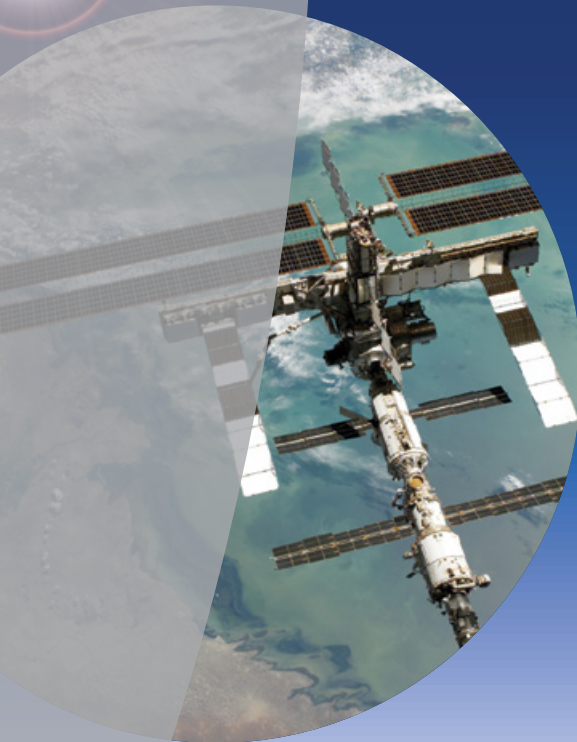




TAMEST ★ *2018 Annual Conference* **AEROSPACE**

January 10-12, 2018

*South Shore Harbour Resort and Conference Center
League City, Texas*



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

TAMEST ★ 2018 Annual Conference **AEROSPACE**

| | |
|----------------------------------|----|
| Speakers and Panels | 4 |
| Edith and Peter O'Donnell Awards | 10 |
| New Members | 13 |
| Protégés | 22 |
| TAMEST Leadership | 26 |
| Sponsors | 28 |
| Endowment Donors | 30 |
| Venue Map and Wi-Fi | 32 |
| Save the Date | 34 |

ABOUT TAMEST

The Academy of Medicine, Engineering and Science of Texas (TAMEST) is the state's premier scientific organization, bringing together Texas' best and brightest scientists and researchers. TAMEST membership includes all Texas-based members of the National Academies of Sciences, Engineering, and Medicine and the state's Nobel Laureates.

TAMEST provides broader recognition of the state's top achievers in medicine, engineering and science and further positions Texas as a national research leader. TAMEST fosters the next generation of scientists and increases awareness of and communication among the state's top scientists and researchers.





"Texas has a wealth of expertise in aerospace. This conference is a unique opportunity for us to not just learn from each other, but also to share with Texas and the nation what we can do."

Bonnie J. Dunbar, Ph.D. (NAE)
Program Chair

Texas is a leader in aerospace, home to the only human space flight center in the nation, a planetary institute and over 1,400 aerospace-related companies. Texas also employs more than 148,000 aerospace workers and exports billions in manufactured aerospace goods. Aerospace is an important research and business sector for the state.

What does the future have in store for aerospace in Texas, the country and the world? The **TAMEST 2018 Annual Conference: Aerospace** will explore the potential in Texas for greater research and development in aerospace, specifically in the areas of human space flight, aeronautics and commercial space exploration.

2018 ANNUAL CONFERENCE PROGRAM COMMITTEE

PROGRAM CHAIR:

Bonnie J. Dunbar, Ph.D. (NAE)
Director, TEES Institute
Texas A&M University

PROGRAM COMMITTEE:

Bobby R. Alford, M.D. (NAM)
Honorary Program Co-Chair
Baylor College of Medicine

H. Norman Abramson, Ph.D. (NAE)
Southwest Research Institute (Retired)

John L. Junkins, Ph.D. (NAE)
Texas A&M University

Hans M. Mark, Ph.D. (NAE)
The University of Texas at Austin

Ellen Ochoa, Ph.D.
NASA Johnson Space Center

Louise Prockter, Ph.D.
Lunar and Planetary Institute, USRA

Paul D. Spudis, Ph.D.
Lunar and Planetary Institute

Jeffrey P. Sutton, M.D., Ph.D.
Baylor College of Medicine

Byron D. Tapley, Ph.D. (NAE)
The University of Texas at Austin

PROGRAM SUBJECT TO CHANGE

Wednesday, January 10, 2018

Opening Reception – Space Center Houston | 6:30–8:30 p.m.

International Space Station (ISS) Crew welcomes attendees to the conference (video) and TAMEST recognizes new members.

Thursday, January 11, 2018

Breakfast | 7:30–8:30 a.m.

Opening Remarks | 8:30–8:45 a.m.

TAMEST President Gordon R. England and Conference Program Chair Bonnie J. Dunbar, Ph.D., welcome attendees to the conference.

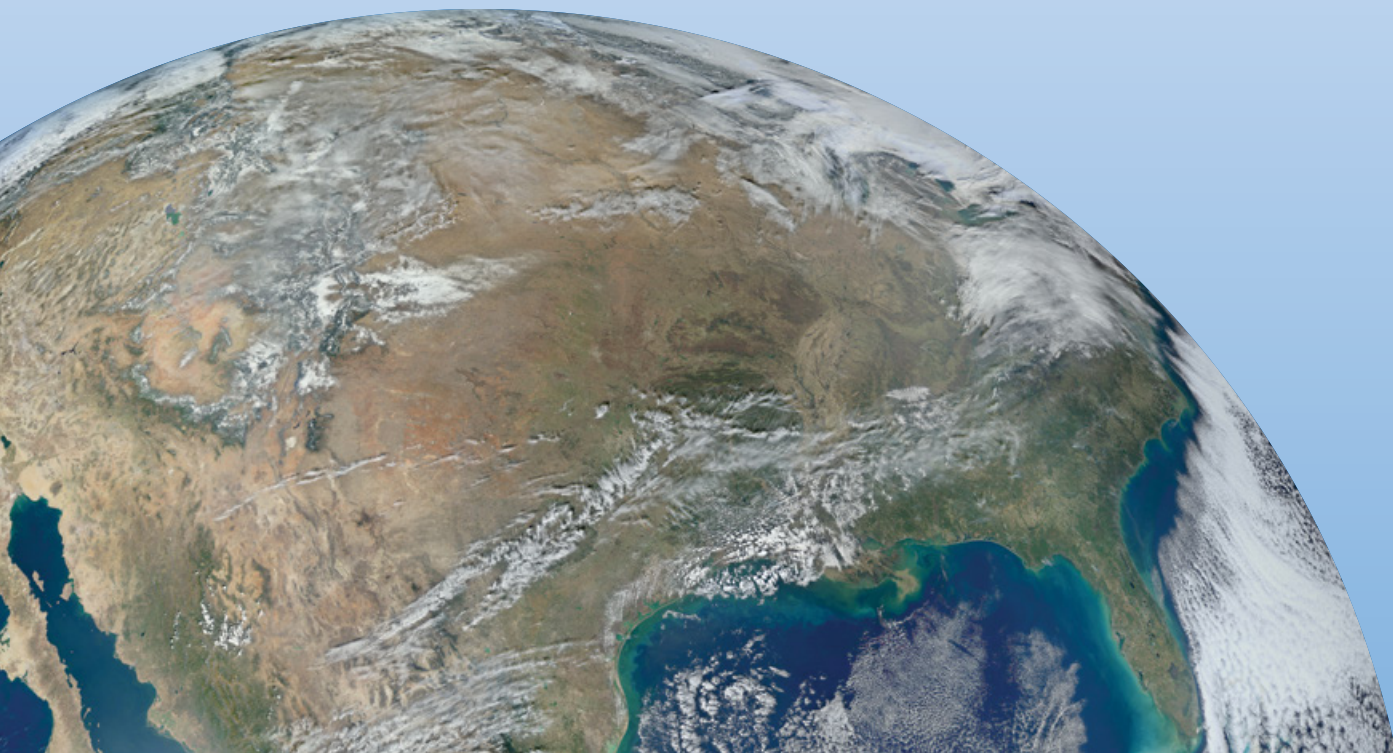
NASA 2018 and Beyond: An Integrated View of NASA's Work to Make the Next Giant Leaps in Exploration | 8:45–9:10 a.m.

In addition to continuing breakthroughs in aeronautics and space technology, and a breathtaking science portfolio, NASA is developing a flexible deep space infrastructure to support a steady cadence of increasingly complex missions that strengthens American leadership in the boundless frontier of space. With the president's new Space Policy Directive-1 in place, the agency will build on its work to date with the Space Launch System rocket and Orion spacecraft to support a U.S.-led, integrated program with private sector partners for a human return to the moon, followed by missions to Mars and beyond.

