

# TAMEST ★ 2024 ANNUAL CONFERENCE

## ARTIFICIAL INTELLIGENCE & MACHINE LEARNING



February 5-7, 2024

AT&T Hotel and Conference Center

Austin, Texas

## ABOUT THE CONFERENCE

The **TAMEST 2024 Annual Conference** will explore the current practical and clinical use of AI/ML, examine its limitations and investigate its true potential for significant advancements in science and society. Speakers will examine the challenges and opportunities of AI/ML in aerospace, defense, high-performance computing, self-driving technology, precision medicine and health care delivery.

## ABOUT TAMEST >>>

TAMEST was co-founded in 2004 by the Honorable Kay Bailey Hutchison and Nobel Laureates Michael S. Brown, M.D., and Richard E. Smalley, Ph.D. With more than 335 members, eight Nobel Laureates and 22 member institutions, TAMEST is composed of the Texas-based members of the three National Academies (National Academy of Medicine, National Academy of Engineering and National Academy of Sciences) and other honorific organizations. We bring together the state's brightest minds in medicine, engineering, science and technology to foster collaboration, and to advance research, innovation and business in Texas.

TAMEST's unique interdisciplinary model has become an effective recruitment tool for top research and development centers across Texas. Since our founding, more than 275 TAMEST members have been inducted into the National Academies or relocated to Texas.

## 2024 ANNUAL CONFERENCE PROGRAM COMMITTEE

### Honorary Chair



**Brendan Lee, M.D., Ph.D. (NAM)**  
Board President, TAMEST  
Professor and Chair of Molecular and Human Genetics; Robert and Janice McNair Endowed Chair in Molecular and Human Genetics  
Baylor College of Medicine

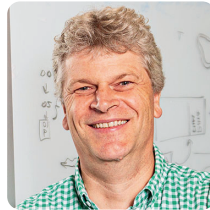
### Conference Co-Chairs

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**Karen E. Willcox, Ph.D. (NAE)**  
Director, Oden Institute for Computational Engineering and Sciences  
Associate Vice President for Research  
Professor of Aerospace Engineering and Engineering Mechanics  
The University of Texas at Austin

#### Science:



**Gaudenz Danuser, Ph.D.**  
Professor and Chairman  
Lyda Hill Department of Bioinformatics  
Patrick E. Haggerty Distinguished Chair in Basic Biomedical Science  
UT Southwestern Medical Center

#### Technology:



**Steven W. Dellenback, Ph.D.**  
Vice President, R&D  
Intelligent Systems Division  
Southwest Research Institute

#### Medicine:



**Roozbeh Jafari, Ph.D.**  
Principal Staff, Massachusetts Institute of Technology Lincoln Laboratory  
Laboratory for Information & Decision Systems (LIDS)



# CONTENTS >>>

TAMEST Leadership	4
Speakers and Sessions	5
2024 Hill Prizes	12
2024 Edith and Peter O'Donnell Awards	14
Sponsors	16
Nobel Laureates	18
New Members	19
Protégés	26
In Remembrance	29
Endowment Donors	30
Map and Wi-Fi	31
TAMEST 2025 Annual Conference	32



**TAMEST** ★ 2024 ANNUAL CONFERENCE  
*ARTIFICIAL INTELLIGENCE*  
& *MACHINE LEARNING*





## BOARD PRESIDENT

### **Brendan Lee, M.D., Ph.D. (NAM)**

Professor and Chair of Molecular and Human Genetics; Robert and Janice McNair  
Endowed Chair in Molecular and Human Genetics  
*Baylor College of Medicine*

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Methodist Hospital*

#### **Marlan O. Scully, Ph.D. (NAS)**

Burgess Distinguished Professor; TEES Distinguished  
Research Professor; Director, Institute for Quantum Studies  
*Texas A&M University*

## MONDAY, FEBRUARY 5, 2024

## Opening Reception | 6:30 p.m. – 10:00 p.m.

- Welcome from **TAMEST Board President Brendan Lee, M.D., Ph.D. (NAM)**
- Kay Bailey Hutchison Distinguished Service Award Presentation
- Hill Prizes Ceremony
- TAMEST Welcomes New Members
- TAMEST 20th Anniversary Celebration
- Performance by UT Austin Jazz Quintet featuring Butler School of Music Jazz Director Diego Rivera



## 2024 Kay Bailey Hutchison Distinguished Service Award Given to CPRIT



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

TAMEST is pleased to announce the **Cancer Prevention and Research Institute of Texas (CPRIT)** as the recipient of the **Kay Bailey Hutchison Distinguished Service Award**. TAMEST is recognizing CPRIT for their work improving the lives of Texans, advancing cancer research and prevention and recruiting National Academy members to Texas. CPRIT's success in attracting top-tier cancer scientists and companies to the state is an enormous benefit to Texas. CPRIT is the eighth recipient of the Kay Bailey Hutchison Distinguished Service Award.

**CPRIT by the Numbers:** **302** Distinguished Researchers Recruited to Texas

**17** NASEM Members and One Nobel Laureate Recruited to Texas

**60** National Academy Members and One Nobel Laureate are CPRIT Grantees

**\$3B** Research and Prevention Grants Given in Texas

Learn more: [TAMEST.org/kay-bailey-hutchison-award](https://TAMEST.org/kay-bailey-hutchison-award)

## TUESDAY, FEBRUARY 6, 2024

## Conference Breakfast | 8:00 a.m. – 9:15 a.m.

## Opening Remarks | 9:15 a.m. – 9:20 a.m.

TAMEST Board President Brendan Lee, M.D., Ph.D. (NAM), Baylor College of Medicine

## ENGINEERING SESSIONS:

## National Speaker: Engineering | 9:20 a.m. – 9:50 a.m.

## "AI in Aviation and National Security"



**Colonel Tucker "Cinco" Hamilton**  
Chief, AI Test and Operations  
United States Air Force

**Texas Speaker: Engineering | 9:50 a.m. – 10:20 a.m.**

## “High-Performance Technology for AI: Charting a New Course for Innovation”



**Mark Papermaster**

Chief Technology Officer and Executive Vice President  
Technology & Engineering  
AMD

**Speaker: Engineering | 10:20 a.m. – 10:50 a.m.**

## “From the Moon to Mars: The Future of Space Exploration”



**Vanessa E. Wyche (NAE)**

Director  
Johnson Space Center  
NASA

**Edith and Peter O'Donnell Award Recipient Presentation | 10:50 a.m. – 11:20 a.m.**



**2024 O'DONNELL AWARD RECIPIENT IN ENGINEERING**

**Ashok Veeraraghavan, Ph.D.**

Professor of Electrical and Computer Engineering and Computer Science  
Rice University

**Break | 11:20 a.m. – 11:30 a.m.**

**Mary Beth Maddox Award Ceremony and Presentation | 11:30 a.m. – 12:00 p.m.**



**2024 MARY BETH MADDOX AWARD RECIPIENT**

**Nidhi Sahni, Ph.D.**

Associate Professor, Department of Epigenetics and Molecular Carcinogenesis  
The University of Texas MD Anderson Cancer Center

*The Mary Beth Maddox Award and Lectureship recognizes women scientists in Texas bringing new ideas and innovations to the fight against cancer.*

**Lunch | 12:00 p.m. – 1:00 p.m.**

**Anniversary Panel: Celebrating 20 Years of TAMEST | 12:15 p.m. – 1:00 p.m.**



**MODERATOR**

**Larry R. Faulkner, Ph.D.**

President Emeritus  
The University of Texas at Austin

**PANELISTS**



**Michael S. Brown, M.D. (Nobel Laureate, NAM, NAS)**

Professor  
Department of Molecular Genetics  
UT Southwestern Medical Center



**William T. Solomon**

Chairman, President and  
Chief Executive Officer  
O'Donnell Foundation



**The Honorable Kay Bailey Hutchison**

TAMEST Honorary Chair  
Former United States Senator  
Former United States Ambassador to NATO



**SCIENCE SESSIONS:**

**National Speaker: Science | 1:00 p.m. – 1:30 p.m.**

**“AI and Scientific Computing: There is Plenty of Room in the Middle”**



**Petros Koumoutsakos, Ph.D. (NAE)**

Herbert S. Winokur Jr. Professor of Engineering and Applied Sciences  
John A. Paulson School of Engineering and Applied Sciences  
Harvard University

**Texas Speaker: Science | 1:30 p.m. – 2:00 p.m.**

**“AI for Genomics”**



**Jian Zhou, Ph.D.**

Assistant Professor  
Lyda Hill Department of Bioinformatics  
UT Southwestern Medical Center

Speaker: Science | 2:00 p.m. – 2:30 p.m.

