a 2021 analysis of Google Scholar citations, Dr. Fauci ranked as the 35th most-cited living researcher. According to the Web of Science, Dr. Fauci ranked 9th out of 2.5 million authors in the field of immunology by total citation count between 1980 and January 2021. During the same period, he ranked 20th out of 2.4 million authors in the field of research & experimental medicine, and 132nd out of 992,000 authors in the field of general & internal medicine.

Dr. Fauci has delivered major lectures all over the world and is the recipient of numerous prestigious awards, including the Presidential Medal of Freedom (the highest honor given to a civilian by the President of the United States), the National Medal of Science, the George M. Kober Medal of the Association of American Physicians, the Mary Woodard Lasker Award for Public Service, the Albany Medical Center Prize in Medicine and Biomedical Research, the Robert Koch Gold Medal, the Prince Mahidol Award, and the Canada Gairdner Global Health Award. He also has received 50 honorary doctoral degrees from universities in the United States and abroad.

Dr. Fauci is a member of the National Academy of Sciences, the National Academy of Medicine, the American Academy of Arts and Sciences, and the American Philosophical Society, as well as other professional societies including the American College of Physicians, the American Society for Clinical Investigation, the Association of American Physicians, the Infectious Diseases Society of America, the American Association of Immunologists, and the American Academy of Allergy, Asthma & Immunology. He serves on the editorial boards of many scientific journals and as an author, coauthor, or editor of more than 1,300 scientific publications, including several textbooks.

National Institute of Allergy and Infectious Diseases. *Anthony* S. *Fauci, M.D.,* 2021, niaid.nih.gov/about/anthony-s-fauci-md-bio. Accessed 30 Aug. 2021.

National Institute of Allergy and Infectious Diseases. Photograph of Anthony S. Fauci, M.D., 2021, niaid.nih.gov/about/anthony-sfauci-md-bio. Accessed 30 Aug. 2021.



### Honorary Degree Recipient and Commencement Speaker

FRANKLYN G. PRENDERGAST, M.D., PH.D.

Dr. Prendergast received his medical degree with honors from the University of West Indies in 1968. He was named best preclinical and best clinical student. After an internship he attended Lincoln College, University of Oxford, as a Rhodes Scholar where he obtained a B.A. with First Class Honors in 1971 and an M.A. in 1979. He began an Internal Medicine residency at Mayo Clinic in 1971 and subsequently obtained a Ph.D. in biochemistry from the joint Mayo Graduate School/University of Minnesota program in 1977.

Dr. Prendergast was appointed to the Faculty of the Department of Pharmacology at Mayo Graduate School immediately after completing his Ph.D. and rose through the ranks quickly to become a full professor in 1986, both in the Department of Pharmacology and in the Department of Biochemistry and Molecular Biology. That same year, he was named the Edmond and Marion and Guggenheim Professor as well as the Chair of the Department of Biochemistry and Molecular Biology. He was also named Mayo Distinguished Investigator.

Dr. Prendergast served extensively on several senior internal Mayo administrative committees in the interim between 1977 and 1986, most notably as a member of the Institutional Research Committee. In these capacities he played an integral role in establishing major research policies and facilities while simultaneously being very involved in the Mayo Graduate School and the Mayo Medical School as both mentor and administrator. In 1988 he was awarded Mavo Graduate School's Teacher of the Year award for his outstanding contribution to Graduate School education. For his research he was named as an Established Investigator of the American Heart Association in 1980.

Throughout his long research career Dr. Prendergast served extensively with the National Science Foundation and the National Institutes of Health in a wide variety of roles as a scientific reviewer and advisor. He was a charter member of the Council for the Division of Research Grants, a member of the National Advisory for General Medical Sciences, a member of the National Cancer Institute Board of Scientific Advisors, a Presidential appointee as a member of the National Cancer Advisory Board, and a charter council member for the National Center for Advancing Translational Services.

Dr. Prendergast was appointed as the Director for Research of Mayo Clinic in Rochester in 1989, serving for the subsequent four years in that capacity. In 1990 he was also appointed to Mayo's highest administrative committees: the Mayo Clinic Board of Governors and the Mayo Foundation's Board of Trustees. He served on these bodies continuously until 2009. In 1995 he was appointed as Director of the Mayo Clinic Comprehensive Cancer Center, a position he held until September 2006. He was responsible for leading the most substantive expansion, transformation and revivification of that enterprise in its history, which in turn helped to regain NCI Comprehensive Cancer Center Status. His last administrative role at Mayo was as the charter Director of the Mayo Center for Individualized Medicine. He retired from that position as well as from the Mayo Foundation in December 2014.

Throughout his academic career, Dr. Prendergast participated extensively in numerous NIH and NSF grant review groups, task forces and advisory committees. He served on the Board of Directors or the Scientific Advisory Board of several biotechnology startups. Additionally, he was appointed as a non-executive member of the Board of Directors of Eli Lilly and Co., a post he held from 1995 until 2017. He has been awarded several honors, including honorary doctorates from Purdue University and the University of the West Indies as well as Distinguished Alumni awards from the University of the West Indies, the University of Minnesota and—most recently in 2019—the Mayo Clinic.



#### HINNAH RASHID ABID

**B.S., Biomedical Engineering** University of Wisconsin Madison, Wisconsin

### Ph.D., Clinical and Translational Science

Class: 2020 Advisor: Ian R. Lanza, Ph.D. Thesis: The Effects of Interleukin-6 on Skeletal Muscle Mitochondrial Physiology

#### Position

Senior Project Coordinator Medpace, Medical Devices Blaine, Minnesota



#### MOHAMMED SAMEER AL SURAIH

**B.S., Biochemistry and Molecular Biology** College of Saint Scholastica Duluth, Minnesota

Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Nicholas F. LaRusso, M.D. Thesis: Cholangiocyte Senescence in the Pathogenesis of and as a Potential Therapeutic Target for Primary Sclerosing Cholangitis

#### Position

Postdoctoral Fellow Emerging Science Biology Pfizer Cambridge, Massachusetts



#### STEPHANIE ANGUIANO-ZARATE

#### **B.S., Clinical Laboratory Science** University of Texas

El Paso, Texas

### Ph.D., Clinical and Translational Science

Class: 2020 Advisor: Michael A. Barry, Ph.D. Thesis: Development of Adenovirus Vaccines to Combat Emerging Pathogens

#### Position

Laboratory Manager University of Wisconsin Biology Department La Crosse, Wisconsin



#### **KIRSTEN G. M. ASPROS**

**B.S., Biochemistry** University of St. Thomas St. Paul, Minnesota

### Ph.D., Biochemistry and Molecular Biology

Class: 2021 Advisor: John R. Hawse, Ph.D. Thesis: Estrogen Receptor Beta Elicits Anti-Cancer Effects in Triple Negative Breast Cancer Through Suppression of NFkB Signaling

#### Position

Medical Student University of Minnesota Medical School-Twin Cities Minneapolis, Minnesota



#### HIROTAKA ATA\*

B.S., Biology, Biomedical Sciences University of South Alabama Mobile. Alabama

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Clinical and Translational Science Class: 2021

Advisor: Stephen C. Ekker, Ph.D. Thesis: Toward Precision Molecular Surgery of Genomic DNA In Vivo

#### Residency

Emergency Medicine Duke University Medical Center Durham North Carolina



#### AMELIA K. BARWISE

M.B., B.Ch., B.A.O., Medicine Trinity College Dublin, Ireland

#### Ph.D., Clinical and Translational Science

Class: 2020 Advisors: Mark L. Wieland, M.D. and Ognjen Gajic, M.D. Thesis: End of Life Care and Decision Making for Patients with Limited English Proficiency

#### Position

Research Associate Pulmonary and Critical Care Medicine Mayo Clinic Rochester, Minnesota



#### KHALED AZIZ\*

#### B.S., Biology B.A., Chemistry East Carolina University Greenville, North Carolina

M.S., Molecular Biology East Carolina University Greenville, North Carolina

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Biochemistry and Molecular Biology Class: 2020

Advisor: Jan van Deursen, Ph.D. Thesis: Clinical Implications of Chromosomal Instability in Human Cancers

#### Residency

Radiation Oncology Johns Hopkins Hospital Baltimore, Maryland



#### LAURA RAE ELSBERND BECHER

### B.S., Chemistry

University of North Dakota Grand Forks, North Dakota

#### Ph.D., Immunology

Class: 2020 Advisor: Svetomir N. Markovic, M.D., Ph.D. Thesis: T Cell Co-potentiation: a Path to Neoantigen Discovery

#### Position

Research Scientist Rion LLC Rochester, Minnesota



#### PAUL JACOB BELMONTE

**B.S., Cell and Molecular Biology** Grand Valley State University Allendale, Michigan

#### Ph.D., Immunology

Class: 2021 Advisor: Virginia M. Shapiro, Ph.D. Thesis: The Role of ST8Sia6 in Immune Cell Development and Inflammation

#### Position

Field Medical Scientist Provention Bio Seattle, Washington



#### **KEVIN MICHAEL BURTON**

#### B.S., Cell and Molecular Biology

Canisius College Buffalo, New York

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Mark A. McNiven, Ph.D. Thesis: Cytoskeletal and Membrane Remodeling at the Leading Edge Drives Pancreatic Tumor Cell Invasion and Growth

#### Position

Research Fellow Mayo Clinic Rochester, Minnesota



#### SHERRI MARIE BIENDARRA-TIEGS

B.S., BioMolecular Engineering Milwaukee School of Engineering Milwaukee, Wisconsin

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2020 Advisor: Timothy J. Nelson, M.D., Ph.D. Thesis: Evaluation and Modulation of Cardiomyocyte Subtype Development from Human Induced Pluripotent Stem Cells

#### Position

Postdoctoral Fellow University of California Davis Department of Biomedical Engineering Davis, California



#### TYLER J. BUSSIAN

#### B.A.

Depauw University Greencastle, Indiana

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Darren J. Baker, Ph.D., M.S. Thesis: Cellular Senescence in Neurodegenerative Disease

#### Position

Research Fellow Mayo Clinic Rochester, Minnesota



#### JONATHON SCOTT CALVERT

**B.S., Bioengineering** University of Pittsburgh Pittsburgh, Pennsylvania

#### Ph.D., Biomedical Engineering and Physiology Class: 2020

Advisor: Kendall H. Lee, M.D., Ph.D. Thesis: Evaluation of Motor Output Selectivity During Epidural and Transcutaneous Spinal Stimulation

#### Position

Postdoctoral Research Associate Brown University, School of Engineering Providence, Rhode Island