The acting NASA Administrator will discuss the agency's plans going forward, its partnerships and collaborations, and milestones in the coming year.



Robert M. Lightfoot Jr.
Acting Administrator, NASA



Leaders of Aerospace Research in Texas | 9:10–10:05 a.m.

Texas is a leader in aerospace—it's home to the only human space flight center in the nation, two spaceports and multiple universities and research institutes. In this session, leaders from government, universities and research institutes discuss what is happening in the aerospace field at their organizations, and what skills and resources are needed to ensure a stronger future for the aerospace sector in Texas.

MODERATOR:**Bob Metcalfe, Ph.D. (NAE)**

Professor of Innovation, The University of Texas at Austin

PANELISTS:**David E. Daniel, Ph.D. (NAE)**

Deputy Chancellor, The University of Texas System

**Adam L. Hamilton, P.E.**

President and CEO, Southwest Research Institute

**David W. Leebron, J.D.**

President, Rice University

**Ellen Ochoa, Ph.D.**

Center Director, NASA Johnson Space Center

**Louise Prockter, Ph.D.**

Director, Lunar and Planetary Institute; USRA

**John Sharp**

Chancellor, The Texas A&M University System

Break | 10:05–10:20 a.m.**Human Space Flight: International Space Station (ISS) Breakthroughs | 10:20 a.m.–12:10 p.m.**

Panelists will present engineering, science and medical advancements and contributions taking place aboard the ISS and the challenges ahead for future explorations.

MODERATOR:**Ellen Ochoa, Ph.D.**

Center Director, NASA Johnson Space Center

PANELISTS:**Benjamin D. Levine, M.D.**

Professor of Internal Medicine and Cardiology, UT Southwestern Medical Center
Specific Medical Research

**Jeffrey P. Sutton, M.D., Ph.D.**

Professor, Center for Space Medicine, Baylor College of Medicine
Space Biomedical Opportunities and Successes

**Julie Robinson, Ph.D.**

Chief Scientist, International Space Station, NASA
International Space Station Science Accomplishments

**Sam Ting, Ph.D.**

1976 Nobel Laureate, Physics; MIT
Alpha Magnetic Spectrometer

**Kirk Alden Shireman**

International Space Station Program Manager, NASA
Research on the ISS and International Human Exploration Strategy

Break | 12:10–12:40 p.m.

Lunch Presentations | 12:40–2:05 p.m.

Frontier of Commercial Space Flight

Commercial space flight is an emerging field and Texas is at the forefront. With two commercial launch sites in Texas and two space ports designated by the FAA, this industry brings private and public partners together in new ways. Leaders in commercial space talk about what's happening in the field and what's next for Texas.

PANELISTS:



David Alexander, Ph.D.

Director, Rice Space Institute and
Professor, Rice University



Gwynne Shotwell

President and COO, SpaceX



Christopher Ferguson

Deputy Program Manager of Operations,
Boeing Commercial Crew Program



Michael T. Suffredini

President, CEO and Co-Founder,
Axiom Space, LLC

Break | 2:05–2:20 p.m.

Texas Aeronautics: Business, Education and Research | 2:20–4:00 p.m.

Currently, Texas employs more than 148,000 people in aerospace, making the field a key economic driver for the state. What can the state do to help support the industry as it continues to have an impact in Texas?

In this session, we'll hear from an industry association, aeronautics manufacturers and an airline provider on the business, technical and workforce challenges of the industry.

MODERATOR:



H. Norman Abramson, Ph.D. (NAE)

Retired Executive Vice President,
Southwest Research Institute

PANELISTS:



Orlando Carvalho

Executive Vice President, Aeronautics,
Lockheed Martin



Michael Thacker

Executive Vice President, Technology
and Innovation, Bell Helicopter



Janine K. Iannarelli

Founder and President, Par Avion Ltd.



Ron Ricks

Vice Chairman, Board of Directors,
Southwest Airlines Co.

Break | 4:00–4:20 p.m.

Aeronautics Research: Challenges and Successes | 4:20–5:50 p.m.

In this conversation, a variety of aeronautics researchers will discuss their specific research needs and discoveries. This session will also address the research and workforce preparations needed in the future to maintain a thriving aeronautics industry.

MODERATOR:**H. Norman Abramson, Ph.D. (NAE)**

Retired Executive Vice President,
Southwest Research Institute

PANELISTS:**Rodney Dale Welch Bowersox, Ph.D.**

Department Head and Ford I Professor
of Aerospace Engineering,
Texas A&M University
Hypersonics

**Jerry Hendrix**

Executive Director, Lone Star UAS
Center of Excellence & Innovation,
Texas A&M University–Corpus Christi
Unmanned Aerial Vehicles

**Glenn W. Liston**

Chief, Air Force Research Laboratory
High Speed Experimentation Branch
The Future of Hypersonic Flight

**Jayant Sirohi, Ph.D.**

Associate Professor, Department of
Aerospace Engineering and Engineering
Mechanics, The University of Texas at Austin
Vertical Lift

**Luciano Smith**

Principal Engineer, Aerospace Structures,
Southwest Research Institute
*Manufacturing and Life Extension
Research*

Break | 5:50–7:30 p.m.**Edith and Peter O'Donnell Awards Dinner | 7:30 p.m.**

Friday, January 12, 2018

Breakfast | 7:30–8:30 a.m.

Edith and Peter O'Donnell Awards Recipient Presentations | 8:30–10:00 a.m.

2018 O'DONNELL AWARDS RECIPIENTS

Medicine: Jordan Scott Orange, M.D., Ph.D.

Professor of Pediatrics and Chief of Immunology, Allergy and Rheumatology
Baylor College of Medicine

Engineering: Delia J. Milliron, Ph.D.

Professor, McKetta Department of Chemical Engineering
The University of Texas at Austin

Science: Xiaoqin Elaine Li, Ph.D.

Associate Professor, Department of Physics
The University of Texas at Austin

Break | 10:00–10:15 a.m.

Robotic Exploration of the Solar System: From Mercury to Pluto and Beyond | 10:15 a.m.–12:00 p.m.

From our closest planetary neighbor, the moon, out to distant Pluto, the exploration of the solar system by robotic spacecraft over the past decade has yielded many surprises, new insights and understanding. In this session, prominent Texas scientists describe the latest results from a variety of robotic missions and describe our new knowledge of planetary origins, processes and history resulting from these explorations.

VIDEO: Seven Minutes of Terror: The Challenges of Getting to Mars

MODERATOR:



Louise Prockter, Ph.D.

Director, Lunar and Planetary Institute;
USRA

PANELISTS:



Scott J. Bolton, Ph.D.

Associate Vice President–R&D,
Southwest Research Institute
Juno



Susan M. Lederer, Ph.D.

Planetary and Space Scientist, NASA
Johnson Space Center
New TRAPPIST-1 Exoplanets



Elizabeth Rampe, Ph.D.

Exploration Mission Scientist, NASA
Johnson Space Center
Mars – Curiosity



Paul Schenk, Ph.D.

Senior Staff Scientist, Lunar and
Planetary Institute; NASA
Pluto – New Horizons Results



Paul D. Spudis, Ph.D.

Staff Scientist, Lunar and Planetary
Institute
The Moon – Return to the Moon



Jack Hunter Waite Jr., Ph.D.

Program Director for Mass Spectrometry,
Division of Space Science and
Engineering, Southwest Research Institute
*Saturn – Cassini Observations of
Enceladus Plumes*

Break | 12:00–12:15 p.m.**Lunch** | 12:15–1:00 p.m.**Sequencing DNA on the International Space Station (ISS)** | 1:00–1:30 p.m.

The ISS started out as a sterile environment, but after more than 15 years of crews living onboard, it's full of microbes. With an interest to identify these microbes in real-time as well as a broader interest in studying molecular biology in space, NASA tasked microbiologist Kate Rubins, Ph.D., with setting up a microbiology lab on the station. Dr. Rubins will provide a firsthand account of what it was like to sequence DNA in space for the first time.

**Kate Rubins, Ph.D.**

Astronaut, NASA Johnson Space Center

Panel Discussion: Astronauts | 1:30–2:30 p.m.

Astronauts manage research on the ISS, design new rockets, are members of NASA leadership and continue to promote a return to the moon. A panel of astronauts from various missions will answer questions about the extensive research and work they do both during and after their flight careers, the experiences they've had and their visions for the future of aerospace.