## “Revealing the Emergence of Computation from Interacting Neurons”



**Surya Ganguli, Ph.D.**

Associate Professor  
Department of Applied Physics  
Stanford University

Break | 2:30 p.m. – 2:45 p.m.

Edith and Peter O'Donnell Award Recipient Presentation | 2:45 p.m. – 3:10 p.m.

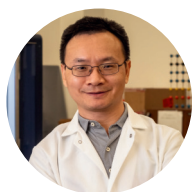


2024 O'DONNELL AWARD RECIPIENT IN BIOLOGICAL SCIENCES

**Vincent Tagliabracci, Ph.D.**

Associate Professor, Department of Molecular Biology  
UT Southwestern Medical Center

Edith and Peter O'Donnell Award Recipient Presentation | 3:10 p.m. – 3:35 p.m.



2024 O'DONNELL AWARD RECIPIENT IN PHYSICAL SCIENCES

**Shengqian Ma, Ph.D.**

Professor and Welch Chair in Chemistry  
University of North Texas

Break | 3:35 p.m. – 5:00 p.m.

TAMEST Protégé Poster Challenge Viewing & Cocktail Reception | 5:00 p.m. – 6:30 p.m.

*The 2024 TAMEST Protégé Poster Challenge is sponsored by Shell Global Solutions U.S.*

TAMEST ★ 2024 ANNUAL CONFERENCE



**Protégé Poster Challenge**

Viewing and Judging in  
Grand Ballroom A&B



2024 Edith and Peter O'Donnell Awards Ceremony and Dinner | 6:30 p.m. – 10:00 p.m.

*The 2024 Edith and Peter O'Donnell Awards Ceremony is sponsored by the O'Donnell Foundation and will be hosted by Jere W. Thompson Jr., Chair, Southwestern Medical Foundation; Board Member, O'Donnell Foundation.*



## WEDNESDAY, FEBRUARY 7, 2024

### TECHNOLOGY SESSIONS:

The 2024 Technology Sessions are sponsored by Southwest Research Institute (SwRI).



Conference Breakfast | 7:30 a.m. – 9:00 a.m.

National Speaker: Technology | 8:30 a.m. – 9:00 a.m.

### “Why Autonomous Freight Will Win the Self-Driving Race”



**Chris Urmson, Ph.D.**

Chief Executive Officer and Co-Founder  
Aurora

Texas Speaker: Technology | 9:00 a.m. – 9:30 a.m.

### “AI, Robots and Disasters”



**Robin Murphy, Ph.D.**

Professor  
Department of Computer Science and Engineering  
Texas A&M University

Speaker: Technology | 9:30 a.m. – 10:00 a.m.

### “AI Applications, Limits and Challenges”



**Douglas A. Brooks, Ph.D.**

Assistant Director - R&D  
Artificial Intelligence Department  
Southwest Research Institute

Edith and Peter O'Donnell Award Recipient Presentation | 10:00 a.m. – 10:25 a.m.



2024 O'DONNELL AWARD RECIPIENT IN TECHNOLOGY INNOVATION

**Kimberly A. Hambuchen, Ph.D.**

Deputy Chief, Software, Robotics and Simulation Division  
Johnson Space Center  
NASA

Break | 10:25 a.m. – 10:45 a.m.

TAMEST Protégé Poster Challenge Finalist Presentations | 10:45 a.m. – 11:15 a.m.

## MEDICINE SESSIONS:

National Speaker: Medicine | 11:15 a.m. – 11:45 a.m.

### “AI in Biomedicine: Illustrative Examples”



**David Glazer**

Workbench Chief Technology Officer  
Verily

Texas Speaker: Medicine | 11:45 a.m. – 12:15 p.m.

### “Practicing Medicine Beyond the Osler Limit Using Digital Twin Technology”



**David Paydarfar, M.D.**

Professor and Chair, Department of Neurology at Dell Medical School  
Director, Mulva Clinic for the Neurosciences  
The University of Texas at Austin

Lunch | 12:15 p.m. – 1:15 p.m.

Panel: Ethics and Policy of AI – The Good Systems Approach | 12:30 p.m. – 1:15 p.m.

#### MODERATOR

**Peter Stone, Ph.D.**

Truchard Foundation Chair in Computer Science  
University Distinguished Teaching Professor  
Department of Computer Science  
The University of Texas at Austin



#### PANELISTS

**Sherri R. Greenberg**

Professor of Practice  
Assistant Dean  
Lyndon B. Johnson School of Public Affairs  
The University of Texas at Austin



**Matthew A. Lease, Ph.D.**

Professor, School of Information  
The University of Texas at Austin



**S. Craig Watkins, Ph.D.**

Executive Director, IC<sup>2</sup> Institute  
Ernest A. Sharpe Centennial  
Professor, Moody College of  
Communications  
The University of Texas at Austin



Speaker: Medicine | 1:15 p.m. – 1:45 p.m.

## “Medicine: A Science of Uncertainty and Art of Probability”



**Caroline Chung, M.D.**  
 Vice President and Chief Data Officer  
 Associate Professor  
 Radiation Oncology and Diagnostic Imaging  
 The University of Texas MD Anderson Cancer Center

Edith and Peter O'Donnell Award Recipient Presentation | 1:45 p.m. – 2:10 p.m.



**2024 O'DONNELL AWARD RECIPIENT IN MEDICINE**  
**Benjamin Deneen, Ph.D.**  
 Professor and Dr. Russell J. and Marian K. Blattner Chair in Neurosurgery  
 Baylor College of Medicine

TAMEST Protégé Poster Challenge Winners Announced | 2:10 p.m. – 2:15 p.m.

Closing Remarks and TAMEST 2025 Conference Preview | 2:15 p.m. – 2:20 p.m.

Save the Date

TAMEST ★ 2025 ANNUAL CONFERENCE

TRANSFORMATIONAL

BREAKTHROUGHS

February 4–6, 2025 | Westin Las Colinas | Irving, Texas

Save the date for the **TAMEST 2025 Annual Conference: Transformational Breakthroughs**, February 4–6, 2025, at the Westin Irving Convention Center at Las Colinas in Irving, Texas. The conference will explore some of the most disruptive breakthroughs in science and technology set to change our way of life in the coming years.

Full biographies of our speakers and panelists are available at [TAMEST.org/2024](https://TAMEST.org/2024)





## 2024 Hill Prizes Recipients

*\$2.5 Million Awarded by Lyda Hill Philanthropies to Texas Researchers to Accelerate High-Risk, High-Impact Ideas*

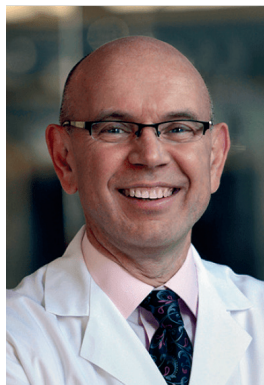
The Hill Prizes, funded by Lyda Hill Philanthropies, accelerate high-risk, high-reward research ideas with significant potential for real-world impact. They recognize exceptional innovators by providing seed funding to advance groundbreaking science and highlight Texas as a premier destination for world-class research. Each of the five winning proposals will receive \$500,000 in funding from Lyda Hill Philanthropies to accelerate their work.