#### DANIEL CLEMENS

**B.S., Biology** Taylor University Upland, Indiana

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2021 Advisor: Michael J. Ackerman, M.D., Ph.D. Thesis: Triadin Knockout Syndrome

#### Position

Clinical Genomic Scientist Invitae San Francisco, California



#### SUSANNA C. CONCILIO

#### B.A., Biology

Arcadia University Glenside, Pennsylvania

### Ph.D., Virology and Gene Therapy

Class: 2021

Advisor: Stephen J. Russell, M.D., Ph.D. Thesis: Exploration of the Protein Sequence Space of the Sodium Iodide Symporter (NIS) Across Chordate Evolution to Improve In Vivo Imaging

#### Position

Postdoctoral Fellow Mayo Clinic Department of Molecular Medicine Rochester, Minnesota



#### BARSHA DASH

#### B.A., Biochemistry

Mount Holyoke College South Hadley, Massachusetts

#### Ph.D., Immunology

Class: 2020 Advisor: Virginia M. Shapiro, Ph.D. Thesis: Regulation of T Cell Maturation by NKAP

#### Position

Postdoctoral Fellow University of California San Diego La Jolla, California



#### RYAN CHRISTOPHER DONOHUE

B.S., Biological Sciences University of Missouri Columbia, Missouri

#### Ph.D., Virology and Gene Therapy

Class: 2020 Advisor: Roberto Cattaneo, Ph.D. Thesis: Measles Virus Quasispecies as Adaptation Determinant

#### Position

AAAS S&T Policy Fellow Executive Office of the President Office of Science and Technology Policy Washington, D.C.



#### ELIZABETH ECKERT

#### **B.S., Chemistry**

Viterbo University La Crosse, Wisconsin

#### Ph.D., Clinical and Translational Science Class: 2020

Advisor: Stephen J. Russell, M.D., Ph.D. Thesis: Oncolytic Vesicular Stomatitis Virus Encoding Murine and Human Chemokines for Modulation of the Tumor Microenvironment



#### **KRISTINA DRIZYTE-MILLER**

B.Sc. (Hons), Biochemistry Lancaster University Lancaster, United Kingdom

#### Ph.D., Biochemistry and Molecular Biology

Class: 2020 Advisor: Mark A. McNiven, Ph.D. Thesis: Regulation of Hepatocyte Growth and Metabolism by the Small Rab GTPases

#### Position

Postdoctoral Research Fellow The University of North Carolina at Chapel Hill Lineberger Comprehensive Cancer Center Chapel Hill, North Carolina



#### **CAITLIN FERMOYLE**

#### **B.A.**, Biology

Gustavus Adolphus College Saint Peter, Minnesota

#### Ph.D., Biomedical Engineering and Physiology Class: 2021

Advisor: Bruce D. Johnson, Ph.D. Thesis: The Impact of Exercise on Pulmonary Congestion and Respiratory Gas Exchange in Heart Failure with Preserved Ejection Fraction

### Position

Postdoctoral Fellow Utah Vascular Research Laboratory Department of Internal Medicine Salt Lake City, Utah



#### ALICIA KRISTINE FLEMING MARTINEZ

B.S., Biology

University of North Florida Jacksonville, Florida

### Ph.D., Biochemistry and Molecular Biology

Class: 2021 Advisor: Peter Storz, Ph.D. Thesis: Oxidative Stress in Pancreatic Cancer: A Pathway to DCLK1+ Cancer Stem Cell Formation and A Role for MnSOD in Early Lesion Development

#### Position

Research Fellow Mayo Clinic Department of Cancer Biology Jacksonville, Florida



#### JORDAN MARK GRAINGER

#### B.A., Biochemistry & Molecular Biology Washington University St. Louis, Missouri

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2021 Advisor: Liewei Wang, M.D., Ph.D. Thesis: Study of Genomic Aberrations and Drug Response in Breast Cancer and Metastatic Castration-Resistant

Prostate Cancer

#### Position

Postdoctoral Research Fellow Sanofi Molecular Oncology Boston, Massachusetts



#### ALEX GENEROUS

**B.A., Biochemistry, Cell and Molecular Biology** Drake University Des Moines, Iowa

#### Ph.D., Virology and Gene Therapy

Class: 2020 Advisor: Roberto Cattaneo, Ph.D. Thesis: Nectin-elicited Cytoplasm Transfer Characterization and its Exploitation by Measles Virus

#### Position

Associate Director, Science Communications National Cattlemen's Beef Association, Membership and Communications Centennial, Colorado



#### DANIELLE MARIE HERNANDEZ

B.S., Secondary Education Biology and Integrated Science Northern Michigan University Marquette, Michigan

Ph.D., Biochemistry and Molecular Biology Class: 2020 Advisor: Edward B. Leof, Ph.D. Thesis: IPF Pathogenesis is Dependent upon TGFß Induction of IGF-1

#### Position

Regional Medical Affairs Director Mirati Therapeutics Minneapolis, Minnesota



#### ERIN M. HIGGINS

**B.S., Neuroscience** University of Minnesota Minneapolis, Minnesota

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2020 Advisor: Michael J. Ackerman, M.D., Ph.D. Thesis: Elucidation of MRAS-mediated Noonan Syndrome

#### Position

Postdoctoral Fellow Mayo Clinic Ventures Mayo Clinic Rochester, Minnesota



#### AMANDA L. HUFF

#### B.S., Microbiology

Arizona State University Tempe, Arizona

#### Ph.D., Virology and Gene Therapy

Class: 2021 Advisor: Richard G. Vile, Ph.D. Thesis: Targeting Mechanisms of Protein Degradation to Improve Viral Immunotherapy

#### Position

Postdoctoral Research Fellow Johns Hopkins University Oncology- Gastrointestinal Cancer Baltimore, Maryland



#### **BENJAMIN T. HIMES**

#### B.A., Biology

University of Pennsylvania Philadelphia, Pennsylvania

#### M.D.

Yale University of Medicine New Haven, Connecticut

#### Ph.D., Immunology

Class: 2021 Advisor: Ian F. Parney, M.D., Ph.D. Thesis: Extracellular Vesicle-mediated Immunosuppression in Glioblastoma

#### Residency

Neurologic Surgery Mayo Clinic Rochester, Minnesota



#### **RACHEL MARIE HURLEY\***

**B.A., ACS Chemistry, Biology** Augustana University Sioux Falls, South Dakota

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

. Class: 2020

Advisor: Scott H. Kaufmann, M.D., Ph.D. Thesis: Impacting the Clinical Course of Epithelial Ovarian Cancer Through Novel Therapeutic Advances

#### Residency

Children's Hospital of Philadelphia Philadelphia, Pennsylvania



#### **CALLEY JENAE JONES**

**B.S., Biology** Baylor University Waco, Texas

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: John R. Hawse, Ph.D. Thesis: Elucidating the Mechanisms of Endoxifen Resistance in Estrogen Receptor Alpha Positive Breast Cancer

#### Position

Science Writer American Association for Cancer Research Department of Communications and Public Relations Philadelphia, Pennsylvania



#### DAKOTA L. JONES

**B.S., Bioengineering** Syracuse University Syracuse, New York

#### Ph.D., Biomedical Engineering and Physiology

Class: 2021 Advisor: Daniel J. Tschumperlin, Ph.D. Thesis: Epigenetic Regulation of Lung Fibroblast Activation

#### Position

Research Collaborator Mayo Clinic Rochester, Minnesota



#### SOUDABEH KARGAR

- **B.S., Civil Engineering** Isfahan University of Technology Isfahan, Iran
- M.Sc., Earthquake Engineering Sharif University of Technology Tehran, Iran
- M.Sc., Mechanical Engineering University of Alabama Huntsville, Alabama

Ph.D., Biomedical Engineering and Physiology Class: 2020 Advisor: Stephen J. Riederer, Ph.D. Thesis: Advances in Multi-Parametric Prostate MRI

#### Position

Postdoctoral Research Scholar Memorial Sloan Kettering Cancer Center, Medical Physics New York, New York



#### KEVIN KELLY B.S., M.S., Physiology Michigan State University East Lansing, Michigan

Ph.D., Clinical and Translational Science Class: 2020 Advisor: Bruce D. Johnson, Ph.D. Thesis: Role of Body Fluid Volumes in Heart Failure Outcomes

#### Position

Professor Green River College Biological Sciences Seattle, Washington



#### ALAA KOLEILAT

**B.S., Biology** University of California Los Angeles, California

M.S., Biological Sciences University of Minnesota Minneapolis, Minnesota

### Ph.D., Clinical and Translational Science Class: 2020 Advisors: Stephen C. Ekker, Ph.D. and

Lisa A. Schimmenti, M.D. Thesis: Zebrafish Hearing Science: Paving the Way to Better Patient Care

#### Position

Clinical Fellow Laboratory Genetics and Genomics Mayo Clinic Laboratory Medicine and Pathology Rochester, Minnesota



#### JAMES KREMPSKI

**B.S., Biomedicine** Midwestern University Glendale, Arizona

#### Ph.D., Immunology

Class: 2020 Advisor: Hirohito Kita, M.D. Thesis: Immunological Mechanisms of Sensitization and Tolerance to Peanut

#### Position

Postdoctoral Stanford University Palo Alto, California



#### SHAHEEN SHIRAZ KURANI

#### **B.S., Anthropology and Human Biology** Emory University Atlanta, Georgia

#### ScM., Molecular Microbiology and Immunology Johns Hopkins Bloomberg School of Public Health Baltimore, Maryland

Ph.D., Clinical and Translational Science Class: 2020 Advisor: Nilay Shah, Ph.D. Thesis: Place and Poverty: Using Area Deprivation Index to Assess the Impact of Socioeconomic Disadvantage on Health Behaviors and Outcomes

#### Position

Research Associate Mayo Clinic Department of Health Care Policy Research Rochester, Minnesota



#### JAZEEL F. LIMZERWALA

**B.S., Biotechnology** University of Mumbai Mumbai

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Bruce F. Horazdovsky, Ph.D. Thesis: Alterations in Centrosome Separation and the Actomyosin Cortex as a Source of Tumor Promoting Chromosomal Instability

#### Position

Research Fellow Mayo Clinic Rochester, Minnesota



#### MANUELA LOPERA HIGUITA

**B.S., Electrical Engineering** North Dakota State University Fargo, North Dakota

#### Ph.D., Biomedical Engineering and Physiology Class: 2021

Advisor: Leigh G. Griffiths, Ph.D., MRCVS Thesis: Xenogenic Small Diameter Vein Extracellular Matrix Scaffolds for Use in Vascular Diseases