MODERATOR:

**Bonnie J. Dunbar, Ph.D. (NAE)**

Director, TEES Institute, Texas A&M University

PANELISTS:

**Franklin Chang Díaz, Ph.D.**

Chief Executive Officer, Ad Astra Rocket Company

**Ellen Ochoa, Ph.D.**

Center Director, NASA Johnson Space Center

**Colonel Walter Cunningham**

USMC-Ret.

**Kate Rubins, Ph.D.**

Astronaut, NASA Johnson Space Center

**Gregory H. Johnson**President and Executive Director,
Center for the Advancement of Science
in Space (CASIS)**TAMEST Leadership Update and Closing Remarks** | 2:30–2:45 p.m.

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 are among Texas' staunchest advocates for excellence in scientific advancement and STEM education.

TEXAS' RISING STAR RESEARCHERS

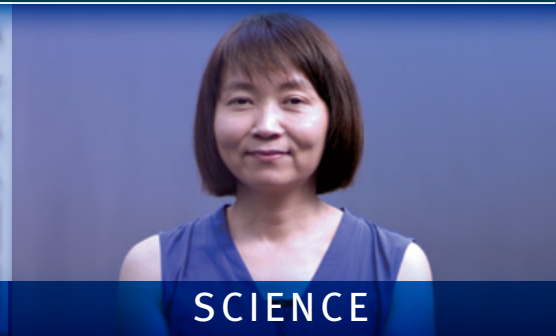
2018 O'Donnell Awards Recipients



MEDICINE



ENGINEERING



SCIENCE

Jordan Scott Orange, M.D., Ph.D.

Professor of Pediatrics and Chief
of Immunology, Allergy and
Rheumatology
Baylor College of Medicine

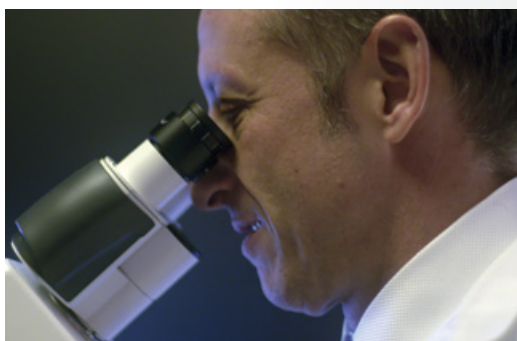
Delia J. Milliron, Ph.D.

Professor, McKetta Department of
Chemical Engineering
The University of Texas at Austin

Xiaoqin Elaine Li, Ph.D.

Associate Professor, Department of
Physics
The University of Texas at Austin





MEDICINE: Jordan Scott Orange, M.D., Ph.D.

Dr. Orange is professor of pediatrics and chief of the section of Immunology, Allergy and Rheumatology at Baylor College of Medicine, and the director of the Center for Human Immunobiology at Texas Children's Hospital. Dr. Orange is a trailblazing innovator in modern medicine. He has defined a new class of diseases, natural killer cell deficiencies. His work has uncovered immune deficiencies and identified secrets of these disorders to improve diagnosis and treatment for patients, particularly children.

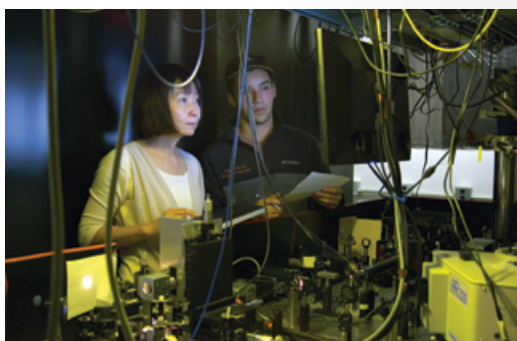
"Learning more about how natural killer cells work could have an important role in the therapy of some of the most vexing medical conditions that we face," says Mark W. Kline, M.D., professor and Ralph D. Feigin Chair of Pediatrics at Baylor College of Medicine and physician-in-chief at Texas Children's Hospital. "The potential of his work is just now beginning to manifest."



ENGINEERING: Delia J. Milliron, Ph.D.

Dr. Milliron is a professor in the McKetta Department of Chemical Engineering at the Cockrell School of Engineering at The University of Texas at Austin. She has advanced technology that could revolutionize how windows are used in modern architecture by developing a new material that when applied to windows can dynamically control the amount of infrared light that passes through. This "smart window" technology allows visual interaction with the outdoors without having too much—or not enough—heat from the sun, which could result in significantly reduced energy consumption.

"Dr. Milliron has a very deep understanding of chemistry and physics," says Thomas M. Truskett, Ph.D., department chair of the McKetta Department of Chemical Engineering at the Cockrell School of Engineering at The University of Texas at Austin. "She knows how to identify the great problems we face and the societal needs that have to be addressed."



SCIENCE: Xiaoqin Elaine Li, Ph.D.

Dr. Li is an associate professor in the Department of Physics of the College of Natural Sciences at The University of Texas at Austin. Her research focuses on the interaction of light and matter at the nanoscale in quantum materials. Her innovative work has helped create and control materials that can emit one photon at a time. The creation and manipulation of these materials could open the door to major advances in energy, communications and computing.

"Dr. Li's research makes a number of things potentially possible, one being completely secure communications," says Jack L. Ritchie, Ph.D., department chair and professor in the Department of Physics of the College of Natural Sciences at The University of Texas at Austin. "She is doing the kind of foundational research that could lead to new types of improved solar cells and perhaps ultimately build new types of computers."



BUILDING THE FOUNDATION FOR INNOVATION.

AT LOCKHEED MARTIN,
WE'RE ENGINEERING A BETTER TOMORROW.

At Lockheed Martin, we know that innovation and creativity are critical to solving the world's most complex challenges, whether in the air, on land, at sea, or in space. We are proud to be a feature sponsor of TAMEST's 2018 Annual Conference, and salute its important mission of exploring potential in Texas for greater research and development in aerospace. Together, we'll engineer a better tomorrow for Texas, the country and the world.

Learn more at lockheedmartin.com



NEW MEMBERS

In 2017, TAMEST welcomed 18 new members, bringing our total number of members to 294. Of these new members, 8 were elected to one of the National Academies in 2017, and 10 became members as a result of their relocation to Texas.

NATIONAL ACADEMY OF MEDICINE



Carrie L. Byington, M.D.

NATIONAL ACADEMY OF
MEDICINE: 2017
Senior Vice President
Texas A&M University Health
Science Center

Dr. Byington, a national leader in pediatrics and infectious disease, joined Texas A&M in 2017 after a

21-year career at the University of Utah Health Science Center. Along with her position as senior vice president of the Texas A&M University Health Science Center, she also serves as dean of the Texas A&M College of Medicine and vice chancellor for Health Services at The Texas A&M University System. She is the first Mexican-American female to hold the position of dean and senior vice president for an academic medical center in the United States.

In her practice, Dr. Byington has a very strong dedication to increasing access to care. She has devoted her career to providing excellent care to underserved women and children, particularly those living in poverty.

She is internationally recognized for her research on bacterial and viral infections in infants and children. In 2016, she served as chair of the Infectious Diseases Advisory Group for the U.S. Olympic Committee and worked with athletes, coaches and staff to prevent Zika virus infection in those traveling to Brazil for the Games.

She received her B.S. in biology from Texas A&M University and her M.D. from Baylor College of Medicine.



Gerard E. Francisco, M.D.

NATIONAL ACADEMY OF
MEDICINE: 2017
Chairman and Professor,
Department of Physical
Medicine and Rehabilitation
The University of Texas Health
Science Center at Houston
(UTHealth) McGovern Medical
School

Dr. Francisco is one of the nation's leading physicians in the field of brain injury, stroke rehabilitation and spasticity management. He is currently conducting research on the use of botulinum toxins and intrathecal baclofen for the treatment of spasticity, along with the use of robots, neural interfaces and neuromodulation to facilitate recovery after stroke or spinal cord injury.

Dr. Francisco is one of three principal investigators of a four-year National Institutes of Health R01 grant to create and validate a noninvasive brain-robot interface to help stroke patients recover use of their upper limbs to the fullest extent possible.

In the last decade, he received the Dean's Teaching Award from McGovern Medical School, and the Physical Medicine and Rehabilitation Alliance of Baylor College of Medicine and The University of Texas Health Science Center Teacher of the Year Award. Dr. Francisco was former Congresswoman Gabrielle Giffords' brain injury rehabilitation physician during her stay at TIRR Memorial Hermann.

He received his medical degree from the University of the Philippines College of Medicine and completed his residency at the University of Medicine and Dentistry – New Jersey Medical School. Concurrent to his responsibilities at UTHealth, Dr. Francisco is the chief medical officer at TIRR Memorial Hermann, where he is the founding director of the NeuroRecovery Research Center.