*"We hope that the funding awarded to these Texas scientists will enable them to launch their pivotal research into development and continue to make advancements in scientific innovation."*

*- Lyda Hill, Entrepreneur and Founder of Lyda Hill Philanthropies*

### MEDICINE



**Martin M. Matzuk,  
M.D., Ph.D. (NAS)**

Director of the Center for Drug Discovery and Chair Chair and Professor in the Department of Pathology and Immunology

*Baylor College  
of Medicine*

### ENGINEERING



**Maria A. Croyle,  
Ph.D.**

Professor of  
Pharmaceutics  
College of  
Pharmacy

*The University of  
Texas at Austin*

### BIOLOGICAL SCIENCES



**Russell A. DeBose-Boyd,  
Ph.D. (NAS)**

Beatrice and Miguel  
Elias Distinguished  
Chair in Biomedical  
Science and Professor  
of Molecular Genetics

*UT Southwestern  
Medical Center*

### PHYSICAL SCIENCES



**Allan H. MacDonald,  
Ph.D. (NAS)**

Professor and Director  
of the Center for  
Complex Quantum  
Systems in the  
Department of Physics

*The University of  
Texas at Austin*

### TECHNOLOGY



**Hermann Lebit,  
Ph.D.**

Founder and  
Principal

*Alma  
Energy*

**Learn more: [TAMEST.org/hill-prizes](https://TAMEST.org/hill-prizes)**



## 2024 Hill Prizes Principal Investigators

### MEDICINE

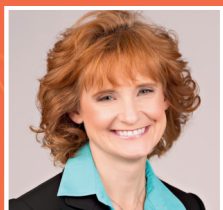
#### Martin M. Matzuk, M.D., Ph.D. (NAS), Baylor College of Medicine



Dr. Matzuk and his team's proposal was chosen for the 2024 Hill Prize in Medicine for creating a novel approach to treat endometriosis. The debilitating chronic disease, which afflicts 190 million women globally and has no effective treatment currently, occurs when tissue similar to the lining of the uterus grows outside of the uterus and causes severe pain and inflammation in the pelvis. Endometriosis makes it more difficult to get pregnant and has challenging side effects. Dr. Matzuk's team has identified a new therapeutic approach to relieve the pain and cause the endometriotic tissue to shrink as well. His team has used this research to find several potential drug candidates and will use the prize funding to perform preclinical development studies to create first-in-class non-steroidal drugs to treat endometriosis.

### ENGINEERING

#### Maria A. Croyle, Ph.D., The University of Texas at Austin



Dr. Croyle and her team's proposal was chosen for the 2024 Hill Prize in Engineering for demonstrating innovative techniques that will allow vaccines and biological drugs to be transported without the need for temperature control. Using methods from virology, immunology and drug delivery, Dr. Croyle's team developed a simple, resource-sparing system to preserve vaccines so they can be shipped worldwide without the need for ice or to be kept at a specific temperature. Her team's work has advanced to the point that a company has been created to bring the technology to the marketplace. Dr. Croyle's team will use prize funding to advance the product to full scale production, allowing for the innovation to move from the lab to the clinic and have a profound impact in the developing world.

### BIOLOGICAL SCIENCES

#### Russell A. DeBose-Boyd, Ph.D. (NAS), UT Southwestern Medical Center



Dr. DeBose-Boyd was chosen for the 2024 Hill Prize in Biological Sciences for his work's potential to make statins more effective and provide insight into their side effects. Heart disease cases cause more than 600,000 deaths per year and more than 20 million Americans take statins daily. Dr. DeBose-Boyd's research deploys an array of impressive tools including mouse genetics, biochemistry, screening and structural biology with the potential to develop a new class of statin enhancer drugs and improve our understanding of statins' side effects. He will use the prize funding to advance his studies and provide for genetically-modified mice studies.

### PHYSICAL SCIENCES

#### Allan H. MacDonald, Ph.D. (NAS), The University of Texas at Austin



Dr. MacDonald and his team's proposal was chosen for the 2024 Hill Prize in Physical Sciences for its potential to create a new energy storage device, the quantum supercapacitor, a new, low-carbon way to store energy. If successful, this work would create a new energy storage technology with longer lifetime and faster charging speeds. Dr. MacDonald and his team will utilize prize funding to advance their ongoing research and probe the performance limits of quantum supercapacitors.

### TECHNOLOGY

#### Hermann Lebit, Ph.D., Alma Energy



Dr. Lebit and his team's proposal was chosen for the 2024 Hill Prize in Technology for developing clean, emission-free direct lithium extraction using geothermal energy. His team partners with researchers at The University of Texas at El Paso to use resources within Texas to extract lithium (used for car batteries), hydrogen (used in the petrochemical industry) and fresh water, while sequestering the carbon during the process. His team will utilize prize funding to advance the technology to field testing, secure pilot project sites and complete water sampling procedures.



## TEXAS' RISING STAR RESEARCHERS 2024 O'Donnell Awards Recipients

Opening a new field of study to understand the way brain cells communicate. Discovering the magic of taking a pristine picture through fog, smoke and driving rain. Bringing to light how we deal with the molecules that we put into the environment. Understanding a whole new approach to treating COVID-19. Developing new methods for making robots more usable by humans across time delays in space. These are the breakthroughs by Texas' rising stars in research being honored with the 2024 Edith and Peter O'Donnell Awards by TAMEST.

The Edith and Peter O'Donnell Awards showcase the best and brightest in Texas research, whose creative work could have a lasting impact on our lives. Their work meets the highest standards of science, and the paths to their discoveries show immense ingenuity and imagination. The awards are named in honor of Edith and Peter O'Donnell, who spent their lives as Texas' staunchest advocates for excellence in scientific advancement and STEM education.

### MEDICINE



**Benjamin Deneen, Ph.D.**

Professor and Dr. Russell J. and Marian K. Blattner Chair in Neurosurgery  
*Baylor College of Medicine*



### ENGINEERING



**Ashok Veeraraghavan, Ph.D.**

Professor of Electrical and Computer Engineering and Computer Science  
*Rice University*



### BIOLOGICAL SCIENCES

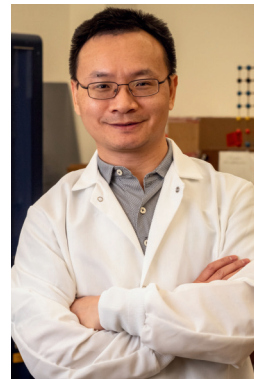


**Vincent Tagliabracci, Ph.D.**

Associate Professor, Department of Molecular Biology  
*UT Southwestern Medical Center*



### PHYSICAL SCIENCES



**Shengqian Ma, Ph.D.**

Professor and Welch Chair in Chemistry  
*University of North Texas*



### TECHNOLOGY INNOVATION



**Kimberly A. Hambuchen, Ph.D.**

Deputy Chief, Software, Robotics and Simulation Division  
*Johnson Space Center NASA*



## **MEDICINE: Benjamin Deneen, Ph.D.**

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World-leading neuroscientist Benjamin Deneen, Ph.D., Professor and Dr. Russell J. and Marian K. Blattner Chair in Neurosurgery and Director of the Center for Cancer Neuroscience at Baylor College of Medicine, is the recipient of the 2024 Edith and Peter O'Donnell Award in Medicine from TAMEST. He was chosen for his groundbreaking research that has opened an entirely new field of study set to ultimately impact brain tumor patients and give potential insights into a wide range of developmental diseases. Dr. Deneen's research has revealed that astrocytes influence brain circuits and animal behavior by communicating with neurons. Astrocytes are implicated in every brain disorder and disease. Therefore, gaining a better understanding of what they specifically do will provide valuable insight into developmental neurobiology, the mechanisms by which brain diseases develop and progress. Dr. Deneen's findings have changed the way scientists view brain circuits, laying the groundwork for new therapeutic opportunities to combat neurological disorders.