#### Position

Postdoctoral Research Fellow Mayo Clinic, Radiology, Neurovascular Research Rochester, Minnesota



#### **BRYCE ALEXANDER MANSO**

#### B.Sc., Biology

Pacific Lutheran University Tacoma, Washington

#### Ph.D., Immunology

Class: 2021 Advisor: Kay L. Medina, Ph.D. Thesis: The Role of TNF-alpha in Chronic Lymphocytic Leukemia Hematopoietic Dysfunction

#### Position

Postdoctoral Fellow The University of California Santa Cruz, Institute for the Biology of Stem Cells Santa Cruz, California



#### GABRIEL MARTÍNEZ GÁLVEZ

#### **B.S., Microbiology, Biomedical Engineering** Universidad de Los Andes Bogotá, Colombia

Ph.D., Biomedical Engineering and Physiology Class: 2021

Advisor: Stephen C. Ekker, Ph.D. Thesis: A Hardware and Software Method to Facilitate Precision Genome Engineering

#### Position

Postdoctoral Fellow Kyoto University, Center for iPS Cell Research and Application Kyoto, Japan



#### WILLIAM MATCHETT

#### **B.S., B.A., Biology and Chemistry** Augsburg University Minneapolis, Minnesota

**Ph.D., Virology and Gene Therapy** Class: 2020 Advisor: Michael A. Barry, Ph.D.

Thesis: Single-Cycle Adenovirus Vaccines Against Mucosal Pathogens

#### Position

Postdoctoral Fellow University of Minnesota Department of Microbiology and Immunology Minneapolis, Minnesota



#### APRIL LYN MCPHERSON

B.S, Biomedical Engineering University of Cincinnati Cincinnati, Ohio

#### Ph.D., Biomedical Engineering and Physiology Class: 2020

Advisor: Clifton R. Haider, Ph.D. Thesis: An Investigation Towards Understanding How Neural Contributions Affect Anterior Cruciate Ligament Injury Risk and Recovery

#### Position

Associate Data Scientist United States Olympic & Paralympic Committee, Sports Medicine Colorado Springs, Colorado



#### CHRISTINE MEHNER

#### M.D.

University Witten/Herdeck Witten, Germany

Ph.D., Biochemistry and Molecular Biology Class: 2020

Advisor: Evette S. Radisky, Ph.D. Thesis: Identifying and Addressing Roles of Proteases and Protease Inhibitors in Progression of Metastasis of Ovarian Clear Cell Carcinoma

#### Position

Postdoctoral Fellow Mayo Clinic, Department of Physiology and Biomedical Engineering Jacksonville, Florida



#### **CRYSTAL ADRIANNE MENDOZA**

#### B.S., Cell and Molecular Biochemistry University of Texas

El Paso, Texas

### Ph.D., Virology and Gene Therapy

Class of 2021 Advisor: Hideki Ebihara, Ph.D. Thesis: Generation of Novel Antivirals Against Emerging Tick-borne Viruses



#### **KATHERINE MINTER-DYKHOUSE**

**B.Sc., Hons, Cell Biology** University of Durham Durham, United Kingdom

### Ph.D., Molecular Pharmacology and

**Experimental Therapeutics** 

Class: 2020 Advisors: Clifford D. Folmes, Ph.D. and Timothy J. Nelson, M.D., Ph.D. Thesis: Proliferation and Ploidy During Cardiac Differentiation of Human Induced Pluripotent Stem Cells

#### Position

Director of Contract Manufacturing and Laboratory Services Scienion US Inc. Phoenix, Arizona



#### TANDA MURRAY DUDENKOV

B.S., Biological Sciences University of Maryland Baltimore County Baltimore, Maryland

#### M.H.S., Genetic Epidemiology

Johns Hopkins School of Public Health Baltimore, Maryland

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2020 Advisor: Richard Weinshilboum, M.D. Thesis: The Genetics of Aromatase Inhibitor-Related Phenotypes in Postmenopausal Women with ER+ Breast Cancer



#### CHRISTOPHER R. PARADISE

#### B.A., Biology

Saint Olaf College Northfield, Minnesota

### Ph.D., Molecular Pharmacology and

Experimental Therapeutics

Class: 2020 Advisor: Andre J. van Wijnen, Ph.D. Thesis: The Role of Bromodomaincontaining Protein 4 in Epigenetic Control of Skeletal Development

#### Position

Senior Scientist Analytical Development Rion LLC Rochester, Minnesota



#### SOMAIRA NOWSHEEN\*

#### B.S., Biology

**M.S., Molecular Biology and Biotechnology** East Carolina University Greenville, North Carolina

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2020 Advisor: Zhenkun Lou, Ph.D. Thesis: Regulation of DNA Double Strand Break Repair

#### Residency

Dermatology University of California San Diego Medical Center San Diego, California



#### PAOLA ASERET RAMOS

### B.S., Biochemistry and Molecular Biology

University of Texas at El Paso El Paso, Texas

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Michael D. Jensen, M.D. Thesis: The Role of Ceramides in Skeletal Muscle Insulin Resistance Development

#### Position

Clinical Chemistry Postdoctoral Fellowship Mayo Clinic Department of Laboratory Medicine and Pathology Rochester, Minnesota



CODY N. ROZEVELD B.S., Biochemistry and Biology Alma College Alma, Michigan

### Ph.D., Biochemistry and Molecular Biology

Class: 2021 Advisor: Gina Razidlo, Ph.D. Thesis: Metabolic Reprogramming in Pancreatic Cancer: Balancing Lipid Droplet Storage and Catabolism During Tumor Cell Invasion

#### Position

Postdoctoral Research Fellow Mayo Clinic Rochester, Minnesota



#### ANNYOCELI SANTIAGO-DAVIS

B.S., Molecular Biology University of Puerto Rico - Rio Piedras San Juan, Puerto Rico

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: Bruce F. Horazdovsky, Ph.D. Thesis: The Role of BubR1 in Vascular Biology

#### Position

Postdoctoral Fellow Mayo Clinic Department of Molecular Medicine Rochester, Minnesota



#### MATTHEW RICHARD SCHUELKE\*

#### B.S., Bioengineering

University of Illinois at Urbana-Champaign Champaign, Illinois

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Immunology

Class: 2021 Advisor: Richard G. Vile, Ph.D. Thesis: Viroimmunotherapy for the Treatment of Diffuse Intrinsic Pontine Glioma

#### Residency

Pediatrics Children's Hospital of Philadelphia Physician-Scientist Program Philadelphia, Pennsylvania



#### MEGAN LEIGH KOHLER SETTELL

#### B.S., Molecular and Cellular Biology Winona State University Winona, Minnesota

### Ph.D., Clinical and Translational Science

Class: 2021 Advisors: Kip Ludwig, Ph.D. and Aaron J. Johnson, Ph.D. Thesis: Anatomy and Histology of the Pig: Implications for Vagus Nerve Stimulation

#### Position

Research Associate University of Wisconsin-Madison Department of Biomedical Engineering Madison, Wisconsin



#### **CYNTHIA JANET SIEBEN (HOMMERDING)**

B.S., Cell Biology University of Minnesota-Duluth Duluth, Minnesota

### Ph.D., Biochemistry and Molecular Biology

Class: 2020 Advisor: Jan van Deursen, Ph.D. Thesis: Exploiting Mosaic Variegated Aneuploidy Syndrome Mutations to Elucidate BubR1's Role in Cancer and Aging

#### Position

Postdoctoral Research Fellow Mayo Clinic Nephrology & Hypertension Research Rochester, Minnesota



#### JOHN ANDREW SMESTAD\*

#### B.S., Chemistry

Wheaton College Wheaton, Illinois

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Biochemistry and Molecular Biology Class: 2021

Advisor: L. James Maher III, Ph.D. Thesis: Understanding Succinate-induced Global Transcriptional and Epigenetic Reprogramming and Identifying Unique Vulnerabilities Intrinsic to SDH-deficient Cells

#### Residency

Internal Medicine University of Iowa Hospitals and Clinics Iowa City, Iowa



#### MIRANDA MAY STANDIFORD

#### B.S., Zoology and Psychology

University of Wisconsin Madison, Wisconsin

#### Ph.D., Neuroscience

Class: 2020 Advisor: Charles L. Howe, Ph.D. Thesis: Microglial Responses to Citrullinated Myelin and the Consequences of Demyelination

#### Position

Research Fellow, Biogen Multiple Sclerosis Research Unit Cambridge, Massachusetts



#### PHILLIP ANTHONY STARSKI

### B.S., Neuroscience and Psychology Central Michigan University

Mount Pleasant, Michigan

#### Ph.D., Neuroscience

Class: 2020 Advisor: Doo-Sup Choi, Ph.D. Thesis: Neural Basis of Chronic and Binge Alcohol Exposure and Impulsive Behavior

#### Position

Postdoctoral Fellow Indiana University School of Medicine Department of Psychiatry Indianapolis, Indiana



#### **ROSALIE MARIE DUNHAM STERNER\***

### B.A., Chemistry

#### B.S., Biology, Biochemistry, Cell and Molecular Biology

Drake University

Des Moines, Iowa

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Immunology

Class: 2020

Advisor: Karen E. Hedin, Ph.D. Thesis: Manipulating the Bone Marrow Microenvironment in Hematological Malignancy

#### Residency

Joint General and Cardiothoracic Surgery Mayo Clinic Rochester, Minnesota



#### KARI LEAH TURKOWSKI

#### B.S., Accounting

Saint Cloud State University Saint Cloud, Minnesota

#### Ph.D., Clinical and Translational Science Class: 2021

Advisor: Michael J. Ackerman, M.D., Ph.D. Thesis: Genetic Architecture, Polygenic Risk Scores, and Artificial Intelligence Guided Risk Stratification in Congenital Long QT Syndrome

#### Position

Postdoctoral Fellow Mayo Clinic Mayo Clinic Platform Rochester, Minnesota



#### JAMES KENNETH TREVATHAN

**B.A., Physics** Gustavus Adolphus College St. Peter, Minnesota

Ph.D., Biomedical Engineering and Physiology

Class: 2020 Advisors: J. Luis Lujan, Ph.D., M.S. and Kendall H. Lee, M.D., Ph.D. Thesis: Characterization and Control of Neurotransmitter Release and its Implications for Closed-Loop Neuromodulation Therapies

#### Position

Postdoctoral Fellow Biomedical Engineering University of Wisconsin Madison, Wisconsin