Maura Gillison, M.D., Ph.D.

NATIONAL ACADEMY OF
MEDICINE: 2016
Professor, Department of
Thoracic Head and Neck
Medical Oncology
The University of Texas MD
Anderson Cancer Center

In 2017, Dr. Gillison was recruited from The Ohio State University where she served as the Jeg Coughlin Chair in Cancer Research to join MD Anderson Cancer Center.

She has made significant research contributions to the fields of tumor virology, cancer biology and epidemiology, and is considered a leading expert on HPV and oral cancer. In 2000, Dr. Gillison led the team that first demonstrated that some head and neck squamous cell carcinomas (HNSCCs) are HPV-positive, and that HPV is the causative agent of a subset of head and neck cancer. Her work has had, and will continue to have, significant public health implications.

Dr. Gillison is a recipient of the Clinical Investigator Award from the Damon Runyon Cancer Research Institute, and received the Richard and Hilda Rosenthal Award (2012) from the American Association for Cancer Research. She is a member of the American Society of Clinical Investigation and a fellow of the American Association for the Advancement of Science. Dr. Gillison also serves on the science advisory board for the Oral Cancer Foundation.

She received her B.S. from Duke University and her M.D. from the Johns Hopkins University School of Medicine and her Ph.D. from the Johns Hopkins School of Hygiene and Public Health.



Ricardo Martinez, M.D.

NATIONAL ACADEMY OF
MEDICINE: 2004
Chief Medical Officer
Adeptus Health

Dr. Martinez is a nationally recognized board-certified emergency physician and has practiced emergency medicine clinically for more than 30 years, and held senior roles in business, academia and the federal government.

Before joining Adeptus Health, Dr. Martinez was chief medical officer of North Highland Worldwide Consulting, where a major focus of his work was collaborating with physician leadership to enhance their effectiveness in

providing high-value care, building data-driven patient-centered teams and driving cultural change. Dr. Martinez also served as executive vice president of Medical Affairs for the Schumacher Group, a leading emergency medicine practice management company, and was previously appointed federal administrator of the National Highway Traffic Safety Administration (NHTSA) by President Clinton.

He currently serves as faculty at Emory University School of Medicine and previously held roles at Stanford University School of Medicine and as executive director of the Medical Leadership Academy. Dr. Martinez has been a senior medical advisor to the National Football League since 1988, facilitating medical care, emergency planning, preparedness and public health for the Super Bowl. He served on the board of directors of the Public Health Foundation, and is a member of the NAM Board of Population Health and Public Health Practice.

Dr. Martinez pursued undergraduate studies from Louisiana State University, an M.D. from Louisiana State University School of Medicine and his residency at LSU-Charity Hospital at New Orleans, where he was chief resident.



Roderic I. Pettigrew, M.D., Ph.D.

NATIONAL ACADEMY OF
MEDICINE: 2007; NATIONAL
ACADEMY OF ENGINEERING:
2010
CEO, EnHealth; Executive
Dean, EnMed
Texas A&M University

Dr. Pettigrew was recruited to Texas A&M as part of the Governor's University Research Initiative (GURI). He holds two senior leadership positions, one leading a new program (EnHealth) that will integrate engineering into all of the Texas A&M colleges within the university's system that are part of the healthcare enterprise and the other as executive dean of EnMed, an initiative that will train Texas A&M medical students to invent solutions to challenging medical problems.

Prior to his appointment at Texas A&M University, Dr. Pettigrew was the founding director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) at the National Institutes of Health (NIH). From 2013–2014, he served as the NIH acting chief officer for Scientific Workforce Diversity to coordinate and oversee all NIH activities that address the unique diversity and inclusion challenges to strengthen the national biomedical research workforce.

Before joining the NIH, he was a professor of radiology at Emory University, professor of bioengineering at the

Georgia Institute of Technology and director of the Emory Center for Magnetic Resonance Research at the Emory University School of Medicine. He is known internationally for his pioneering work at Emory University involving four-dimensional imaging of the cardiovascular system using magnetic resonance (MRI). His current research focuses on integrated imaging and predictive biomechanical modeling of coronary atherosclerotic disease.

NATIONAL ACADEMY OF ENGINEERING



David T. Allen, Ph.D.

NATIONAL ACADEMY OF ENGINEERING: 2017
Professor, Department of Chemical Engineering and UTeach-Engineering, The Cockrell School of Engineering
The University of Texas at Austin

Dr. Allen is the Gertz Regents Professor of Chemical Engineering and the director of the Center for Energy and Environmental Resources at The University of Texas at Austin. He is the author of seven books and over 250 papers, primarily in the areas of urban air quality, the engineering of sustainable systems and the development of materials for environmental and engineering education.

Dr. Allen has been a lead investigator for multiple air quality measurement studies, which have had a substantial impact on the direction of air quality policies. He directs the Air Quality Research Program for the state of Texas, and he is the founding editor-in-chief of the American Chemical Society's journal *ACS Sustainable Chemistry & Engineering*. He has developed environmental educational materials for engineering curricula and for the university's core curriculum, as well as engineering education materials for high school students. He led the development of a yearlong high school engineering course, *Engineer Your World*, which is used in hundreds of high schools nationwide.

The quality of his work has been recognized by the National Science Foundation, the AT&T Foundation, the American Institute of Chemical Engineers, the Association of Environmental Engineering and Science Professors and the state of Texas. He has served on a variety of governmental advisory panels and from 2012 to 2015 chaired the U.S. Environmental Protection Agency's Science Advisory Board. He has won teaching awards at the University of Texas and UCLA and the Lewis Award in Chemical Engineering Education from the American Institute of Chemical Engineers.

Dr. Allen received his B.S. degree in chemical engineering, with distinction, from Cornell University in 1979. His M.S. and Ph.D. degrees in chemical engineering were awarded by the California Institute of Technology in 1981 and 1983. He has held visiting faculty appointments at the California Institute of Technology, the University of California, Santa Barbara and the Department of Energy.



Birol Dindoruk, Ph.D.

NATIONAL ACADEMY OF ENGINEERING: 2017
Principal Technical Expert of Reservoir Engineering
Shell International

Dr. Dindoruk is a Principal Technical Expert/Team Leader in Reservoir Engineering working for Shell

International E&P since 1997. He is also an adjunct faculty at the University of Houston, Department of Chemical Engineering and a consulting professor at Stanford University, Energy Resources Engineering Department.

He is a global consultant for Fluid Properties (PVT) & Miscible/Immiscible Gas Injection EOR & Simulation. Before joining Shell, he worked at Amoco Tulsa Research Center on compositional simulator development projects.

He holds a Ph.D. degree from Stanford University in petroleum engineering with a minor in mathematics and an MBA degree from the University of Houston. In January 2017, Dr. Dindoruk became editor-in-chief for the *Journal of Natural Gas Science and Engineering*.

Dr. Dindoruk received the Society of Petroleum Engineers' (SPE) Cedric K. Ferguson Medal in 1994 and Lester C. Uren Award in 2014. He served SPE in various capacities including as one of the co-executive editors of *SPE Formation Evaluation* and *SPE Reservoir Engineering* journals (2004–2006) and as one of the SPE Distinguished Lecturers for 2010–2011.

Dr. Dindoruk was elected to the National Academy of Engineering for "significant theoretical and practical contributions to enhanced oil recovery and CO₂ sequestration."



Selda Gunsel, Ph.D.

NATIONAL ACADEMY OF
ENGINEERING: 2017
General Manager, Products
and Quality
Shell Global Lubricants
Supply Chain, Royal Dutch
Shell

In her role at Shell, Dr. Gunsel has the overall responsibility

for the design, sourcing, development and deployment of Shell's lubricant products and product portfolio. She was previously the vice president of global commercial technology at Shell leading a global group of scientists and engineers in the delivery of innovation, R&D and technical services to Shell Lubricants and B2B businesses including marine, aviation, commercial fuels and specialties. Her previous roles in Shell include vice president of fuels and engine & vehicle technology. Prior to joining Shell in 2002, she was vice president of technology and innovation at Pennzoil-Quaker State Company.

Dr. Gunsel has a Ph.D. in chemical engineering from Penn State University. She has numerous patents and publications to her name. Dr. Gunsel has won numerous awards for her leadership and innovation, and in 2015 she was awarded the Society of Tribologists and Lubrication Engineers' highest honor with a STLE International Award.

She was elected to the National Academy of Engineering for "leadership in developing and manufacturing advanced fuels and lubricants to meet growing global energy demand while reducing CO₂ emissions."