## **ENGINEERING: Ashok Veeraraghavan, Ph.D.**

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Trailblazing engineer Ashok Veeraraghavan, Ph.D., Professor of Electrical and Computer Engineering and Computer Science, George R. Brown School of Engineering at Rice University, is the recipient of the 2024 Edith and Peter O'Donnell Award in Engineering from TAMEST. He was chosen for his revolutionary imaging technology that seeks to make the invisible visible. Dr. Veeraraghavan and his team at Rice work on creating imaging systems that use novel multi-dimensional image sensors along with machine learning algorithms to undo the effects of light-scattering and see-through scattering media such as fog, smoke, rain and human tissue. Recently, with support from researchers at the University of Maryland, his team has developed a new technology dubbed NeuWS, an acronym for "neural wavefront shaping." At its core, NeuWS is about undoing the effects of light scattering by using wavefront shaping and a novel machine-learning algorithm. Scattering is what makes light, which has a lower wavelength unusable in many scenarios. If you can undo the effects of scattering, imaging can go much further.

## **BIOLOGICAL SCIENCES: Vincent Tagliabracci, Ph.D.**

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Forward-thinking biochemist Vincent Tagliabracci, Ph.D., Associate Professor at UT Southwestern Medical Center, is the recipient of the 2024 Edith and Peter O'Donnell Award in Biological Sciences from TAMEST. He was chosen for his potentially life-saving research in understanding how enzymes work. Dr. Tagliabracci and his team at UT Southwestern Medical Center have shined a new light on an array of physiological processes that rely on enzymes called protein kinases (PKs) and their biological cousins called "pseudokinases." His research revealed how the virus that causes COVID-19 builds a structure called an RNA cap that's critical for viral replication. The hope is that this discovery could lead to new strategies to attack COVID-19, which has sickened nearly 700 million and killed almost 7 million worldwide thus far. Their work on pseudokinases has disrupted the textbook view of PKs and discovered new catalytic activities performed by these enzymes.

## **PHYSICAL SCIENCES: Shengqian Ma, Ph.D.**

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A worldwide leader in nanoporous materials research, Shengqian Ma, Ph.D., Professor and Welch Chair in Chemistry at the University of North Texas, is the recipient of the 2024 Edith and Peter O'Donnell Award in Physical Sciences from TAMEST. He was chosen for his innovative work in the field of decontamination. Dr. Ma's most significant contributions come in his team's development of porous organic polymer (POP)-based nanotraps. These nanotraps can be used for a variety of applications that more effectively and efficiently clean up after an oil spill, removing mercury from water and treating nuclear waste. Further, the materials can also be used to store gas molecules, like methane, hydrogen or carbon dioxide. His materials not only trap the toxic things in water but can be used to trap useful things as well, like extracting uranium from seawater and lithium from brine water and utilizing them for energy.

## **TECHNOLOGY INNOVATION: Kimberly A. Hambuchen, Ph.D.**

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A true pioneer in space, robotics engineer Kimberly A. Hambuchen, Ph.D., Deputy Chief, Software, Robotics and Simulation Division at NASA's Johnson Space Center, is the recipient of the 2024 Edith and Peter O'Donnell Award in Technology Innovation from TAMEST. She was chosen for her seminal research in developing new methods for making robots more autonomous and usable by humans across a time delay. Her key innovation is called the "affordance template." It's a coding of a robotic system's ability to perform a function autonomously. In her approach, a remote human interacts with the robot as a "supervisor," making sure that the robot is in a situation where it has the capability to perform a task. The supervisor helps guide the robot to complete certain tasks but does not control every aspect that they do. Her work is not only relevant in space, as her innovations with robotics automation in time delay are being tested for deep-sea exploration as well.

20TH ANNIVERSARY PRESENTING SPONSORS

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~~Cancer~~ Center

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THE UNIVERSITY OF TEXAS AT DALLAS

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Dr. & Mrs. Gordon Green



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UNIVERSITY OF HOUSTON

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## Nobel Laureates

**James P. Allison, Ph.D. (NAM, NAS)**

Nobel Prize in Physiology or Medicine, 2018  
The University of Texas MD Anderson  
Cancer Center

**Bruce A. Beutler, M.D. (NAM, NAS)**

Nobel Prize in Physiology or Medicine, 2011  
UT Southwestern Medical Center

**Michael S. Brown, M.D. (NAM, NAS)**

Nobel Prize in Physiology or Medicine, 1985  
UT Southwestern Medical Center

**Johann Deisenhofer, Ph.D. (NAS)**

Nobel Prize in Chemistry, 1988  
UT Southwestern Medical Center

**Joseph L. Goldstein, M.D. (NAM, NAS)**

Nobel Prize in Physiology or Medicine, 1985  
UT Southwestern Medical Center

**Dudley R. Herschbach, Ph.D. (NAS)**

Nobel Prize in Chemistry, 1986  
Texas A&M University

**Russell A. Hulse, Ph.D.**

Nobel Prize in Physics, 1993  
The University of Texas at Dallas

**David M. Lee, Ph.D. (NAS)**

Nobel Prize in Physics, 1996  
Texas A&M University

**In Memoriam:**

**John B. Goodenough, Ph.D.  
(NAE, NAS, FRS)**

**Nobel Prize in Chemistry, 2019  
The University of Texas at Austin**

1922 – 2023

**TAMEST** *Texas Academy of Medicine,  
Engineering, Science & Technology*

## 2023 New Members

TAMEST members represent a significant number of research universities, health centers, institutes and companies throughout Texas. All Texas members of the National Academy of Medicine (NAM), National Academy of Engineering (NAE), National Academy of Sciences (NAS), Academy of Medical Sciences (FMedSci), Royal Society (FRS), Royal Academy of Engineering (RAEng) and the state's eight Nobel Laureates are members of TAMEST. In 2023, TAMEST welcomed 16 new members to our organization and congratulated four current TAMEST Members elected to a second National Academy, bringing our active membership to 343. Of these new members, 10 were elected to the National Academies and six became members due to their recruitment to Texas. One of our new members is also a past recipient of an Edith and Peter O'Donnell Award.

### ***NATIONAL ACADEMY OF MEDICINE (NAM)***

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**Saad B. Omer, Ph.D. (NAM)**  
**INAUGURAL DEAN**  
**PETER O'DONNELL JR. SCHOOL OF PUBLIC HEALTH**  
**UT SOUTHWESTERN MEDICAL CENTER**  
**NAM '22**

Dr. Saad B. Omer is the Founding Dean of the Peter O'Donnell Jr. School of Public Health at UT Southwestern Medical Center. Dr. Omer joined UT Southwestern from Yale University, where he was the inaugural Director of the Yale Institute for Global Health. Dr. Omer is an internationally recognized epidemiologist and policy adviser whose work has positively impacted communities around the world. His research portfolio includes epidemiology of respiratory viruses such as influenza, RSV and SARS-Cov-2 (COVID-19); vaccine trials, immunization coverage and acceptance; and public health preparedness strategies to effectively respond to large emerging and re-emerging infectious disease outbreaks. His work has been cited in global and country-specific public health policy, practices and legislation.