#### TAMIEL N. TURLEY

**B.S., Biology** Texas Woman's University Denton, Texas

#### Ph.D., Molecular Pharmacology and Experimental Therapeutics

Class: 2021 Advisor: Timothy M. Olson, M.D. Thesis: Identifying the Genetic Underpinnings of Spontaneous Coronary Artery Dissection

#### Position

Research Fellow Mayo Clinic Cardiovascular Diseases Rochester, Minnesota



#### STEFANIE NICOLE VELGOS

**B.S., Molecular Biosciences and Biotechnology** Arizona State University Tempe, Arizona

M.S., Molecular Neuroscience Mayo Clinic Graduate School Scottsdale, Arizona

#### Ph.D., Clinical and Translational Science Class: 2020

Advisor: Yonas Geda, M.D. Thesis: Emerging Non-Invasive Technologies in Cognitive Impairment

#### Position

Clinical Applications Specialist Nexstim Inc. Phoenix, Arizona



#### CHRISTINA MARIE WEBBER

#### B.S., Bioengineering Pennsylvania State University University Park, Pennsylvania

### M.S., Biomedical Engineering

University of Akron Akron, Ohio

#### Ph.D., Biomedical Engineering and Physiology Class: 2020

Advisor: Kenton R. Kaufman, Ph.D. Thesis: A Comprehensive Description of Independent Function of Adults with Traumatic Brachial Plexus Injuries

### Position

Staff Fellow U.S. Food & Drug Administration Center for Devices and Radiological Health Silver Spring, Maryland



#### ALEX WESTON

#### **B.S., Biomedical Engineering**

University of Minnesota Minneapolis, Minnesota

#### Ph.D., Biomedical Engineering and Physiology Class: 2020

Advisor: Bradley J. Erickson, M.D., Ph.D. Thesis: Automated Segmentation of CT Abdomen for Quantifying Body Composition Using Deep Learning

#### Position

Senior Data Analyst Mayo Clinic Department of Health Science Research Jacksonville, Florida



#### ELIZABETH K. WIESE

#### B.A., Biology & Biochemistry and Molecular Biology

Gustavus Adolphus College St. Peter, Minnesota

#### Ph.D., Molecular Pharmacology and

Experimental Therapeutics Class: 2021 Advisor: Taro Hitosugi, Ph.D. Thesis: Keto Acids and Cancer Metabolism

#### Position

Sr. Research Regulatory Analyst Mayo Clinic Office of Research Regulatory Support Rochester, Minnesota



#### **KATELYNN MARIE WILTON\***

#### B.S., Biology, Computer Science Clarkson University

Potsdam, New York

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### Ph.D., Immunology

Class: 2021 Advisor: Daniel D. Billadeau, Ph.D. Thesis: Regulation of Natural Killer Cell-Mediated Cytotoxicity by the Ena/VASP Protein Family

#### Residency

Pathology Brigham and Women's Hospital Boston, Massachusetts



#### ALEKSANDRA MARIA WOJTAS

B.S. & M.S., Biotechnology University of Silesia Katowice, Poland

#### Ph.D., Neuroscience

Class: 2020 Advisor: John D. Fryer, Ph.D. Thesis: Pathobiology of Clusterin in Alzheimer's Disease

#### Position

Postdoctoral Fellow Mayo Clinic Department of Neuroscience Jacksonville, Florida



#### JACQUELINE ZAYAS\*

#### **B.S.**, Biology

Florida International University Miami, Florida

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

### Ph.D., Molecular Pharmacology and

#### Experimental Therapeutics

Class: 2021 Advisor: Liewei Wang, M.D., Ph.D. Thesis: Individualizing Taxane Treatment in Breast Cancer

#### Residency

Medicine-Preliminary Medical College of Wisconsin Affiliated Hospitals Milwaukee, Wisconsin

#### Dermatology

University of Colorado School of Medicine Aurora, Colorado



#### AMRO MOHAMED MERGHANI ABDELRAHMAN

#### M.B.B.S.

University of Khartoum Khartoum, Sudan

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Mark J. Truty, M.D., M.S. Thesis: Mixed Acinar Neuroendocrine Carcinoma of The Pancreas: Population-Based Epidemiological Study and Validation of Patient-Derived Tumor Xenograft Model

#### Position

Research Fellow Department of Surgery Mayo Clinic Rochester, Minnesota



#### FARES ALAHDAB

#### M.D.

Damascus University, School of Medicine Damascus, Syria

### M.S., Clinical and Translational Science

Class: 2020

Advisor: M. Hassan Murad, M.D. Thesis: Measurements of Resilience and Grit Among Internal Medicine Residents: Validity and Correlations with Medical Knowledge, Professionalism, and Clinical Performance

#### Position

Assistant Professor of Medicine Research Associate Mayo Evidence-based Practice Center Mayo Clinic Rochester, Minnesota



#### MARYAM MOHAMMED AL HAMDANY

**B.S., Chemistry** University of Mosul Mosul, Iraq

#### M.S., Molecular Pharmacology and Experimental Therapeutics

Class of 2021 Advisor: Doo-Sup Choi, Ph.D. Scholarly Review: Dysregulation of Neurotransmitters and Suicide

#### Position

Vascular Access Technician Inpatient Lab Services Mayo Clinic Rochester, Minnesota



#### MOHAMMED ALI ALVI

#### M.B.B.S.

Sindh Medical College, Dow University of Health Sciences Karachi, Pakistan

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Mohamad Bydon, M.D. Thesis: Are All Outpatient Surgeries the Same? Evaluating the Differences in Outcomes of Patients Undergoing Routine Spine Surgery at Hospital Outpatient vs. Free-Standing Ambulatory Surgical Centers

#### Position

Preliminary Neurosurgery University of Minnesota Minneapolis, Minnesota



#### HECTOR ALONSO QUINONES

M.D.

Medicine, University of Puerto Rico San Juan, Puerto Rico

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Michelle M. Mielke, Ph.D. Thesis: Prostate Cancer, Use of Androgen Deprivation Therapy, and Cognitive Impairment

#### Residency

Neurology University of Miami, Jackson Memorial Hospital Miami, Florida



#### LINDSEY GRACE ANDRES-BECK

**B.A.** Saint Olaf College Northfield, Minnesota

M.S., Molecular Pharmacology and Experimental Therapeutics Class: 2021 Advisors: Doo-Sup Choi, Ph.D. and Kendall H. Lee, M.D., Ph.D.



#### SUZETTE MARIE ARIAS MEJIAS

#### B.A., Biology

University of Puerto Rico Cayey, Puerto Rico

#### M.D.

University of Puerto Rico, Medical Sciences Campus San Juan, Puerto Rico

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Alexander Meves, M.D. Thesis: Precision Medicine by Targeting Cell Adhesion in Melanoma

#### Residency

Veterans Affairs Caribbean Healthcare System San Juan, Puerto Rico



#### SARAH ANNE CASTRO

#### B.A., Biology

Western Connecticut State University Danbury, Connecticut

#### M.S., Immunology

Class: 2021 Advisor: Larry R. Pease, Ph.D.

#### Position

Senior Research Associate Massachusetts Institute of Technology Cambridge, Massachusetts



#### DEREK CERVENKA

**B.S., Molecular Biology** Winona State University Winona, Minnesota

#### M.S., Biochemistry and Molecular Biology

Class: 2020 Advisor: Alexander Meves, M.D. Scholarly Review: Tumor Mutation Burden and Melanoma

#### Position

Development Technologist Mayo Clinic Dermatology Rochester, Minnesota



#### VICTOR G. CHEDID

#### B.S., Biology

American University of Beirut Beirut, Lebanon

#### M.D.

American University of Beirut Beirut, Lebanon

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Michael J. Camilleri, M.D. Thesis: Evaluation and Treatment of Gastric Motor Dysfunction in Patients with Upper Gastrointestinal Symptoms

#### Position

Assistant Professor of Medicine Division of Gastroenterology and Hepatology Mayo Clinic Rochester, Minnesota



#### LESLEY CHU

#### B.S., Neuroscience

University of California Los Angeles Los Angeles, California

#### D.M.D.

University of Pittsburgh School of Dental Medicine Pittsburgh, Pennsylvania

#### M.S., Orthodontics

Class: 2021 Advisor: John E. Volz, D.D.S. Thesis: Public Perception of Orthodontics and Retail Aligner Sales; Ethical Implications

#### Position

Orthodontist Smile Frederick Orthodontics Frederick, Maryland



#### CHRISTINA M. DHEEL

B.S., Biochemistry Stony Brook University Stony Brook, New York

#### M.S., Neuroscience

Class of 2021 Advisor: Jennifer M. Martinez-Thompson, M.D. Scholarly Review: Telemedicine in ALS

#### Position

Clinical Lab Technologist Molecular Genetics Mayo Clinic Rochester, Minnesota



#### ALÌ DUARTE GARCÌA

M.D.

Universidad Autonoma de Chihuahua Chihuahua, Mexico

### M.S., Clinical and Translational Science

Class: 2020 Advisor: Kenneth J. Warrington, M.D. Thesis: Epidemiology of Antiphospholipid Syndrome: A Population-Based Study

#### Position

Assistant Professor of Medicine, Rheumatology Mayo Clinic Rochester, Minnesota



#### MATTEO FABBRI

#### M.D.

University of Modena Modena, Italy

### M.S., Clinical and Translational Science

Class: 2021 Advisor: Veronique L. Roger, M.D. Thesis: Health Literacy and Outcomes in Heart Failure

#### Residency

Internal Medicine Jacobi/Albert Einstein College of Medicine New York City, New York



#### ALEXANDER C. EGBE

#### M.B.B.S.

Abia State University Uturu, Abia, Nigeria

#### M.P.H.

John Moores University Liverpool, United Kingdom

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Barry A. Borlaug, M.D. Thesis: Prognostic Implications of Inferior Vena Cava Hemodynamics in Ambulatory Patients with Tetralogy of Fallot

#### Position

Associate Professor of Medicine Senior Associate Consultant Department of Cardiovascular Medicine Mayo Clinic Rochester, Minnesota



#### ZULEIDY FERNANDEZ

#### D.M.D.

University of Puerto Rico San Juan, Puerto Rico

### Advanced Education in General Dentistry

New York University, Langone Medical Center New York, New York

#### M.S., Periodontics

Class: 2020 Advisor: Daniel A. Assad, D.D.S. Thesis: Cardiovascular and Periodontal Disease Knowledge-Based Questionnaire