M. Cynthia Hipwell, Ph.D.

NATIONAL ACADEMY OF
ENGINEERING: 2016
TEES Distinguished Research
Professor
Texas A&M University

Dr. Hipwell has been working in the area of technology development based upon nanoscale

phenomena for over 20 years. She received her B.S.M.E. from Rice University and her M.S. and Ph.D. in mechanical engineering from the University of California, Berkeley.

Upon graduation, she went to work at Seagate Technology's Recording Head Division in Bloomington, Minnesota. During her time at Seagate, Dr. Hipwell held various individual and leadership positions in the areas of reliability, product development, and advanced mechanical and electrical

technology development. In these various roles, she established new business processes and an organizational culture that focused on developing innovative solutions from root cause understanding, improved pace of learning, and discipline in experimentation and configuration management. Technology accomplishments of her groups include optimization and design rules for Seagate's industry-leading fully padded slider and thermal nanoactuator technologies and heads which produced the first productizable 1 Tb/in² areal density recording demonstration with Heat Assisted Magnetic Recording (HAMR) technology.

She was elected to the National Academy of Engineering for her leadership in the development of technologies to enable areal density increases in hard disk drives.

Dr. Hipwell comes to Texas A&M from Bühler Inc., where she served as vice president of engineering. She was recruited to Texas A&M as part of the Governor's University Research Initiative (GURI).

Dr. Hipwell's research focus areas include devices based upon nanoscale phenomena and the application of tools for innovation acceleration such as 3D printing, machine learning and design virtualization.



Randall W. Poston, Ph.D., P.E., S.E.

NATIONAL ACADEMY OF
ENGINEERING: 2017
Senior Principal
Pivot Engineers

Dr. Poston is a structural engineer and the founding senior principal of the

consulting engineering firm Pivot Engineers in Austin, Texas.

Poston received his bachelor's, master's and doctoral degrees in civil engineering from The University of Texas at Austin in 1978, 1980 and 1984, respectively. He was elected to the Academy of Distinguished Graduates of the Department of Civil, Architectural and Environmental Engineering in 2008 and was named a Distinguished Engineering Graduate of the Cockrell School of Engineering in 2014.

Dr. Poston has executed numerous notable projects, including the repair and seismic strengthening of the Marina del Rey seawall in Los Angeles, which was originally constructed in the late 1950s. By repairing the seawall instead of replacing it, the Los Angeles County Department of Public Works achieved \$200 million in savings. It was awarded the International Concrete Repair Institute Project of the Year in 2002.

From 2006 to 2014, Dr. Poston chaired the American Concrete Institute (ACI) Committee 318, which was responsible for the first comprehensive reorganization of building code for structural concrete in 45 years. For his work leading the effort, ACI recognized Dr. Poston with the 2014 ACI Henry L. Kennedy Award and the 2015 Delmar Bloem Distinguished Service Award.



Ignacio Rodríguez-Iturbe, Ph.D.

NATIONAL ACADEMY OF ENGINEERING: 1988; NATIONAL ACADEMY OF SCIENCES: 2010 Distinguished University Professor and Distinguished TEES Research Professor, Texas A&M University Distinguished University

Professor (Emeritus), Princeton University

A member of the National Academy of Sciences, the National Academy of Engineering and the American Academy of Arts and Sciences, Professor Rodríguez-Iturbe is a hydrologist who has extensively contributed and deeply impacted a wide range of topics in the water sciences. For his work in these and related areas he received—early in his career—the Macelwane Award and the Hydrologic Research Prize of the American Geophysical Union (AGU), the Huber Research Prize and the V.T. Chow Awards of the American Society of Civil Engineers (ASCE), and the Horton Lecture Award of the American Meteorological Society.

Professor Rodríguez-Iturbe is widely credited as the main force behind the establishment of Ecohydrology and Hydrogeomorphology as key frontiers of the hydrologic and geophysical sciences.

Professor Rodríguez-Iturbe has been recognized by the Stockholm Water Prize (2002), the Horton Medal (AGU, 1998) and the Bowie Medal (highest distinction of AGU, 2009). Among many other distinctions, he was elected to the Vatican Academy of Sciences (2007) and the Spanish Royal Society of Sciences (2013) as well as the National Academies of Engineering of Mexico and Venezuela where he was awarded the Mexico Prize of Science and Technology (1994) and the Venezuelan National Science Prize (1991). He also has honorary doctor degrees from Zulia University (Venezuela), University of Genova (Italy) and the University of Cantabria (Spain).



José G. Santiesteban, Ph.D.

NATIONAL ACADEMY OF ENGINEERING: 2016 Strategy Manager ExxonMobil Research and Engineering Company

Dr. Santiesteban has served in a number of technical leadership and management assignments during his

career of more than 25 years at ExxonMobil and is currently the strategy manager for ExxonMobil Research and Engineering. Dr. Santiesteban has led and made significant technical contributions to the discovery, development and commercialization of various nano-engineered catalysts for the production of high performing lubricants, clean fuels and petrochemicals.

Dr. Santiesteban is inventor or co-inventor on more than 85 U.S. patents, editor of two special catalysis journals and co-author of over 20 referenced publications. He led the commercialization of more than 20 novel catalyst technologies that have been deployed worldwide within ExxonMobil and in third-party refineries and petrochemical plants. He has been a plenary and invited speaker at numerous national and international conferences in catalysis, and has served on the advisory board of various academic and research institutions around the world.

In addition to his scientific and technical contributions, Dr. Santiesteban is a proactive mentor focused on developing the next generation of industrial researchers, engineers and technical leaders. He is a strong champion for junior researchers, particularly promoting diversity and women in science and engineering.

He was elected to the National Academy of Engineering “for development and commercialization of catalytic systems for petrochemical manufacture and cleaner fuels production.”

Dr. Santiesteban, born in Parral, Chihuahua, Mexico, received his Ph.D. in physical chemistry from Lehigh University. He earned his B.S. and M.S. degrees in chemical engineering from the Instituto Tecnológico de Chihuahua and the Instituto Tecnológico de Ciudad Madero, respectively.



Jerome Schultz, Ph.D.

NATIONAL ACADEMY OF
ENGINEERING: 1994
Distinguished Professor,
Cullen College of Engineering
University of Houston

Dr. Schultz joined the University of Houston in the spring of 2017 as a distinguished professor of

biomedical engineering from the University of California, Riverside, where he served as founding chairman of the department of bioengineering. Previous appointments included founding chairman of the department of bioengineering at the University of Pittsburgh and chairman of chemical engineering at the University of Michigan. Dr. Schultz was a founding member and past president of the American Institute of Medical and Biological Engineering. He is a fellow of the American Chemical Society and the American Institute of Chemical Engineers, which named him one of the "One Hundred Engineers of the Modern Era."

His career spans five decades of research, teaching, awards, publishing and patents. He has been awarded more than \$32 million in research contracts and grants during his career.

Dr. Schultz's research interests include biosensors, facilitated diffusion in membranes, restricted diffusion in membranes, transport processes in tissues, pharmacokinetics, immobilized enzymes and bioimaging. His research has been published in nearly 130 peer-reviewed articles. He pioneered the use of optic methods for monitoring glucose in diabetics.

He was elected to the National Academy of Engineering for integration of biological membrane transport and molecular recognition mechanisms for practical separation devices and bioanalytical sensors.

He received his Ph.D. in biochemistry from the University of Wisconsin and earned both his M.S. and B.S. in chemical engineering from Columbia University.

NATIONAL ACADEMY OF SCIENCES



Marcetta Y. Darensbourg, Ph.D.

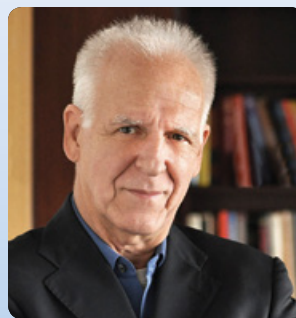
NATIONAL ACADEMY OF
SCIENCES: 2017
Distinguished Professor of
Chemistry
Texas A&M University

Dr. Darensbourg is an internationally respected expert in synthetic and mechanistic inorganic chemistry and has been a member of the Texas A&M Department of Chemistry faculty since 1982. She has held the title of distinguished professor of chemistry since 2010.

Dr. Darensbourg is a leader in the development of synthetic analogues of the diiron and nickel-iron hydrogenase active sites and the insight they bring to the catalytic mechanism of these natural fuel cell catalysts. Various research projects and reviews explore the organometallic chemistry found in nature, likely deriving from primordial sulfur-rich metal environments.

She received her B.S. in chemistry from Union College and her Ph.D. in inorganic chemistry from the University of Illinois. Prior to joining Texas A&M University, Dr. Darensbourg held academic posts at both Vassar College and Tulane University.