**Rebecca Anne Seguin-Fowler, Ph.D. (NAM)**  
**CO-DIRECTOR, INSTITUTE FOR ADVANCING HEALTH AGRICULTURE**  
**PROFESSOR OF NUTRITION**  
**TEXAS A&M UNIVERSITY**  
**NAM '23**

Dr. Rebecca A. Seguin-Fowler is Co-Director of the Texas A&M Institute for Advancing Health Through Agriculture, a Professor of Nutrition at Texas A&M University and an elected member of the National Academy of Medicine. She is a public health scientist and registered dietician with expertise in community-engaged nutrition and physical activity intervention research. Improving community health for underserved populations has been at the core of Dr. Seguin-Fowler's work for more than two decades, including widely disseminated evidence-based health programs and innovative food systems projects. Her internationally recognized research expertise focuses on understanding how people's social, food and physical activity environments influence behavior change and maintenance within at-risk populations and settings such as low-income families and rural communities. Her programs have helped hundreds of thousands of individuals improve their health and supporting health educators in serving their communities. She has received numerous awards throughout her career including the American Public Health Association's 2023 Award for Excellence.



**Catherine Y. Spong, M.D. (NAM)**  
**PROFESSOR AND PAUL C. MACDONALD DISTINGUISHED CHAIR**  
**DEPARTMENT OF OBSTETRICS AND GYNECOLOGY**  
**UT SOUTHWESTERN MEDICAL CENTER**  
**NAM '23**

Dr. Catherine Y. Spong is a Professor and the Paul C. MacDonald Distinguished Chair of the Department of Obstetrics and Gynecology at UT Southwestern Medical Center. She joined UT Southwestern in 2018 as Chief of Maternal-Fetal Medicine and Vice Chair of the Department of Obstetrics and Gynecology. She had a 23-year career at NICHD where she served as Deputy Director, Acting Director and Chief of the Pregnancy and Perinatology Branch and was Chair of the DHHS Federal Task Force on Research Specific to Pregnant and Lactating Women. She specializes in prematurity, fetal complications, improving outcomes for children and inclusion of pregnant and lactating women. She holds several patents for neuroprotective agents that help prevent fetal injury. She also has extensive expertise in clinical and translational research, leading the NICHD's Maternal-Fetal Medicine Units Network – a multicenter network focused on trials in obstetrics. She has launched and directed initiatives to understand the human placenta, genomics of preterm birth, stillbirth, adverse pregnancy and neonatal outcomes, and fetal surgery trials.



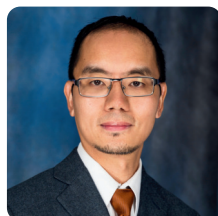
**Jennifer A. Wargo, M.D. (NAM)**  
**R. LEE CLARK ENDOWED PROFESSOR OF SURGICAL ONCOLOGY AND GENOMIC MEDICINE**  
**FOUNDER AND DIRECTOR, PLATFORM FOR INNOVATIVE MICROBIOME AND**  
**TRANSLATIONAL RESEARCH (PRIME-TR)**  
**THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER**  
**NAM '23**

*TAMEST 2023 Edith and Peter O'Donnell Award Recipient in Medicine*

Dr. Jennifer Wargo is a professor of Surgical Oncology and Genomic Medicine at The University of Texas MD Anderson Cancer Center. Dr. Wargo's career commitment is to advance the understanding and treatment of disease through science. She was recruited to MD Anderson in September 2013 to help lead the institution's Melanoma Moon Shot efforts while continuing her work on targeted therapy, immunotherapy and the impact of the gut and tumor microbiome in cancer. Her lab, PRIME-TR, is focused on advancing novel microbiome-targeted therapeutic approaches. Her efforts have been nationally recognized, and she has several research grants for this work. Dr. Wargo has focused her career on uncovering the mechanisms responsible for regulating response or resistance to cancer therapies, including targeted therapies and immunotherapies. Her work has contributed to improving management for patients with skin cancer and other skin disease.

## ***NATIONAL ACADEMY OF ENGINEERING (NAE)***

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**Leo H. Chiang, Ph.D. (NAE)**  
**SENIOR R&D FELLOW**  
**THE DOW CHEMICAL COMPANY**  
**NAE '23**

Dr. Leo Chiang is a Senior R&D Digital Fellow at Dow Core R&D. He has a broad research interest in emerging AI and Data Science approaches, and his grand vision is to lead the industry to achieve AI at scale. Dr. Chiang is on a mission to improve data acumen for the workforce at all levels at Dow. He is proactive in working with universities to support data science education in chemical engineering and the broader STEM community. Dr. Chiang has co-authored two books, over 60 externally refereed journal/proceedings papers and has given over 140 conference presentations and university lectures. Dr. Chiang is a Fellow of the American Institute of Chemical Engineers (AIChE) and has received many recognitions including the 2016 Herbert Epstein Award, 2016 Computing Practice Award and American Automatic Control Council 2020 Control Engineering Practice Award.



### **Benny D. Freeman, Ph.D. (NAE)**

**WILLIAM J. (BILL) MURRAY JR. ENDOWED CHAIR IN ENGINEERING  
MCKETTA DEPARTMENT OF CHEMICAL ENGINEERING  
THE UNIVERSITY OF TEXAS AT AUSTIN  
NAE '23**

Dr. Benny Freeman is the William J. (Bill) Murray Jr. Endowed Chair in Engineering at The University of Texas at Austin. He is a Professor of Chemical Engineering and has been a faculty member since 1989. Dr. Freeman's research is in polymer science and engineering and more specifically, in mass transport of small molecules in solid polymers. His research group focuses on the discovery of structure/property relations for desalination and gas separation membrane materials, new materials for hydrogen separation, natural gas purification, carbon capture and new materials for improving fouling resistance and permeation performance in liquid separation membranes. His research is described in more than 500 publications and more than 20 issued patents. He has co-edited five books on these topics.



### **Enrique Lavernia, Ph.D. (NAE)**

**PROFESSOR, MATERIALS SCIENCE AND ENGINEERING  
AND MECHANICAL ENGINEERING  
M. KATHERINE BANKS CHAIR  
TEXAS A&M UNIVERSITY  
NAE '13**

Dr. Enrique Lavernia is the M. Katherine Banks Chair and Professor of Materials Science and Engineering and Mechanical Engineering at Texas A&M University. He was recruited to Texas A&M from the University of California, Irvine in 2023. His research interests include the synthesis and behavior of nanostructured and multi-scale materials with particular emphasis on processing fundamentals and physical behavior; thermal spray processing of nanostructured materials; spray atomization and deposition of structural materials; high temperature-high pressure atomization processes; and mathematical modeling of advanced materials and processes. Dr. Lavernia has published more than 600 journals and 200 conference publications and has been awarded 11 patents on topics ranging from nanomaterials to aluminum alloys. His many awards and honors include the 2021 Albert Sauveur Achievement Award, 2020 Acta Materialia Gold Medal Award, the 2013 ASM International Gold Medal and more. He is also a fellow of the National Academy of Inventors.



### **Karen Lozano, Ph.D. (NAE)**

**JULIA BEECHERL ENDOWED PROFESSOR, MECHANICAL ENGINEERING  
THE UNIVERSITY OF TEXAS RIO GRANDE VALLEY  
NAE '23**

Dr. Karen Lozano is the Julia Beecherl Endowed Mechanical Engineering Professor at The University of Texas Rio Grande Valley, Founder/Director of the UTRGV Nanotechnology Center and inaugural Director of the first Ph.D. program in the College of Engineering and Computer Science and a Ph.D. in Materials Science and Engineering (launched Fall 2023). Since 2000, Dr. Lozano has led a far-reaching transformation at a non-Ph.D. teaching institution. Her efforts have led to 100% retention and graduation rates for over 500 undergraduate (UG) students. Her NanoTeam, mostly composed of UG students, has published over 170 peer reviewed journal articles and >500 proceedings/conference presentations. She is listed in the World's Top 2% Scientist's List with work basically conducted at a teaching institution. She is a prolific inventor and has co-founded two companies, one of which received international awards, such as the R&D 100. Her technology coined Forcespinning® is leading industrial production of nanofibers. She is the recipient of several honors such as a member of the National Academy of Inventors, PAESMEM awardee, TEDx Speaker and Engineer of the Year by Great Minds in STEM. Dr. Lozano received a Lone Star EMMY award for her Energy & U virtual presentations.