#### Residency

Periodontics Mayo Clinic Rochester, Minnesota



#### ERIC JAMES FINNESGARD

#### B.A.

University of Minnesota Minneapolis, Minnesota

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Thomas C. Bower, M.D. Thesis: The Natural History of Medically Managed Stanford Type B Aortic Dissection

#### Residency

University of Massachusetts Medical School Worcester, Massachusetts



#### ANSH GOYAL

#### M.B.B.S.

All India Institute of Medical Sciences New Delhi, India

### M.S., Clinical and Translational Science

Class: 2021 Advisor: Mohamad Bydon, M.D. Thesis: Opioid Prescription Practices Following Spine Surgery: Implications for Quality Improvement

#### Residency

Neurosurgery Mayo Clinic Jacksonville, Florida



#### CHRISTOPHER SALVATORE GRAFFEO

#### B.A.

University of Virginia Charlottesville, Virginia

#### M.D.

New York University School of Medicine New York City, New York

### M.S., Clinical and Translational Science

Class: 2020 Advisor: Bruce E. Pollock, M.D. Thesis: Novel Approaches to Modeling Outcomes After Stereotactic Radiosurgery for Pituitary Adenomas

#### Residency

Fellow in Skull Base Neuro-oncology Mayo Clinic Department of Neurologic Surgery Rochester, Minnesota



#### JENNIFER GRAUBERGER

#### B.A., Chemistry

Willamette University Salem, Oregon

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Andre J. van Wijnen, Ph.D. Thesis: Management of Isolated Diaphyseal Femur Fractures in Children: a 22-year Single Institution Experience

#### Residency

University of Massachusetts Medical School Worcester, Massachusetts



#### R. GRAHAM GREENLAND

#### B.S., Biochemistry

University of Detroit Mercy Detroit, Michigan

#### D.D.S.

University of Detroit Mercy School of Dentistry Detroit, Michigan

#### **M.S., Prosthodontics**

Class: 2021 Advisor: Thomas J. Salinas, D.D.S. Thesis: Failure Strength Comparison of Acrylic Resin Denture Teeth within Auto/Heat Polymerized Acrylic Resins

#### Position

Maxillofacial Prosthodontist Greenland Advanced Oral Care Grand Rapids, Michigan



#### **ERIK DAVID HOKENSTAD**

#### **B.A., Political Science**

Saint John's University Collegeville, Minnesota

#### M.D.

University of North Dakota School of Medicine and Health Sciences Grand Forks, North Dakota

#### M.S., Female Pelvic Medicine and Reconstructive Surgery

#### Class: 2020

Advisor: John A. Occhino, M.D., M.S. Thesis: Ergonomic Robotic Console Configuration in Gynecologic Surgery: An Interventional Study

#### Residency

Female Pelvic Medicine and Reconstructive Surgery Mayo Clinic Rochester, Minnesota



#### MARIO HEVESI

**B.S., Statistics and Biochemistry** University of Wisconsin Madison, Wisconsin

#### M.D.

University of Minnesota Minneapolis, Minnesota

#### M.S., Orthopedics

Class: 2020 Advisor: Aaron J. Krych, M.D. Thesis: Characterization and Storage of Cartilage for Use as Living Donor Allograft

#### Position

Scholar Department of Orthopedic Surgery Mayo Clinic Rochester, Minnesota



#### ADAM LUKE JASPERSEN

**B.S., Genetics, Cell Biology and Development** University of Minnesota Minneapolis, Minnesota

#### M.S., Biochemistry and Molecular Biology Class: 2021

Advisor: John R. Hawse, Ph.D. Scholarly Review: The Structure and Function of Mitochondria in Disease

#### Position

Account Manager Zeiss Microscopy in the Bay Area, California



#### ABBY ELIZABETH JEWELL

#### B.S., Biology

University of Alabama Tuscaloosa, Alabama

#### D.D.S.

University of Missouri-Kansas City School of Dentistry Kansas City, Missouri

#### M.S., Orthodontics

Class: 2021 Advisor: Chad M. Rasmussen, D.D.S. Thesis: The Incidence of Antero-Posterior Skeletal Combinations Utilizing the Goal Anterior Limit Line and Dental Combinations Utilizing Incisor Inclination

#### Position

Orthodontist Kansas City, Missouri



#### TL JORDAN

#### B.A., Biology

University of Minnesota Morris, Minnesota

#### M.S., Immunology

Class: 2020 Advisor: Marina Ramirez-Alvarado, Ph.D.

#### Position

Electoral Grassroots Organizer Planned Parenthood



#### FANG JIN

M.S., Anesthesiology Hebei Medical University Shijiazhuang, Hebei, China

#### M.D., Clinical Medicine

Shanxi Medical University Shanxi, China

### M.S., Neuroscience

Class: 2021 Advisor: Aaron J. Johnson, Ph.D. Scholarly Review: Brain Glioblastoma (GBM) Mouse Models

#### Position

Senior Technologist Immunology Department Mayo Clinic Rochester, Minnesota



#### JEREMIAH B. JOYCE

#### **B.S., Environmental Health**

Colorado State University Fort Collins, Colorado

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Richard Weinshilboum, M.D. Thesis: Using Multi-Domain Data to Predict Remission of Unipolar Depressive Episodes Following Antidepressant Therapy

#### Residency

Mayo Clinic School of Graduate Medical Education Department of Psychiatry and Psychology Rochester, Minnesota



#### PARAS KARMACHARYA

M.B.B.S. Kathmandu University School of Medical Sciences Kavre, Nepal

#### M.S., Clinical and Translational Science Class: 2021

Advisors: John M. Davis III, M.D., and Cynthia S. Crowson, Ph.D. Thesis: Epidemiology of Psoriatic Arthritis: A Population-Based Study

#### Position

Instructor of Medicine, Division of Rheumatology Vanderbilt University Medical Center Nashville, Tennessee



#### TONI PICERNO KILTS

#### D.O.

Kansas City University of Medicine and Biosciences, Kansas City, Missouri

## M.S., Clinical and Translational Science

Class of 2021

Advisor: William A. Cliby, M.D. Thesis: Understanding of Extramammary Paget's Disease: Epidemiology Molecular Characterization and Outcomes Following a Change in Clinical Management

#### Position

Attending Physician Sarasota Memoria Hospital Sarasota, Florida



#### TANA KIM

#### B.S., Molecular and Cellular Biology

University of Illinois Urbana-Champaign, Illinois

#### M.D.

Medical College of Wisconsin Milwaukee, Wisconsin

# M.S., Reproductive Endocrinology and Infertility

Class: 2021 Advisor: Elizabeth A. Stewart, M.D. Thesis: Decreased Gremlin 1 Expression in Cumulus Cells from Obese Women is Mediated by IL-10 and IL-1B in the Follicular Fluid

#### Position

Reproductive Endocrinologist Reproductive Medicine and Infertility Associates Woodbury, Minnesota



#### CASSANDRA K. KISBY

#### **B.S., Biological Anthropology and Anatomy** Duke University

Durham, North Carolina

#### M.D.

Duke Hospital Durham, North Carolina

M.S., Female Pelvic Medicine and

Reconstructive Surgery Class: 2020 Advisor: John A. Occhino, M.D., M.S. Thesis: Exosome-Induced Vaginal Epithelial Regeneration in a Porcine Mesh Exposure Model

#### Position

Assistant Professor OB/Gyn Duke Hospital Durham, North Carolina



#### MEGHAN M. KOZUB

B.S., Biology Northern Michigan University Marquette, Michigan

#### M.S., Biochemistry and Molecular Biology

Class: 2021 Advisor: Martin E. Fernandez-Zapico, M.D. Scholarly Review: Single Cell RNA Sequencing

#### Position

Senior Research Technologist Mayo Clinic Rochester, Minnesota



#### SEONG WOO (SCOTT) LEE

#### B.S., Biochemistry-Biology and Management Science

University of California San Diego La Jolla, California

#### D.M.D.

Western University School of Science College of Dental Medicine Pomona, California

#### M.S., Periodontics

Class: 2021 Advisor: Alan B. Carr, D.M.D. Thesis: Association of Immediate Dental Implant Survival with Periodontal Disease and Periodontal Maintenance Status

#### Position

Associate Periodontist Private Practice Rochester, Minnesota



#### MARIA EUGENIA LOZADA

#### B.S., Cellular and Molecular Biology

University of Puerto Rico San Juan, Puerto Rico

#### M.D.

University of Puerto Rico School of Medicine San Juan, Puerto Rico

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Lewis R. Roberts, M.B., Ch.B., Ph.D. Thesis: New Clinically Based Staging System for Intrahepatic Cholangiocarcinoma: Establishment and External Validation

#### Residency

General Surgery University of Puerto Rico School of Medicine San Juan, Puerto Rico



#### DANIEL ALEJANDRO MACIAS

### B.S., Physiology

University of Arizona Tucson, Arizona

M.S., Biomedical Engineering and Physiology Class: 2021 Advisors: Quinn P. Peterson, Ph.D. and Carlos B. Mantilla, M.D., Ph.D.

#### Position

Catheter Lab Coordinator Phoenix, Arizona



#### DEEPA MAHESWARI NARASIMHULU

#### M.B.B.S.

Madras Medical College Chennai, Tamil Nadu, India

#### M.D.

All India Institute of Medical Sciences New Delhi, India

#### M.S., Clinical and Translational Science Class: 2021

Advisor: William A. Cliby, M.D. Thesis: Optimizing Triage Strategies to Improve Outcomes After Primary Treatment for Women with Advanced Epithelial Ovarian Cancer

#### Position

Assistant Clinical Professor Division of Gynecologic Oncology Department of Surgery City of Hope Comprehensive Cancer Center Duarte, California



#### ISMAIL MERT

#### M.D.

Ankara University School of Medicine Ankara, Turkey

#### M.S., Gynecologic Oncology

Class: 2020

Advisor: Marina R. Walther-Antonio, Ph.D. Thesis: Prediction of Future Development of Endometrial Cancer: Is There Any Bug Within the Endometrial Samples?

#### Position

Physician Advocate Health Care Chicago, Illinois



#### MASSINI ALEXANDER MERZKANI

#### M.D.

Universidad Nacional Autonoma de Honduras Tegucigalpa, Honduras

#### M.D.

Albert Einstein College of Medicine Bronx, New York

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Andrew D. Rule, M.D. Thesis: Long Term Outcomes in Living Kidney Donors

#### Position

Assistant Professor Transplant Nephrology Washington University Saint Louis, Missouri



#### **KEVIN CHARLES MILLER**

#### **B.S.**, Genetics

University of Wisconsin – Madison Madison, Wisconsin

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Shaji Kumar, M.D.