She was an inaugural 2009 fellow of the American Chemical Society. Dr. Darensbourg was also elected as a fellow of the American Academy of Arts and Sciences in 2011 and to the Royal Society of Chemistry in 2014.



Ronald A. DeVore, Ph.D.

NATIONAL ACADEMY OF
SCIENCES: 2017
Distinguished Professor of
Mathematics
Texas A&M University

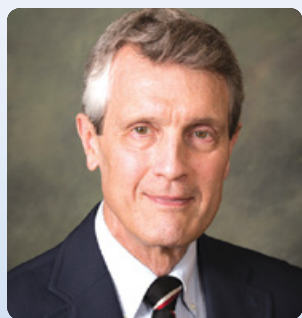
Dr. Ronald DeVore is a world-renowned expert in approximation theory, numerical analysis and signal processing. He is involved in a spectrum of applied areas of mathematics, however his core research is in approximation theory. He has applied methods of approximation to the development of numerical methods for partial differential equations, including a recent emphasis on families of parametric partial differential equations and related areas

such as inverse problems and parameter estimation. Dr. DeVore has been a major contributor to signal and image processing including the areas of compressed sensing and data assimilation, and he was one of the original developers of wavelet compression methods. Two characteristics of his work are nonlinear methods and high dimensional problems. Additionally, he has been a major developer of adaptive methods for solving partial differential equations and greedy algorithms in signal processing.

Dr. DeVore is the inaugural holder of the Dr. Walter E. Koss Endowed Professorship in Mathematics and a distinguished professor of mathematics at Texas A&M University. Prior to joining Texas A&M University, he was a professor at Oakland University and the Robert L. Sumwalt, distinguished professor emeritus at University of South Carolina.

Dr. DeVore was elected as an inaugural fellow of the American Mathematical Society in 2012. He is also fellow of the Bulgarian Academy of Science (elected in 2007) and the American Academy of Arts and Sciences (elected in 2001). He has received numerous awards and has been invited to present at hundreds of colloquia and international conferences. Some of these presentations include plenary addresses for the American Mathematical Society (AMS), the Society of Industrial and Applied Mathematics and the prestigious International Congress of Mathematicians—a coveted honor given only to the top one-to-two percent of mathematicians worldwide.

He earned his B.S. from Eastern Michigan University and his Ph.D. in mathematics from The Ohio State University.



Roger E. Howe, Ph.D.

NATIONAL ACADEMY OF SCIENCES: 1994
Curtis D. Roberts Professor of Mathematics Education
Texas A&M University

Prior to joining Texas A&M in 2016, Dr. Howe was on the faculty at Yale University since 1974. He served as chair of

the mathematics department from 1992–1995. He was the inaugural Frederick Phineas Rose Professor from 1997–2002, and subsequently was the William R. Kenan Jr. Professor of Mathematics until his retirement from Yale in 2016.

Dr. Howe is best known for his breakthroughs in representation theory, which studies the interaction of symmetry with linear algebra. It has important applications to physics, number theory, ergodic theory and other branches of mathematics, as well as a rich internal structure. He introduced the concept of the reductive dual

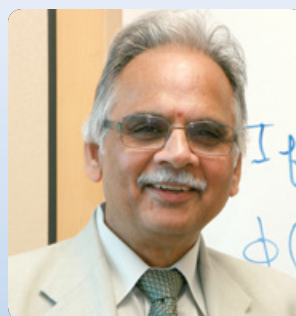
pair (“Howe pair”). He has also made notable contributions to invariant theory, ergodic theory and operator theory.

He is known for his commitment to mathematics education. He served on the study committee for the report *Adding It Up* of the National Academy of Sciences on the state of U.S. mathematics education, and on the steering committee for the first CBMS (Conference Board of the Mathematical Sciences) report on *The Mathematical Education of Teachers*. He also served as a member and chair of various mathematics committees in the U.S., including the Committee on Education of the American Mathematical Society, the Education Advisory Committee of the Mathematical Sciences Research Institute and the U.S. National Commission on Mathematics Instruction. He also served eight years as a member of the executive committee of the International Commission on Mathematics Instruction.

He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences and the Connecticut Academy of Science and Engineering. He is a recipient of the Lester R. Ford Award from the Mathematical Association of America. In 1997, he was awarded the Yale College Dylan Hixon '88 Prize for Teaching Excellence in the Natural Sciences. He has been a Guggenheim Fellow, a fellow of the Japan Society for the Advancement of Science, a visiting professor at the Institute for Advanced Study of Hong Kong University of Science and Technology and was designated a member of the first cohort of fellows of the American Mathematical Society.

Dr. Howe received his doctorate from the University of California, Berkeley in 1969.

THE ROYAL SOCIETY



Mathukumalli Vidyasaagar, Ph.D.

FELLOW OF THE ROYAL SOCIETY:
2012
Cecil & Ida Green Chair in Systems Biology Science
The University of Texas at Dallas

Dr. Vidyasaagar joined the Erik Jonsson School of Engineering and Computer Science at The University of Texas at Dallas in 2009 after previously serving as director of the Centre for Artificial Intelligence and Robotics (1989–2000) and executive vice president of Tata Consultancy Services (2000–2009) in India.

His research interests are in the broad area of system and control theory and its applications. He is interested in the

area of compressed sensing—finding sparse solutions to large under-determined problems, and the intersection between compressed sensing and control theory. On the applications front, he is interested in applying ideas from machine learning to problems in computational biology with an emphasis on cancer.

Dr. Vidyasagar has received a number of awards in recognition of his research contributions, including the IEEE Control Systems (Technical Field) Award, the Rufus Oldenburger Medal of ASME and the John R. Ragazzini Education Award from AACC, among others. He is the author of 11 books and more than 140 papers in peer-reviewed journals.

He received his B.S., M.S. and Ph.D. in electric engineering from the University of Wisconsin–Madison. In January 2015, he received the Jawaharlal Nehru Science Fellowship and since then he has been dividing his time between UT Dallas and the Indian Institute of Technology Hyderabad.



Richard D. Wood, Ph.D.

FELLOW OF THE ROYAL SOCIETY:
1997
Department of Epigenetics
and Molecular Carcinogenesis
The University of Texas MD
Anderson Cancer Center

Dr. Wood holds the Grady
F. Saunders Distinguished
Professorship in Molecular

Biology at The University of Texas MD Anderson Cancer Center. He has conducted research at MD Anderson since 2008. Prior to his tenure at MD Anderson, he was the Richard M. Cyert Professor of Molecular Oncology, and on the faculty of the Departments of Pharmacology and Biological Sciences at the University of Pittsburgh.

Dr. Wood is recognized for his pioneering work on nucleotide excision repair (NER) and his research focuses on DNA repair and mutagenesis, including the exploration of the biochemical mechanism of the DNA nucleotide excision repair pathway in human cells. He then identified key DNA polymerases critical to genome stability and cancer.

He was recognized with the Meyenburg Prize for Cancer Research from the Deutsches Krebsforschungszentrum in 1998. He was elected a member of the European Molecular Biology Organization (EMBO) in 1998. In 2013, he was elected as a fellow of the American Association for the Advancement of Science (AAAS).

Dr. Wood received his B.S. in biology and mathematics from Westminster College, Salt Lake City. He was awarded a Ph.D. in biophysics from the University of California,

Berkeley and was a postdoctoral fellow at Yale University from 1982 to 1985. He performed much of his NER work at the Imperial Cancer Research Fund, from 1985 to 2001 as postdoctoral fellow, research scientist, senior scientist and principal scientist.

Congratulations to the following TAMEST members for their second National Academies election:

V. Craig Jordan, OBE, Ph.D., D.Sc., FMedSci, FAACR

National Academy of Medicine: 2017; National Academy of Sciences: 2009
Professor of Breast Medical Oncology, Professor of Molecular and Cellular Oncology
The University of Texas MD Anderson Cancer Center

Guillermina (Gigi) Lozano, Ph.D.

National Academy of Medicine: 2014; National Academy of Sciences: 2017
Professor and Chair, Department of Genetics
The University of Texas MD Anderson Cancer Center

TAMEST also welcomes **Louis C. Parrillo, Ph.D.**, of Parrillo Consulting, LLC back to Texas. Dr. Parrillo was elected to the National Academy of Engineering in 1996.

For a full list of TAMEST members, visit
www.tamest.org/members.

A NEW ERA IS UPON US...

Pioneering new technologies is in our DNA. That's why we committed to continuously improve safety, efficiency and ergonomics in rotorcraft. Focusing on revolutionary new concepts, Bell Helicopter is leading the way for the future of our industry. We are bringing ideas to life that will solve the challenges of tomorrow.