**Julie M. Schoenung, Ph.D. (NAE)**  
**PROFESSOR, MATERIALS SCIENCE AND ENGINEERING**  
**AND MECHANICAL ENGINEERING**  
**WOFFORD CAIN CHAIR III**  
**TEXAS A&M UNIVERSITY**  
**NAE '22**

Dr. Julie M. Schoenung is the Wofford Cain Chair III and Professor of Materials Science and Engineering and Mechanical Engineering at Texas A&M University. She was recruited to Texas A&M from the University of California, Irvine in 2023. Dr. Schoenung's current research focus is on high entropy ceramics and additive manufacturing of ceramics, metals and composites. Dr. Schoenung is also a pioneer in the field of sustainable development of materials. She conducts research into the analysis of factors that guide the materials-selection decision-making process, such as economics, environmental impact and toxicity, cost-performance trade-offs, policy and sustainability standards. Dr. Schoenung has been honored with several awards such as Fellow of the American Association for the Advancement of Science, Materials Research Society, TMS and American Ceramic Society; Gold Medal and Edward DeMille Campbell Memorial Lectureship, ASM International; and more. She is also a fellow of the National Academy of Inventors.



**Vanessa E. Wyche (NAE)**  
**DIRECTOR**  
**JOHNSON SPACE CENTER**  
**NASA**  
**NAE '23**

Vanessa E. Wyche is the Director of NASA's Johnson Space Center, home to America's astronaut corps, Mission Control Center, International Space Station, Orion and Gateway programs and its more than 11,000 civil service and contractor employees. Ms. Wyche previously served as Deputy Director at Johnson and held several other key leadership positions throughout her career at NASA. Before joining NASA in 1989, Ms. Wyche worked for the Food and Drug Administration in Washington, D.C. She is a passionate promoter of science, technology, engineering and math (STEM) and has been awarded the Presidential Rank Award and an honorary doctoral degree from Coastal Carolina University. She is an AIAA Associate Fellow and International Women's Forum Fellow. Ms. Wyche was recently elected to the National Academy of Engineering, one of the highest professional distinctions accorded to an engineer. A native of South Carolina, Ms. Wyche earned a Bachelor of Science in Engineering and a Master of Science in Bioengineering from Clemson University.

## ***NATIONAL ACADEMY OF SCIENCES (NAS)***

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**Vanderlei S. Bagnato, Ph.D. (NAS)**  
**PROFESSOR, BIOMEDICAL ENGINEERING**  
**TEXAS A&M UNIVERSITY**  
**NAS '13**

Dr. Bagnato is a Professor of Biomedical Engineering at Texas A&M University. A world-renowned researcher, Dr. Bagnato has published over 600 peer-reviewed articles and supervised more than 130 master's and doctoral students throughout his career. He is a member of the National Academy of Sciences, the Brazilian Academy of Sciences and the elite Vatican Academy of Sciences, the oldest academy in the world. Dr. Bagnato was recruited through the Hagler Fellows Program at Texas A&M University. Throughout his career, he has focused his research on quantum science and life-saving technologies. His goal has been to make these technologies available to the public by translating his research into products and treatment programs. Most recently, Dr. Bagnato's research has focused on using photodynamic therapy to treat skin cancer, including non-melanoma and melanoma as well as the treatment of infections resistant to antibiotics. Besides biomedical research, he carries on fundamental research in quantum science involving cold atoms.



### **Russell A. DeBose-Boyd, Ph.D. (NAS)**

**BEATRICE AND MIGUEL ELIAS DISTINGUISHED CHAIR IN BIOMEDICAL SCIENCE**

**DEPARTMENT OF MOLECULAR GENETICS**

**UT SOUTHWESTERN MEDICAL CENTER**

**NAS '23**

*TAMEST 2024 Hill Prize Recipient in Biological Sciences*

Dr. DeBose-Boyd is the Beatrice and Miguel Elias Distinguished Chair in Biomedical Science at UT Southwestern Medical Center. His laboratory focuses on the regulation of HMG-CoA reductase, which produces mevalonate, a crucial intermediate in the synthesis of cholesterol. Dr. DeBose-Boyd discovered the pathway by which sterol and nonsterol isoprenoids combine to regulate the degradation of HMG-CoA reductase, basic mechanisms that inform the prevention and treatment of heart disease. He joined UT Southwestern in the laboratory of Nobel Laureates and TAMEST Members Joseph L. Goldstein, M.D. (NAM, NAS), and Michael S. Brown, M.D. (NAM, NAS), as a fellow of the Jane Coffin Childs Memorial Fund for Medical Research. He joined the UT Southwestern faculty in 2003. He received an Established Investigator Award from the American Heart Association in 2005 and was appointed a Howard Hughes Medical Institute Early Career Scientist in 2009.



### **Cameron M. Gordon, Ph.D. (NAS)**

**PROFESSOR, DEPARTMENT OF MATHEMATICS**

**THE UNIVERSITY OF TEXAS AT AUSTIN**

**NAS '23**

Dr. Gordon is a Professor and Emeritus Sid W. Richardson Foundation Regents Chair in the Department of Mathematics at The University of Texas at Austin, known for his work in knot theory. Among his notable results are his work with Marc Culler, John Luecke and Peter Shalen on the cyclic surgery theorem. His work with Luecke showed that knots are determined by their complement, and his proof that knotted 2-spheres in 4-dimensional space are not determined by their complement. He was also involved in the resolution of the Smith conjecture. Andrew Casson and Dr. Gordon introduced the Casson-Gordon invariants in the study of knot concordance, and later defined and proved basic theorems regarding strongly irreducible Heegaard splittings, an important concept in modern 3-dimensional topology. Dr. Gordon was a 1999 Guggenheim Fellow, and in 2005, he was elected a Corresponding Fellow of the Royal Society of Edinburgh.



### **Duoja Pan, Ph.D. (NAS)**

**INVESTIGATOR, HOWARD HUGHES MEDICAL INSTITUTE**

**PROFESSOR AND DEPARTMENT CHAIR OF PHYSIOLOGY**

**UT SOUTHWESTERN MEDICAL CENTER**

**NAS '23**

Dr. Duoja Pan, a Howard Hughes Medical Institute Investigator, is a Professor and the Chair of the Department of Physiology at UT Southwestern Medical Center. He is internationally known as the discoverer of the "Hippo" pathway of intracellular signaling. Dr. Pan has shown that Hippo signaling not only controls tissue growth across the animal kingdom but also plays important roles in tissue regeneration and tumorigenesis, the process by which normal cells become cancerous. Dr. Pan joined the UT Southwestern faculty as an Assistant Professor of Physiology in 1998 and was promoted to Associate Professor with tenure in 2004. He was recruited to Johns Hopkins that year, where he was made an HHMI Investigator in 2008, a Professor of Molecular Biology and Genetics in 2009 and was awarded the Paul Marks Prize for Cancer Research in 2013. In 2016, Dr. Pan returned to UT Southwestern Medical Center, and in 2022, he received the Passano Award.