Thesis: Strategies to Improve Outcomes in Multiple Myeloma: Preclinical Therapeutics Targeting MEK, HDAC and BCL-2 Proteins and Optimizing Autologous Hematopoietic Cell Transplantation



#### ELENA MYASOEDOVA

#### M.D.

Ivanovo State Medical Academy Ivanovo, Russia

#### Ph.D.

Russian Academy of Medical Sciences Moscow, Russia

## M.S., Clinical and Translational Science

Class: 2020 Advisor: John M. Davis III, M.D. Thesis: Optimization of the Flare Management in Patients with Rheumatoid Arthritis

#### Position

Senior Associate Consultant Division of Rheumatology Associate Professor of Internal Medicine Mayo Clinic Rochester, Minnesota



#### ZUZANA NEDELSKA

M.D. Charles University Prague, Czech Republic

M.S., Clinical and Translational Science

Class: 2020 Advisor: Kejal Kantarci, M.D. Thesis: Investigation of Coexisting Alzheimer's Disease-related Pathology in Patients with Dementia with Lewy Bodies Using Multimodality Imaging

#### Position

Research Affiliate Radiology Mayo Clinic Rochester, Minnesota



#### ANITA NGUYEN

#### M.B.B.S.

Barts and The London School of Medicine and Dentistry London, United Kingdom

## M.S., Clinical and Translational Science

Class: 2020 Advisor: Hartzell V. Schaff, M.D. Thesis: Surgical Myectomy in Patients with Obstructive Hypertrophic Cardiomyopathy: Long-Term Outcomes Following Septal and Apical Myectomy

#### Residency

General Surgery Mayo Clinic Rochester, Minnesota



#### PIERCE ANDREW REYNOLDS

**B.S., Microbiology** Northern Michigan University Marquette, Michigan

M.S., Virology and Gene Therapy Class: 2020 Advisor: Richard G. Vile, Ph.D.



ALAA SADA M.D. University of Damascus Damascus, Syria

## M.S., Clinical and Translational Science

Class: 2021 Advisor: Elizabeth B. Habermann, Ph.D. Thesis: Adrenocortical Carcinoma: Comparison between Functional and Non-functional Neoplasms

#### Residency

General Surgery Mayo Clinic Rochester, Minnesota



#### ELIA SECHI

M.D.

University of Sassari Sassari, Italy

M.S., Clinical and Translational Science Class: 2020 Advisor: Eoin P. Flanagan, M.B., B.Ch. Thesis: Inflammatory Myelopathies: Clinical and MRI Spectrum in the Era of Glial Autoantibodies

#### Position

Neurology Consultant, Neurology Unit Department of Medical, Surgical and Experimental Sciences University of Sassari Sassari, Italy



#### **KHALED SHAWWA**

#### B.S., Biology

American University of Beirut Beirut, Lebanon

M.D.

American University of Beirut Beirut, Lebanon

#### M.S., Clinical and Translational Science Class: 2020

Advisor: Kianoush B. Kashani, M.D., M.S. Thesis: New-Onset Atrial Fibrillation in Patients with Acute Kidney Injury on Continuous Renal Replacement Therapy

#### Position

Assistant Professor of Medicine Section of Nephrology Department of Medicine West Virginia University School of Medicine Morgantown, West Virginia



#### AYSE IREM SONMEZ

#### M.D.

Istanbul University Cerrahpasa Medical Faculty Istanbul, Turkey

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Paul E. Croarkin, D.O., M.S. Thesis: Dimensional and Spectroscopic Biomarkers of Adolescent Depression

#### Residency

University of Minnesota Department of Psychiatry and Behavioral Sciences Minneapolis, Minnesota



#### MEAGAN E. TIBBO

#### B.A.

Darmouth College Hanover, New Hampshire

#### M.D.

Emory University School of Medicine Atlanta, Georgia

#### M.S., Orthopedics

Class: 2020 Advisor: Matthew P. Abdel, M.D. Thesis: Novel Anti-Fibrotic Effects of Celecoxib and Ketotifen in a Rabbit Model of Arthrofibrosis

#### Residency

Department of Orthopedic Surgery Mayo Clinic Rochester, Minnesota



#### MARYSIA SUSAN TWEET

#### M.D.

University of Minnesota Minneapolis, Minnesota

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Sharonne N. Hayes, M.D. Thesis: Spontaneous Coronary Artery Dissection: Utility of Echocardiography

#### Position

Consultant, Cardiology Mayo Clinic Rochester, Minnesota



#### DIOGO TORRES

B.S., Chemistry

University of Florida Gainesville, Florida

#### M.D.

University of Virginia Charlottesville, Virginia

#### M.S., Gynecologic Oncology

Class: 2020 Advisor: Saravut J. (John) Weroha, M.D., Ph.D. Thesis: Overcoming Platinum Resistance in Ovarian Cancer by Targeting Pregnancy-Associated Plasma Protein-A

#### Position

Gynecologic Oncologist Ochsner Health System Department of Obstetrics and Gynecology Division of Gynecologic Oncology Surgery New Orleans, Louisiana



## SARASCHANDRA VALLABHAJOSYULA

#### M.B.B.S.

Kasturba Medical College of Manipal Manipal, India

### M.S., Clinical and Translational Science Class: 2021

Advisor: Shannon M. Dunlay, M.D., M.S. Thesis: Contemporary Outcomes of Cardiogenic Shock and Cardiac Arrest Complicating Acute Myocardial Infarction

#### Position

Clinical Fellow Interventional Cardiology Emory University School of Medicine Atlanta, Georgia



#### ERIC J. VARGAS VALLS

M.D.

Penn State College of Medicine Hershey, Pennsylvania

#### M.S., Clinical and Translational Science

Class: 2021 Advisor: Barham K. Abu Dayyeh, M.D., M.P.H. Thesis: Relationship between Gastric Emptying, Bariatric Therapies and Weight Loss

#### Position

Advanced Endoscopy Fellow Mayo Clinic Gastroenterology Rochester, Minnesota



#### PRIYA VIJAYVARGIYA

#### B.S., Pre-Med

Pennsylvania State University State College, Pennsylvania

#### M.D.

Sidney Kimmel Medical College – Thomas Jefferson University Philadelphia, Pennsylvania

#### M.S., Clinical and Translational Science Class: 2021

Advisor: Michael J. Camilleri, M.D. Thesis: Diagnostic Evaluation and Therapeutic Trial in Patients with Bile Acid Diarrhea



#### CODY C. WYLES

### B.S., Neurobiology

University of Washington Seattle, Washington

#### M.D.

Mayo Clinic Alix School of Medicine Rochester, Minnesota

## M.S., Clinical and Translational Science

Class: 2020 Advisor: Rafael J. Sierra, M.D. Thesis: Disruption in PPARG Increases Osteonecrosis Risk Through Genetic Variance and Pharmacologic Modulation

#### Position

Mayo Clinic Scholar Department of Orthopedic Surgery Mayo Clinic Rochester, Minnesota

# A Farewell Thanks

As we transition beyond graduate school, we pause to truly thank those who have supported us along this journey. We hail our families, who have provided a lifetime of love and support during our growth as scientists. We are forever indebted to our mentors, who are champions of education, beacons of optimism in the face of disappointment, and brilliant examples of what we hope to become. We appreciate our lab mates, classmates, and friends, who rode the roller coaster with us, and the administrators who helped us to stay on track. We also thank our gracious benefactors for their continued financial support for our truly unique educational opportunity. Our genuine and deep gratitude is extended to all who have helped us through the remarkable Mayo Clinic Graduate School of Biomedical Sciences experience. Please join us in celebration of this important time of transition.

Mayo Clinic Graduate School of Biomedical Sciences Classes of 2020 and 2021



# About the Awards

#### **Dean's Recognition Award**

Dean's Recognition Award recipients are chosen by the leadership of Mayo Clinic Graduate School of Biomedical Sciences. Recipients exemplify exceptional service to graduate school education.

#### Teacher of the Year Award

Each year the graduate students select faculty members to receive Teacher of the Year Awards. The awards are given to faculty members who have made significant contributions to graduate student education.

#### **Outstanding Mentor Award**

Outstanding Mentor Award recipients are chosen by the Mayo Clinic Graduate School of Biomedical Sciences predoctoral students to recognize effective mentors. Mentorship refers to the facilitation of individual student success and independence by providing appropriate tools and promoting skill learning in a mutually respectful environment with open communication. Effective mentors advise and help the mentee develop the numerous skills they need to be scientific leaders.

#### Program Director's Achievement Award

The inaugural Program Director's Achievement Award recipient was chosen by M.D.-Ph.D. program leadership for outstanding research achievement during the period of enrollment in the Mayo Clinic Medical Scientist Training Program.

#### RECIPIENTS

#### **Dean's Recognition Award**

2020 Scott H. Kaufmann, M.D., Ph.D. Pamela J. McLean, Ph.D. 2021 Bruce F. Horazdovsky, Ph.D. John D. Fryer, Ph.D.

#### Teacher of the Year Award

2020
Martin E. Fernandez-Zapico, M.D.
Lewis R. Roberts, M.B., Ch.B., Ph.D.
2021
Kathryn A. Knoop, Ph.D.
LongJun (Long-Jun) Wu, Ph.D.

#### **Outstanding Mentor Award**

2020 L. James Maher III, Ph.D. 2021

#### Haidong Dong, M.D., Ph.D. Program Director's Achievement Award

2020

Somaira Nowsheen, M.D., Ph.D.



# 2020 Dean's Recognition Award

SCOTT H. KAUFMANN, M.D., PH.D.

Dr. Kaufmann was selected for the Dean's Recognition Award for his decades of commitment to the graduate school's cause as a dedicated mentor who has contributed to the success of many past and present students, the M.D.-Ph.D. Program's co-director and associate director for faculty affairs, and a well-respected graduate course teacher.

Dr. Kaufmann has mentored 14 graduate students (eight Ph.D. and six M.D.-Ph.D.) and 27 postdoctoral fellows in his lab. Among the 26 fellows who have finished training, 19 are in academic positions and four are working in the pharmaceutical industry. His history of mentorship, along with 17 years as associate director of the Mayo Clinic Medical Scientist Training Program (MSTP), led to his appointment as co-director of the MSTP in 2019.