BELLHELICOPTER.COM



Bell Helicopter®
A Textron Company

© 2017 BELL HELICOPTER TEXTRON INC.

Space Products

Innovating space solutions with leading-edge radiation-hardened and assured products



About TI

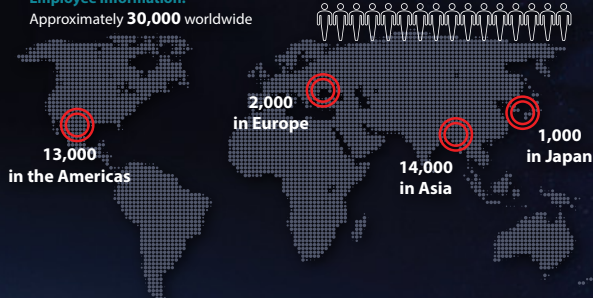
TI is a global semiconductor design and manufacturing company

- Operating in more than **30 countries**
- Serving about **100,000 customers** worldwide
- Innovating for more than **85 years**
- Offering the industry's **broadest and most diverse portfolio** of Analog and Embedded Processing products
- Providing the industry's **largest sales and support staff**

Learn more at TI.com

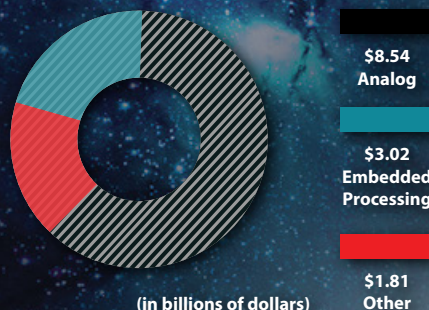
Employee information:

Approximately **30,000** worldwide



Revenue in 2016:

Total: \$13.37 billion



Capital expenditures: \$531 million

R&D: \$1.37 billion

2018 PROTÉGÉS

Protégés are invited to attend the conference as special guests of TAMEST members.



Carlos R. Baiz, Ph.D.
Assistant Professor
Department of Chemistry, College of
Natural Sciences
The University of Texas at Austin
C. Grant Willson, Ph.D. (NAE)



Saurabh Biswas, Ph.D.
Head, Innovation and
Entrepreneurship
Associate Professor of Practice
Department of Biomedical Engineering
Texas A&M University
Akhil Datta-Gupta, Ph.D. (NAE)



Efstathios Bakolas, Ph.D.
Assistant Professor
Department of Aerospace Engineering
and Engineering Mechanics
The University of Texas at Austin
Hans M. Mark, Ph.D. (NAE)



Bret L. Bostwick, M.D.
Assistant Professor
Department of Molecular and Human
Genetics
Baylor College of Medicine
Arthur L. Beaudet, M.D. (NAM, NAS)



Laura Banaszynski, Ph.D.
Assistant Professor
Department of Obstetrics and
Gynecology
UT Southwestern Medical Center
Melanie H. Cobb, Ph.D. (NAS)



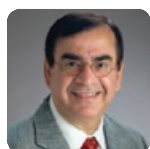
Radek Bukowski, M.D., Ph.D.
Associate Chair for Investigation and
Discovery; Professor
Department of Women's Health
Dell Medical School
The University of Texas at Austin
J. Tinsley Oden, Ph.D. (NAE)



Srinivas Bettadpur, Ph.D.
Associate Professor and Fellow of
the FSX Professorship in Space
Application and Exploration
Department of Aerospace Engineering
and Engineering Mechanics
The University of Texas at Austin
Byron D. Tapley, Ph.D. (NAE)



Steve Catha
CEO
Touchstone Technology
Melvin F. Kanninen, Ph.D. (NAE)



Kapil N. Bhalla, M.D.
Professor, Kelcie Kana Research Chair
Department of Leukemia, Division of
Cancer Medicine
The University of Texas MD Anderson
Cancer Center
Neal G. Copeland, Ph.D. (NAS)



Noah D. Cohen, V.M.D., Ph.D.
Professor and Associate Department
Head for Research and Graduate
Studies
Department of Large Animal Clinical
Sciences
Texas A&M University
James E. Womack, Ph.D. (NAS)



Jodi Cooley, Ph.D.
Associate Professor
Department of Physics
Southern Methodist University
Frederick R. Chang, Ph.D. (NAE)



Waruna Kulatilaka, Ph.D.
Associate Professor
Department of Mechanical
Engineering
Texas A&M University
J.N. Reddy, Ph.D. (NAE)



Elizabeth Cosgriff-Hernandez, Ph.D.
Professor
Department of Biomedical Engineering
The University of Texas at Austin
Nicholas A. Peppas, Sc.D. (NAM, NAE)



Hong Liang, Ph.D.
Professor
Department of Mechanical
Engineering
Texas A&M University
M. Cynthia Hipwell, Ph.D. (NAE)



Teja Guda, Ph.D.
Assistant Professor
Department of Biomedical Engineering
The University of Texas at San Antonio
Rena Bizios, Ph.D. (NAM)



Charles Y. Lin, Ph.D.
Assistant Professor
Department of Molecular and Human
Genetics
Baylor College of Medicine
Brendan Lee, M.D., Ph.D. (NAM)



Todd E. Humphreys, Ph.D.
Associate Professor
Department of Aerospace Engineering
and Engineering Mechanics
The University of Texas at Austin
Bob Metcalfe, Ph.D. (NAE)



Brett Loveless, Ph.D.
Competitive Intelligence Advisor
ExxonMobil Research and Engineering
José G. Santiesteban, Ph.D. (NAE)



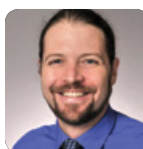
Jenna L. Jewell, Ph.D.
Assistant Professor
Department of Molecular Biology
UT Southwestern Medical Center
Steven A. Kliewer, Ph.D. (NAS)



Manoranjan Majji, Ph.D.
Assistant Professor
Department of Aerospace Engineering
Texas A&M University
John L. Junkins, Ph.D. (NAE)



Jeremy Marston, Ph.D.
Assistant Professor
Department of Chemical Engineering
Texas Tech University
Chau-Chyun Chen, Sc.D. (NAE)



Michael L. Reese, Ph.D.
Assistant Professor
Department of Pharmacology
UT Southwestern Medical Center
David J. Mangelsdorf, Ph.D. (NAS)



Lisa Ostrin, O.D., Ph.D.
Assistant Professor
College of Optometry
University of Houston
Christine A. Ehlig-Economides, Ph.D. (NAE)



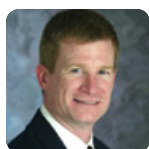
Badri Roysam, D.Sc.
Chair
Department of Electrical and
Computer Engineering
Cullen College of Engineering
University of Houston
Kaushik Rajashekara, Ph.D. (NAE)



Andreas A. Polycarpou, Ph.D.
Department Head
Department of Mechanical Engineering
James J. Cain Chair in Mechanical
Engineering; Meinhard H. Kotzebue
'14 Professor
Texas A&M University
Herbert H. Richardson, Sc.D. (NAE)



Ryan P. Russell, Ph.D.
Associate Professor
George & Dawn L. Coleman Centennial
Fellowship in Engineering
Department of Aerospace Engineering
and Engineering Mechanics
The University of Texas at Austin
Sharon L. Wood, Ph.D. (NAE)



Carl Popelar, Ph.D.
Manager, Mechanics and Materials
Southwest Research Institute
H. Norman Abramson, Ph.D. (NAE)



Stephen Jacob Sekula, Ph.D.
Associate Professor
Department of Physics
Southern Methodist University
David J. Meltzer, Ph.D. (NAS)



Jennifer Posey, M.D., Ph.D.
Assistant Professor
Department of Molecular and Human
Genetics
Baylor College of Medicine
James R. Lupski, M.D., Ph.D. (NAM)



Luis Sentis, Ph.D.
Associate Professor
Department of Aerospace Engineering
and Engineering Mechanics
The University of Texas at Austin
Stelios Kyriakides, Ph.D. (NAE)



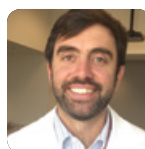
Sudha Seshadri, M.D.
Professor of Neurology and Director,
Glenn Biggs Institute for Alzheimer's
and Neurodegenerative Diseases
UT Health San Antonio
*C. Thomas Caskey, M.D., F.A.C.P.,
F.A.C.M.G., F.R.S.C. (NAM, NAS)*



Junghae Suh, Ph.D.
Associate Professor
Department of Bioengineering
Rice University
Antonios G. Mikos, Ph.D. (NAM, NAE)