**Helen M. Piwnica-Worms, Ph.D. (NAM, NAS)**  
**PROFESSOR, EXPERIMENTAL RADIATION ONCOLOGY**  
**SENATOR A.M. AIKIN JR. DISTINGUISHED CHAIR**  
**THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER**

**NAS '23**  
**NAM '13**

*Secretary, TAMEST Board of Directors*

Dr. Piwnica-Worms is a Professor of Experimental Radiation Oncology and holds the Senator A.M. Aikin Jr. Distinguished Chair position at MD Anderson Cancer Center. Dr. Piwnica-Worms has made significant contributions to our understanding of the biochemical mechanisms of cell cycle regulation and to determining how perturbations in cell cycle control mechanisms contribute to cancer onset. She discovered the biochemical mechanism by which CDK1, a key regulator of mitosis, is activated or deactivated during the cell cycle and how its activation is prevented by cell cycle checkpoints. This was the first direct link demonstrated between cell cycle checkpoints and mitotic control. Her work has been essential to the understanding of breast cancer development and progression, and her discoveries have prompted clinical studies for agents targeting the cell cycle and checkpoint proteins in multiple cancer types. She is an elected fellow of the Academy of Arts and Sciences, the American Association for the Advancement of Science and the AACR. She is an American Cancer Society Research Professor.



**A. Catherine Ross, Ph.D. (NAS)**  
**PROFESSOR OF NUTRITION**  
**TEXAS A&M UNIVERSITY**  
**NAS '03**

Dr. Ross joined the Texas A&M AgriLife Institute for Advancing Health Through Agriculture as the Scientific Director of a maternal/child cohort study and Professor in the Department of Nutrition at Texas A&M University in January 2023. Her addition to Texas A&M is part of the Governor's University Research Initiative. Dr. Ross has twice served on the Food and Nutrition Board of the Health and Medicine Division, forming networks with leading academic centers nationwide. She is recognized for her extensive research with vitamins A and D, pregnancy, lactation and neonatal lung and immune responses. Dr. Ross has published over 270 peer-reviewed research articles, book chapters and reviews. Most recently, she served as the head of the Department of Nutritional Sciences at The Pennsylvania State University. Dr. Ross also served as a scientific adviser to the National Institutes of Health, the Food and Drug Administration and the Department of Agriculture.



**Richard D. Wood, Ph.D. (NAS, FRS)**  
**J. RALPH MEADOWS CHAIR IN CARCINOGENESIS AND PROFESSOR**  
**DEPARTMENT OF EPIGENETICS AND MOLECULAR CARCINOGENESIS**  
**THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER**  
**NAS '23**  
**FRS '97**

Dr. Wood is the J. Ralph Meadows Chair in Carcinogenesis and a Professor at MD Anderson Cancer Center. He has made foundational contributions to the biochemistry and genetics of DNA repair and cancer development, particularly how eukaryotic cells repair ultraviolet (UV) radiation damage. He established a cell-free system for nucleotide excision repair (NER) in eukaryotes, allowing him to precisely define the NER mechanism and identify key enzymes in UV-induced damage repair. Dr. Wood's research group isolated the XPG and ERCC1-XPF nucleases and discovered their action via structure-specific incision. His recent work has yielded numerous discoveries that define the roles of various DNA polymerases in genome stability and cancer. He has been elected as a Fellow of the Royal Society (UK), the American Academy of Arts and Sciences and the American Association for the Advancement of Science.



## THE ROYAL SOCIETY (FRS)

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**Karen Uhlenbeck, Ph.D. (NAS, FRS)**

**PROFESSOR EMERITUS**

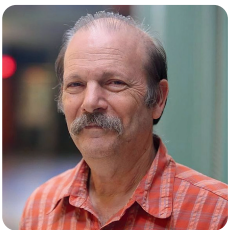
**DEPARTMENT OF MATHEMATICS**

**THE UNIVERSITY OF TEXAS AT AUSTIN**

**FRS '23**

**NAS '86**

Dr. Karen Uhlenbeck is a Professor Emeritus of Mathematics at The University of Texas at Austin. She is known as one of the founders of modern geometric analysis. She is currently a Distinguished Visiting Professor at the Institute for Advanced Study (IAS). Dr. Uhlenbeck was elected to the American Philosophical Society in 2007 and won the 2019 Abel Prize for "her pioneering achievements in geometric partial differential equations, gauge theory and integrable systems, and for the fundamental impact of her work on analysis, geometry and mathematical physics." She is the first, and so far the only woman to win the prize since its inception in 2003. Dr. Uhlenbeck donated half the monetary award from the Abel Prize to IAS and the Edge Foundation for programs to support mid-career unrepresented minorities, half of which are women. Dr. Uhlenbeck has worked in the areas of the calculus of variations, minimal surfaces, harmonic maps, gauge theory and integrable systems.



**Moshe Y. Vardi, Ph.D. (NAE, NAS, FRS)**

**KAREN OSTRUM GEORGE DISTINGUISHED SERVICE PROFESSOR IN**

**COMPUTATIONAL ENGINEERING**

**RICE UNIVERSITY**

**FRS '23**

**NAE '02**

**NAS '15**

Dr. Moshe Y. Vardi is a University Professor and the George Distinguished Service Professor in Computational Engineering at Rice University. His research areas include automated reasoning, databases, computational complexity theory, design specification and verification. He is the recipient of three IBM Outstanding Innovation Awards, the ACM SIGACT Goedel Prize, the ACM Kanellakis Award, the ACM SIGMOD Codd Award, the Blaise Pascal Medal, the IEEE Computer Society Goode Award and more. He is the author and co-author of over 750 papers as well as two books. He is a Fellow of the American Association for the Advancement of Science, the American Mathematical Society, the Association for Computing Machinery, the American Association for Artificial Intelligence, the European Association for Theoretical Computer Science, the Institute for Electrical and Electronic Engineers and the Society for Industrial and Applied Mathematics. He holds eight honorary doctorates. He is currently a Senior Editor of the Communications of the ACM after having served for a decade as Editor-in-Chief.

**View our full membership directory:  
[TAMEST.org/members](https://tamest.org/members)**

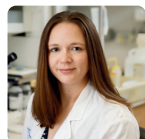
## 2024 TAMEST Protégés

TAMEST is pleased to welcome 55 talented early-career researchers to our 2024 annual conference as TAMEST protégés. The protégé program encourages TAMEST members to invite early-career researchers to accompany them to the conference, provide an opportunity to participate in our TAMEST Protégé Poster Challenge and allow for engagement with our highly accomplished members. Since 2004, TAMEST has honored more than 1,000 protégés at its annual conferences. More than 50 have gone on to achieve election to the National Academies and other honorific organizations. More than 20 have gone on to become recipients of the Edith and Peter O'Donnell Awards, Hill Prizes or Mary Beth Maddox Award.



### Emily Adhikari, M.D.

Assistant Professor  
UT Southwestern Medical Center  
*Catherine Spong, M.D. (NAM)*



### Amanda Casey, Ph.D.

Research Assistant Professor  
UT Southwestern Medical Center  
*Kim Orth, Ph.D. (NAS)*



### Stephen Arrowsmith, Ph.D.

Professor  
Hamilton Chair in Earth Sciences  
Southern Methodist University  
*David Meltzer, Ph.D. (NAS)*



### Jiang Chang, M.D., Ph.D.

Professor and Deputy Director  
Texas A&M University  
*Kenneth S. Ramos, M.D., Ph.D. (NAM)*



### Raymundo Arróyave, Ph.D.

Professor  
Texas A&M University  
*Alan Needleman, Ph.D. (NAE)*



### Jiefu Chen, Ph.D.

Associate Professor  
University of Houston  
*Hao Huang, Ph.D. (NAE)*



### Carlos R. Baiz, Ph.D.

Associate Professor of Chemistry  
The University of Texas at Austin  
*Jonathan L. Sessler, Ph.D. (NAS)*



### Mini Das, Ph.D.

Professor  
University of Houston  
*Jerome Schultz, Ph.D. (NAE)*



### Aaron T. Becker, Ph.D.

Associate Professor  
University of Houston  
*Donald Robert Wilton, Ph.D. (NAE)*



### Ali Davoudi, Ph.D.

Professor  
The University of Texas at Arlington  
*James J. Coleman, Ph.D. (NAE)*