Since 1994, Dr. Kaufmann has served as a consultant for the Division of Oncology Research in the Department of Oncology at Mayo Clinic in Rochester. He has been a professor of Pharmacology since 1999 and co-leader of the Mayo Clinic Cancer Center's three-site Experimental Therapeutics Program since 2003. He currently serves on the editorial boards of Clinical Cancer Research, Molecular Cancer Research, Cell Death & Differentiation and Faculty Opinions.

The overall goal of Dr. Kaufmann's research program is to improve the therapy of malignant diseases through enhanced understanding of antineoplastic drug action. Toward this end, his laboratory group has focused on acute leukemia and more recently on ovarian cancer. His team has performed basic studies examining the biochemistry and biology of apoptosis, a cell death process that is triggered by a wide range of anticancer treatments. In addition, they have performed preclinical and translational studies on a variety of chemotherapeutics, including inhibitors of topoisomerases, DNA repair enzymes, and various kinases. Among his team's many accomplishments, Dr. Kaufmann's research provided the first biochemical evidence for anticancer druginduced apoptosis and the first evidence that caspases play a role in this process.

Dr. Kaufmann received his Bachelor of Arts in Chemistry from Carleton College and his M.D.-Ph.D. from Johns Hopkins University School of Medicine. He remained at Johns Hopkins for his postdoctoral training and rose to the rank of associate professor before he joined Mayo Clinic in 1994.



## 2020 Dean's Recognition Award PAMELA J. MCLEAN, PH.D.

Dr. McLean was selected for the Dean's Recognition Award as a tribute to her years of service on the MCGSBS Florida campus as a dedicated leader, student mentor and graduate school teacher.

Dr. McLean has been training students and postdoctoral fellows for the past 15 years, first as faculty at Harvard Medical School and now at Mayo Clinic. She is currently mentoring two graduate students in the Neuroscience track and is currently on the thesis committee of eight Ph.D. candidates and has mentored 17 postdoctoral fellows and 15 undergraduate students. As the neuroscience program director, her duties included student recruitment, course development, teaching, service to the Graduate School advisory Committee and membership of the Mayo Clinic Medical Scientist Training Program admissions committee.

Dr. McLean's high-impact research centers on the role of the presynaptic protein, alphasynuclein, in neurodegenerative diseases, with a specific focus on Lewy body dementia and Parkinson's disease. Her lab uses in vitro cellular models of alpha-synuclein aggregation and toxicity as well as in vivo targeted gene transfer with adeno-associated virus (AAV) to understand the molecular pathogenesis of these diseases with special emphasis on developing novel therapeutic approaches. This work has resulted in more than 90 original papers on alpha-synuclein biology since 2000. Dr. McLean's research has been funded by multiple sources including NIH and the Michael J. Fox foundation. She is currently codirector of the American Parkinson's Disease Association Mayo Clinic Center for Advanced Research and the NIH funded consortium U54 Lewy Body Dementia Center without Walls.

Dr. McLean received a Mayo Clinic Excellence in Education award in 2015. She was also honored by the community that year, receiving the Jacksonville Business Journal's Health Care Hero award for Education. In 2020, Dr. McLean received a Mayo Clinic Distinguished Educators Award, recognizing her commitment and service to the education mission of Mayo Clinic. She has been an editorial board member of Molecular Degeneration since 2012 and the American Journal of Neurodegenerative Disease since 2013. She is a past standing member on the NIH study section NSD-B and currently serves on NST-2.

Dr. McLean received her Bachelor of Science in Biochemistry from the University of Glasgow in Scotland, received her Ph.D. in Pharmacology from the Boston University School of Medicine, and completed her postdoctoral training at the Massachusetts General Hospital and Harvard Medical School. She has been at Mayo Clinic in Jacksonville since 2012.



# 2021 Dean's Recognition Award

BRUCE F. HORAZDOVSKY, PH.D.

Since joining Mayo Clinic in 2002, Dr. Horazdovsky, Ph.D. has been actively involved in numerous educational efforts including curriculum and course development. He has served as associate dean for the graduate school since 2004 with a focus on academic affairs since 2019. In his service as associate dean, he oversees the health of the biomedical sciences curricula and research training programs, not only to meet our school's strategic goals, but to prepare students for the challenges they will face in their careers. He has directly mentored eight Ph.D. students, three postdoctoral fellows, one medical research fellow and 12 undergraduate students.

His other leadership roles include the director of the Summer Undergraduate Research Fellowship Program, director of the Office of Postdoctoral Affairs and Research Training, and associate director of the Medical Scientist Training Program. Dr. Horazdovsky has a joint appointment as a consultant for both the Biochemistry and Molecular Biology and Education Administration departments. He has been an associate professor of Biochemistry and Molecular Biology since 2005. His former research program focused on the regulation of intracellular protein trafficking events and how such events impact cell survival, growth, and differentiation.

He received his Bachelor of Arts in Microbiology from St. Olaf College and his Ph.D. in Molecular Biology from Case Western Reserve University. He obtained his postdoctoral training in Cell Biology at the California Institute of Technology and the University of California.



# 2021 Dean's Recognition Award JOHN D. FRYER, PH.D.

Dr. Fryer received his Bachelor of Science in Microbiology from the University of Arizona, Tucson and his Ph.D. in Neuroscience from Washington University in St. Louis. He obtained his postdoctoral training at the Baylor College of Medicine. His lab studies the pathogenesis of Alzheimer's disease and related dementias as well as the long-term consequences of sepsis and critical illness on the brain. He began his service to Mayo Clinic began in Florida in 2011, where he was a consultant, assistant dean for MCGSBS in Jacksonville, associate program director for the neuroscience track, and a member of the Florida Executive Education Committee.

Dr. Fryer has been a source of guidance for many learners during his time at Mayo, including visiting scholars, undergraduate students, and graduate students. He is currently mentoring both Ph.D. and M.D.-Ph.D. students in his lab, and he has served on numerous Ph.D. thesis advisory committees and several workgroups and task force groups. Upon relocating his laboratory to Arizona, he helped to develop the vision for MCGSBS-AZ's education programs and initiatives, which he continues to do in his current role as associate dean for the MCGSBS Ph.D. students and as the inaugural director for the M.D.-Ph.D. program in AZ. Dr. Fryer also works with local and regional educational institutions to build relationships to help foster external affiliations and collaborations with the MCGSBS.



# 2020 Teacher of the Year Award MARTIN E. FERNANDEZ-ZAPICO, M.D.

Dr. Fernandez-Zapico is a Consultant in the Department of Oncology with joint appointments in the Division of Gastroenterology and Hepatology (Department of Medicine). He holds the ranking of professor in the Departments of Medicine and Pharmacology. He directs the Cancer Biology Courses (I and II) and he is also involved in teaching several other graduate school courses and is currently mentoring four graduate students towards their Ph.D. degrees.

Dr. Fernandez-Zapico's career focuses on pancreatic cancer research with a specific emphasis on epigenetic mechanisms driving the biology of this dismal disease.

Dr. Fernandez-Zapico completed his doctoral studies at the University of Cordoba in Argentina, followed by a postdoctoral fellowship at Mayo Clinic in Rochester. His decades-long commitment to Mayo Clinic continues to this day. Dr. Fernandez-Zapico has been an instrumental member of Mayo Clinic Cancer Center's Specialized Program of Research Excellence (SPORE) in pancreatic cancer research, on which his cancer research has been consistently focused. While he currently serves on the SPORE's steering committee, he has served in numerous other capacities including the director of the Developmental Projects Program, a member of the Pancreatic Cancer Discovery Team, and in several other roles.

Dr. Fernandez-Zapico's contribution to education is highly valued. His nominators say "this teacher is well-known as someone who genuinely cares for his students and their education. His passion for sharing his expertise shines through in each lecture, and his commitment to his role as an educator is remarkable. Students have lauded his fairness and how he structures his lectures to maximize learning and application of knowledge. Students have mentioned time and again how they truly enjoy the courses he teaches."

Dr. Fernandez-Zapico is the Associate Editor of Pancreatology and is on the editorial board for Cancer Research and Epigenomes. He is also a charter member of the National Institute of Health Clinical Oncology Study Section and other national and international associations.



## 2020 Teacher of the Year Award Lewis R. Roberts, M.B., CH.B, PH.D.

Dr. Roberts wears many hats-he is a professor of Medicine and director for research at the Mayo Clinic Alix School of Medicine, the associate director of predoctoral programs for the Mayo Clinic Center for Translational Science within MCGSBS, and co-chair for the Hepatobiliary Disease Group at the Mayo Clinic Cancer Center. Dr. Roberts has faithfully served Mayo Clinic for more than two decades, and countless students have him to thank for his dedication and passion for teaching. Dr. Roberts is currently mentoring three graduate students towards their Ph.D. degrees. Over the past 21 years, Dr. Roberts has mentored more than 180 individuals in a range of career stages, from transition to independence.

Students who nominated Dr. Roberts for the Teacher of the Year award say, "he has never missed an opportunity to cheerfully greet students nor to inquire after their well-being. With this habit, he has made a challenging or frosty day brighter for many of students. Though he is a practicing physician and scientist, he has never missed a thesis advisory meeting, and he can regularly be found at the mandatory CTS lunches. His consistent presence is evidence of his dedication to student success. This man is an exemplary model of compassionate leadership and a commitment to training people to make advances in biomedical science."

The overall goal of his research is to understand the epidemiology and molecular pathogenesis of hepatobiliary cancers (including hepatocellular carcinoma, cholangiocarcinoma, and gallbladder cancer) and to apply this knowledge to improving their prevention, diagnosis, prognostic prediction. He has a strong interest in cancer health disparities and is committed to reducing the burden of illness and death from hepatobiliary cancers in the United States and globally.

Dr. Roberts completed medical school at the University of Ghana Medical School. Following a Medical and Surgical internship in Ghana, he completed his Ph.D. in Physiology and Biophysics at the University of Iowa. Dr. Roberts went on to complete his Internal Medicine residency and Gastroenterology fellowship at Mayo Clinic in Rochester.



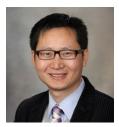
# 2021 Teacher of the Year Award KATHRYN A. KNOOP, PH.D.

Dr. Knoop is a senior associate consultant in the Immunology department as well as a faculty member and assistant professor in Immunology and Pediatrics. Since starting at Mayo Clinic in 2019, she has made a significant impact to education initiatives within the Immunology track. In her first few months at Mayo Clinic, she took on a leading role in a departmental journal club that needed a new faculty director. She also established an academic skills workshop to help students develop their non-scientific skills such as CV/ resume building and networking. Dr. Knoop currently mentors two graduate students, two Graduate Research Employment Program (GREP) students and has also mentored five post-baccalaureate students over the past five years.