Tim Shea, Ph.D.
Aviation Technology Manager
Shell Technology Center Houston
Selda Günsel, Ph.D. (NAE)



Michael F. Wangler, M.D.
Assistant Professor
Department of Molecular and Human
Genetics
Baylor College of Medicine
Richard A. Gibbs, Ph.D. (NAM)



Kirsten L. Siebach, Ph.D.
Assistant Professor
Department of Earth, Environmental,
and Planetary Sciences
Rice University
Peter J. Rossky, Ph.D. (NAS)



Michael S. Wong, Ph.D.
Department Chair and Professor
Department of Chemical and
Biomolecular Engineering
Rice University
George J. Hirasaki, Ph.D. (NAE)



Farida Sohrabji, Ph.D., FAHA
Joseph H. Shelton Professor of
Neuroscience
Department of Neuroscience
and Experimental Therapeutics,
Interdisciplinary Program in Neuroscience
Texas A&M University Health Science Center
Nancy W. Dickey, M.D. (NAM)



Anvar Zakhidov, Ph.D.
Physics Professor & Deputy Director
of the Nanotech Institute
The University of Texas at Dallas
Ray H. Baughman, Ph.D. (NAE)



Jeff Spath, Ph.D.
CEO
Texas Oil & Gas Institute
Stephen A. Holditch, Ph.D. (NAE)



Yubin Zhou, Ph.D.
Associate Professor and ACS Scholar
Center for Translational Cancer Research
Texas A&M University Health Science
Center
Carrie L. Byington, M.D. (NAM)

2018 BOARD OF DIRECTORS



The Honorable Gordon R. England (NAE), President
V1 Analytical Solutions

Amelie G. Ramirez, Dr.P.H., M.P.H. (NAM), Vice President
UT Health San Antonio

David W. Russell, Ph.D. (NAS), Past President
UT Southwestern Medical Center

Brendan Lee, M.D., Ph.D. (NAM), Treasurer
Baylor College of Medicine

Melanie H. Cobb, Ph.D. (NAS), Secretary
UT Southwestern Medical Center

C. Thomas Caskey, M.D., F.A.C.P., F.A.C.M.G., F.R.S.C. (NAM, NAS)
Baylor College of Medicine

Francisco G. Cigarroa, M.D. (NAM)
UT Health San Antonio

Brian Clark, Ph.D. (NAE)
Schlumberger Limited

Bonnie J. Dunbar, Ph.D. (NAE)
Texas A&M University

Peter J. Hotez, M.D., Ph.D. (NAM)
Baylor College of Medicine

David J. Mangelsdorf, Ph.D. (NAS)
UT Southwestern Medical Center

David J. Meltzer, Ph.D. (NAS)
Southern Methodist University

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

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

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

NOBEL LAUREATES

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

Robert F. Curl, Ph.D. (NAS)
Nobel Prize in Chemistry, 1996
Rice University

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

Steven Weinberg, Ph.D. (NAS)
Nobel Prize in Physics, 1979
The University of Texas at Austin

INDUSTRY AND COMMUNITY AFFILIATES COMMITTEE

Sara N. Ortwein, Chair
President
XTO Energy Inc.

Ernest H. Cockrell
Chairman
Cockrell Interests

Michael S. Dell
Chairman of the Board
Dell, Inc.

Norbert Dittrich
President
The Welch Foundation

Robert R. Doering, Ph.D.
Senior Fellow and Research Manager
Technology and Manufacturing Group
Texas Instruments Incorporated

Richard H. Edwards
Executive Vice President
Lockheed Martin Missiles and Fire
Control

Thomas J. Engibous (NAE)
Retired Chairman
Texas Instruments Inc.

Larry R. Faulkner, Ph.D.
President Emeritus
The University of Texas at Austin

Adam L. Hamilton, P.E.
President
Southwest Research Institute

Hon. William P. Hobby Jr.
Former Lieutenant Governor of Texas

Kenneth M. Jastrow II

Neal F. Lane, Ph.D.
University Professor Emeritus
Rice University

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

Paul B. Murphy Jr.
CEO
Cadence Bancorp, LLC

Peter O'Donnell Jr.
Founder
O'Donnell Foundation

Thomas W. Schuessler
President
ExxonMobil Upstream Research
Company

Kurt Swogger, P.E.
CEO
Molecular Rebar Design, LLC

Charles W. Tate
Chairman and Founding Partner
Capital Royalty L.P.

James Truchard, Ph.D. (NAE)
Board Chairman and Co-Founder
National Instruments

James R. Von Ehr II
CEO and Founder
Zyvex Labs, LLC

Pete Winstead
Founding Shareholder
Winstead PC

H. Bartell Zachry
Chairman of the Board
Zachry Interests, Inc.

FEATURED

PARTNER

COLLABORATOR

Bank of America
at the designation of
Kay Bailey Hutchison

ExxonMobil



UT Southwestern &
Medical Center



**SOUTHWESTERN
MEDICAL
FOUNDATION**

CONTRIBUTOR



Schlumberger



UNIVERSITY of
HOUSTON

UNIVERSITY OF TEXAS  ARLINGTON



SUPPORTING ORGANIZATION



TAMEST gratefully acknowledges members of the Founders of the Endowment and the Legacy Circle for their extraordinary commitment to securing the future of Texas as a national leader in science and technology.

Founders of the Endowment

Anadarko Foundation

AT&T

BNSF Foundation

ConocoPhillips

Energy Future Holdings

Edith and Peter O'Donnell

Temple-Inland

The USAA Foundation

Legacy Circle

The Eugene McDermott Foundation

SUPPORT TAMEST

Your support of TAMEST allows us to continue to elevate our events, award programs and research initiatives and increase our reach as Texas' premier scientific organization.

www.tamest.org/support

TAMEST acknowledges the following donors for their generous contributions to the O'Donnell Endowment, established in 2005 to support the awards program.

Dr. and Mrs. Kenneth Altshuler
Anonymous (2)
AT&T Foundation
Austin Industries, Inc. and William T. Solomon, Former President, CEO and Chairman
Julie and Louis A. Beecherl
Melanie and Tim Byrne
Mr. and Mrs. W. Plack Carr, Jr.
William P. and Rita Clements, Jr.
Collins Family Foundation
Mr. and Mrs. Edward A. Copley
The Cullen Foundation
Cullen Trust for Health Care
Cullen Trust for Higher Education
Dell Inc.
Hunt Consolidated, Inc.
Kodosky Foundation
The Eugene McDermott Foundation
The Robert and Janice McNair Foundation
The Rodger Meier Family
Joyce and Harvey Mitchell
National Instruments
Edith and Peter O'Donnell
Margot and Ross Perot
Caren H. Prothro & The Vin and Caren Prothro Foundation
Rowling Foundation
Southwestern Medical Foundation
Ron and Phyllis Steinhart
Susser Family Foundation in honor of Mr. and Mrs. Ron Steinhart
Temple-Inland
Texas Instruments Foundation
TXU Energy
Valero Energy Foundation
Dr. and Mrs. Kern Wildenthal
Cheryl and Sam Wyly
Dee and Charles Wyly
Zachry Foundation

A NEW ERA IN SPACE COMMERCE

MARK YOUR CALENDARS FOR
SPACECOM 2018

SPACECOM
SPACE COMMERCE CONFERENCE AND EXPOSITION



DECEMBER 11-13, 2018

George R. Brown Convention Center

DECEMBER 10, 2018

Spaceport Summit and
Entrepreneurship Workshop



Articles, photos, and videos about research projects from across
The Texas A&M University System—on a single website.

research@TEXAS
A&M
research.tamu.edu



New stories
and graphics
every week.



Links to expert
sources and
background
materials.

TAMEST 2019 Annual Conference: **BRAIN HEALTH**

January 14–16, 2019
Horseshoe Bay Resort
Horseshoe Bay, Texas



Program Chair:

Joseph S. Takahashi, Ph.D. (NAS, NAM)

Professor and Chair, Department of Neuroscience

Investigator, Howard Hughes Medical Institute

Lloyd B. Sands Distinguished Chair in Neuroscience

Peter O'Donnell Jr. Brain Institute

UT Southwestern Medical Center

Join us next year to explore the groundbreaking research that could lead to better brain health. The conference will convene some of the top minds in Texas and the nation to investigate topics like mental health, healthy aging, neurological disease prevention, technological advances in mapping the brain and the neuroscience research priorities and challenges ahead. The 2019 conference will take place at the Horseshoe Bay Resort, outside of Austin, Texas.





#TAMEST

Connect with TAMEST



tamest



tamestx



tamest2004

tamest.org/2018

TAMEST ▶ 512.471.3823 ▶ tamest@austin.utexas.edu ▶ tamest.org