### Adam Birchfield, Ph.D.

Assistant Professor  
Texas A&M University  
*Thomas J. Overbye, Ph.D. (NAE)*



### C. Tyler Dick, Ph.D.

Assistant Professor  
The University of Texas at Austin  
*C. Michael Walton, Ph.D. (NAE)*



### Linh Bui, Ph.D.

Associate Research Scientist  
The Dow Chemical Company  
*Leo H. Chiang, Ph.D. (NAE)*



### Alex Dimakis, Ph.D.

Professor  
The University of Texas at Austin  
*Bob Metcalfe, Ph.D. (NAE)*



### Jessica Butts, Ph.D.

Assistant Professor  
Rice University  
*Antonios G. Mikos, Ph.D. (NAM, NAE)*



### Graham Erwin, Ph.D.

Assistant Professor  
Baylor College of Medicine  
*Brendan Lee, M.D., Ph.D. (NAM)*



**Lief Fenno, M.D., Ph.D.**

Assistant Professor of Psychiatry & Neuroscience  
The University of Texas at Austin  
*Charles B. Nemeroff, M.D., Ph.D. (NAM)*



**John Foster, Ph.D.**

Associate Professor  
The University of Texas at Austin  
*Mukul M. Sharma, Ph.D. (NAE)*



**Wei Gao, Ph.D.**

Associate Professor  
Texas A&M University  
*Ali Erdemir, Ph.D. (NAE)*



**Jonathan A. L. Gelfond, M.D., Ph.D.**

Associate Professor  
UT Health San Antonio  
*Amelie G. Ramirez, DrPH (NAM)*



**William Gilpin, Ph.D.**

Assistant Professor  
The Oden Institute for Computational Engineering & Sciences  
The University of Texas at Austin  
*Harry Swinney, Ph.D. (NAS)*



**Teja Guda, Ph.D.**

Associate Professor  
The University of Texas at San Antonio  
*Rena Bizios, Ph.D. (NAM, NAE)*



**Zhu Han, Ph.D.**

John and Rebecca Moores Professor  
University of Houston  
*Jie Zhang, Ph.D. (NAE)*



**Faruque Hasan, Ph.D.**

Associate Professor of Chemical Engineering  
Texas A&M University  
*Stratos Pistikopoulos, Ph.D. (FREng)*



**Charles Ishak, Ph.D.**

Assistant Professor  
The University of Texas MD Anderson Cancer Center  
*Anil K. Sood, M.D. (NAM)*



**Justyn Jaworski, Ph.D.**

Assistant Professor  
The University of Texas at Arlington  
*Florence P. Haseltine, M.D., Ph.D. (NAM)*



**Binata Joddar, Ph.D.**

Associate Professor  
The University of Texas at El Paso  
*Ahmad M. Itani, Ph.D.*



**Christine Julien, D.Sc.**

Professor  
The University of Texas at Austin  
*Sharon L. Wood, Ph.D. (NAE)*



**Dan Kober, Ph.D.**

Assistant Professor  
UT Southwestern Medical Center  
*Margaret Phillips, Ph.D. (NAS)*



**Manish Kumar, Ph.D.**

Professor  
The University of Texas at Austin  
*Bob B. Gilbert, Ph.D. (NAE)*



**Kyung Jae Lee, Ph.D.**

Associate Professor  
University of Houston  
*Christine A. Ehlig-Economides, Ph.D. (NAE)*



**Don Lipkin, Ph.D.**

Professor  
Texas A&M University  
*Enrique J. Lavernia, Ph.D. (NAE)*



**Hongchao Liu, Ph.D.**

Professor  
Texas Tech University  
*Kishor C. Mehta, Ph.D. (NAE)*



**Zhandong Liu, Ph.D.**

Associate Professor  
Baylor College of Medicine  
*Huda Y. Zoghbi, M.D. (NAM, NAS)*



**David Mayerich, Ph.D.**

Associate Professor  
University of Houston  
*Kaushik Rajashekara, Ph.D. (NAE)*



**Siddharth Misra, Ph.D.**

Associate Professor  
Texas A&M University  
*D. Nathan Meehan, Ph.D. (NAE)*

**Hernan Moreno, Ph.D.**

Assistant Professor  
The University of Texas at El Paso  
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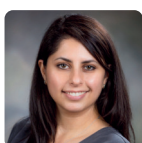
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Assistant Professor  
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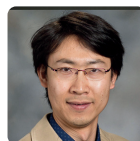
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Texas Tech University  
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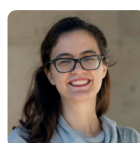
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**Stephen Yi, Ph.D.**

Director of Bioinformatics  
The University of Texas at Austin  
*Karen E. Willcox, Ph.D. (NAE)*

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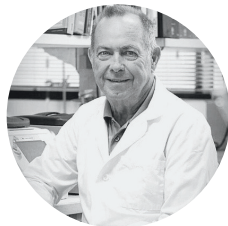


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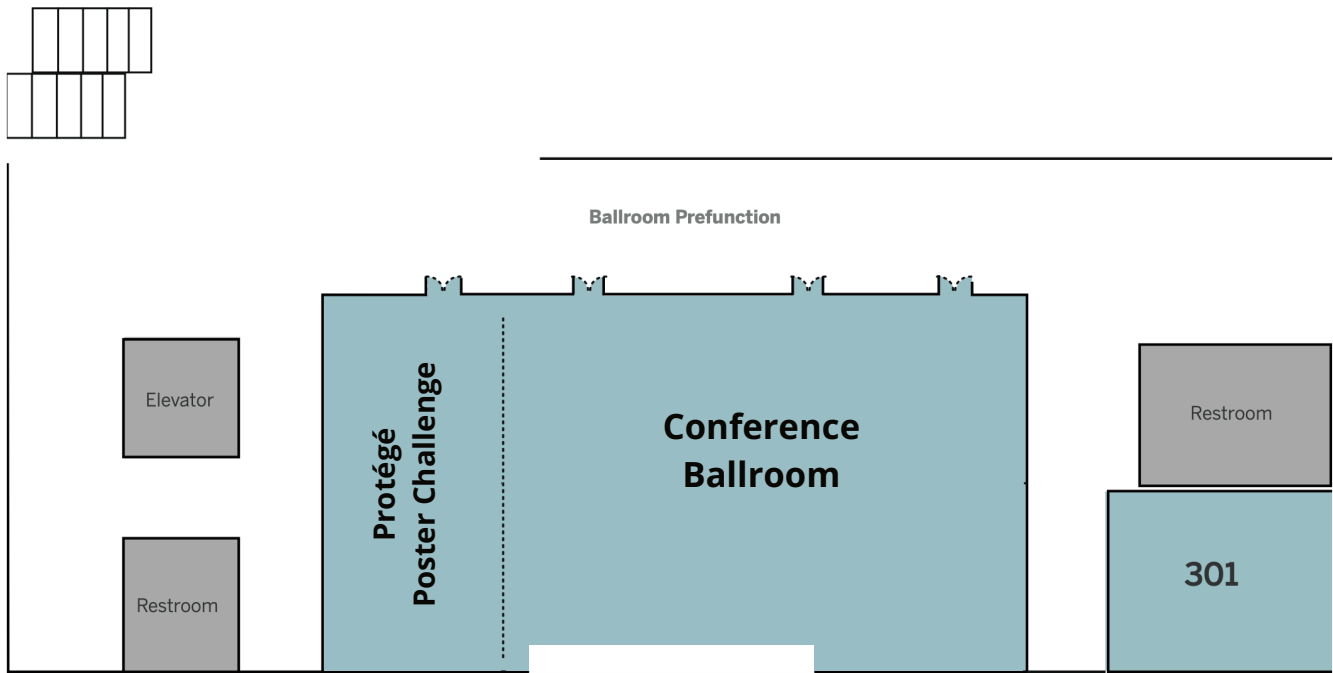
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