Though the early stages in any medical career are extremely demanding, Dr. Knoop was careful to set aside enough time to focus on improving educational opportunities in the Immunology track—time which is much appreciated by the students who have benefited from these improvements. Those who nominated Dr. Knoop for the TOTY Award echoed this gratitude: "Dr. Knoop serves not only as an exceptional mentor to the trainees in her lab, but she has also made it clear that she is always available to do whatever she can in order help any student succeed in their scientific, career, or personal goals. Students praise her for being genuinely interested in the work of the students here and can always be counted on to ask thoughtful and insightful questions and participate in discussions during student seminars."

Dr. Knoop's research goals focus on how exposure to the microbiota can influence the development of the intestinal immune system during early life and how alterations affect oral tolerance and systemic disease. She has been a social media editor for Mucosal Immunology since 2017.

Dr. Knoop received her Bachelor of Science in Biochemistry from Drake University and her Ph.D. in Immunology and Molecular Pathogenesis from Emory University. She obtained her postdoctoral training in Mucosal Immunology at the Washington University School of Medicine.



# 2021 Teacher of the Year Award Longjun (Long-Jun) wu, ph.d.

Dr. Wu is a consultant with joint appointments in the Neurology and Immunology departments. He has been a professor of Neurology since 2019 and Neuroscience since 2020. He has taught in numerous Core, Immunology and Neuroscience MCGSBS graduate school courses during his five years at the Mayo Clinic.

Dr. Wu is currently mentoring four graduate students towards their Ph.D. degree and has served on more than 15 student thesis advisory committees. Student nominators had the following to say about his contribution to their education: "Dr. Wu's enthusiasm is contagious and quickly spreads to the class. He is a cheerleader and educator in his mentorship."

Dr. Wu's research primarily focuses on the neuroimmune interaction in normal and diseased brains, with specific emphasis on the function of microglia. He has published more than 130 peer-reviewed articles with around 10,000 citations. The ultimate goal of Dr. Wu's research is to identify microglia-specific therapeutic targets that will complement existing strategies for the treatment of epilepsy, neuropathic pain, ischemic stroke and autoimmune diseases. Dr. Wu serves as Associate Editor for Molecular Brain and Neuroscience Bulletin. He is also an editorial board member for multiple journals including Glia, Brain Behavior & Immunity, Frontiers in Neuroscience, etc. He is currently a standing member of a NIH study section, and a committee member of several well-respected organizations including Society for Neuroscience, American Epilepsy Society and American Society for Neurochemistry.

Dr. Wu received his Ph.D. in Neurobiology and Biophysics from the University of Science and Technology of China. He did his postdoctoral training at the University of Toronto and Harvard Medical School.



## 2020 Outstanding Mentor Award L. JAMES MAHER III, PH.D.

As the inaugural recipient of the Outstanding Mentor Award, Dr. Maher embodies and exceeds every criteria of the award.

A common theme from his nominators was their appreciation for the environment he has created in his lab, where everyone feels mutually respected. He has a genuine desire to help everyone in the lab reach their individual goals while maintaining a healthy work-life balance. He empowers everyone to think creatively and believes everyone's scientific ideas are valued regardless of their experience, expertise or education level. Dr. Maher's passion for teaching extends to both students' day-to-day progress and overall development as scientists.

Dr. Maher has mentored 23 students on their paths to a Ph.D. degree and has served on more than 70 additional Ph.D. thesis supervisory committees. He has developed and led enrichment activities for underrepresented students, supporting their biomedical research training during his tenure as program director for two longterm NIH grants. He has also supported the MCGSBS by his past service as both Dean and Associate Dean.

This is not the first recognition of his commitment to education at Mayo Clinic, as Maher is a four-time recipient of the MCGSBS Teacher of the Year Award, and a past recipient of the MCGSBS Dean's Recognition Award.

Dr. Maher has served as a consultant for the Biochemistry & Molecular Biology department at Mayo Clinic in Rochester since 1995. He has been a professor of Biochemistry & Molecular Biology since 1999, and Bernard Pollack Professor of Biochemistry & Molecular Biology since 2015.

The overall goal of Dr. Maher's research program is to better understand nucleic acid biophysics, biology, engineering, and cancer. He attributes much of the success—including 27 years of continuous NIH funding—not only to his own mentors when he was a trainee, but to the continuing inspiration provided by his students' exceptional creativity.

Dr. Maher received his Bachelor of Science and Ph.D. in Molecular Biology from the University of Wisconsin – Madison. He obtained his postdoctoral training at the California Institute of Technology.



# 2021 Outstanding Mentor Award Haidong Dong, M.D., PH.D.

Dr. Dong is the epitome of an outstanding mentor. As his nominators say, "he listens to his students' concerns and struggles and offer solutions to their problems. He is truly invested in our future careers. It is one of the most diverse labs I know, and the environment created is very welcoming and inclusive. Dr. Dong encourages you to be at your best in what you do the best but also challenges you to work on your weaknesses. He tells us (his students) that he wants us to be the leaders in the field- and for us to achieve that we need to acknowledge what we are best at and what we can learn from others. Dr. Dong not only cares about the research and data you are generating in the lab (which he always says- follow your data) but also our overall well-being."

Dr. Dong has mentored three students to their Ph.D. degrees, has four students in progress and serves on thesis advisory committees for an average of five students per year. He also serves as course director for the department weekly journal club (Current Topic of Immunology) and bi-annual tutorial (Tumor Immunology).

Dr. Dong started at Mayo Clinic in 1998, currently has a joint appointment as a consultant for both the Urology and Immunology departments and is a co-leader of cancer immunology and immunotherapy program at Mayo Clinic Cancer Center. He co-discovered tumor-associated PD-L1 (a backbone of current cancer immunotherapy) in 1998-2002 and has been a professor of Immunology since 2018. His research program focuses on cancer immunology and how to use immunotherapy to prolong the survival of patients with advanced or metastatic cancers. His laboratory's long-term goal is to understand the regulatory mechanisms shaping anti-tumor immunity and translate discoveries in cancer immunology into effective cancer immunotherapy.

He received his M.D. from China Medical University in Shenyang, China. He received both his Master of Science in Pathophysiology and his Ph.D. in Tumor Immunology from Dalian Medical University Graduate School in Dalian, China.



## 2020 Program Director's Achievement Award

SOMAIRA NOWSHEEN, M.D., PH.D.

Dr. Nowsheen was a 2020 graduate of the Mayo Clinic M.D.-Ph.D. program and is currently pursuing a residency in Dermatology at the University of California San Diego Medical Center after a transitional year at Gundersen Lutheran Medical Foundation in Wisconsin. She completed her Ph.D. thesis research in the laboratory of Dr. Zhenkun Lou in the Molecular Pharmacology and Experimental Therapeutics track. Dr. Nowsheen's research interests include methods to improve cancer therapy by using the approach of personalized medicine and by targeting DNA repair pathways to enhance the therapeutic ratio of various treatments.

Dr. Nowsheen completed her bachelor and master's degrees at East Carolina University in Greenville, North Carolina. She was on the Dean's List in 2004-2008, the Chancellor's List in 2005-2006 and received the Undergraduate Research Award in 2005. Along with her research mentor AG Georgakilas, Dr. Nowsheen authored and co-authored 19 publications about their research on repair of clustered DNA lesions and other aspects of cancer biology.

After working for several years as a research technologist, Dr. Nowsheen entered the Mayo Clinic M.D.-Ph.D. program in June 2012 and completed Ph.D. thesis research between 2014 and 2018. Dr. Nowsheen co-chaired the M.D.-Ph.D. Annual Retreat in 2015 and was an M.D.-Ph.D. Student Representative during the 2015-2016 academic year. During the course of her research training, she received the Laura J. Siegel Breast Cancer Fellowship Award, the Vera Langan & Kieckhefer M.D.-Ph.D. Fellowships and the Agnes Hansen Award from the Xi Chapter of Graduate Women in Science. During her Ph.D. training she contributed to 20 publications from the Lou Laboratory. In addition to other findings, her laboratory studies identified the protein L3MBTL2 as a previously unrecognized component of the cell's DNA damage response machinery. In 2018, Dr. Nowsheen defended her Ph.D. thesis and returned to medical school.

During her clinical years, Dr. Nowsheen was a contributing author to 10 additional papers, including three first-author publications describing the risk of cardiac toxicity in breast cancer patients after Herceptin treatment.

Though her numerous publications from her activities during M.D.-Ph.D. training are an extraordinary achievement on their own, Dr. Nowsheen's work is also noteworthy for how they've enhanced the work of her peers, extending her substantive contribution to basic and clinical research while a student at Mayo Clinic. These accomplishments made her the unanimous choice as recipient of the first MSTP Directors' Achievement Award.

## Benefactor Funded Scholarships

#### Corella and Bertram F. Bonner M.D.-Ph.D. Scholarships

Corella and Bertram F. Bonner, Sr., and the Corella and Bertram F. Bonner Foundation

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A. Gary and Anita Klesch Predoctoral Fellowship in MCGSBS A. Gary and Anita Klesch

#### Vera Jones Langan Fellowships in the MCGSBS Vera Jones Langan

- S. Luckman M.D./Ph.D. Fellowship Friends of Sidney Luckman
- Luckman Family Endowed Predoctoral Fellowship Friends of Sidney Luckman

Wilbur T. and Grace C. Pobanz Predoctoral Fellowship Sandra S. Pobanz

Harry and Debra Stonecipher Predoctoral Fellowship in MCGSBS Harry C. and Debra A. Stonecipher

## Congratulations from the Mayo Clinic Alumni Association

The officers and Board of Directors of the Mayo Clinic Alumni Association welcome you as the newest members of the alumni association. The association's mission "Connecting our alumni and bringing Mayo Clinic values to the world" is central to our purpose, nurturing mutually beneficial relationships between Mayo Clinic and the remarkable individuals who participate in its education programs. Formed in 1915 by alumni who wished to maintain scientific and social contacts with the people and programs of Mayo Clinic, you now join the ranks of esteemed Mayo Clinic alumni and alumnae. Your colleagues can be found in more than 80 countries, on the faculty of the world's leading medical schools and in leadership positions of national and international scientific organizations. We are proud to count you among our respected colleagues.

Mayo Clinic Alumni Center Siebens 5 200 First Street, SW Rochester, Minnesota 55905 507-284-2317 mayoalumni@mayo.edu alumniassociation.mayo.edu

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