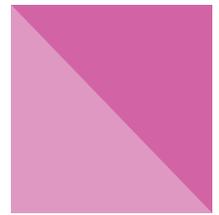


# THE ACADEMY OF MEDICINE, ENGINEERING & SCIENCE OF TEXAS



ANNUAL  
REPORT  
2017

## ABOUT TAMEST

---

The Academy of Medicine, Engineering and Science of Texas (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 best and brightest scientists and researchers.

TAMEST's membership represents Texas' best researchers from both industry and academia. TAMEST is composed of 288 Texas-based members of the National Academies of Sciences, Engineering and Medicine and the state's nine Nobel Laureates.



## INTRODUCTION



As the research industry continues to grow in Texas, so does the number of top researchers, engineers and scientists joining TAMEST. With them, TAMEST amplifies collaboration across institutions and industry to enhance the state's reputation as a destination for world-class research and high-technology enterprises. Through our events, award programs and reports on critical issues, our mission of expanding research and informing policy continues to be a vital part of Texas' path to a better future.

**The Honorable Gordon R. England**  
TAMEST 2017 PRESIDENT



## TAMEST: WORKING TO MAKE TEXAS A RESEARCH DESTINATION

Through the support of our members and member institutions, TAMEST continues to secure the future of Texas as a leader in scientific research. By bringing together the state's top minds, we help expand research and inform policy.



Over  
**800**  
Protégés Sponsored  
at Annual Conferences

**30**

Annual Conference Protégés  
Elected to  
National Academies



**288**  
National Academies  
Members in Texas

Over a  
**Million Dollars**  
in Awards  
to 47 Researchers

## OUR MISSION



### ACADEMIA

---

TAMEST connects university leaders with the best and brightest minds from across Texas. The partnerships and relationships that start here help move research and funding forward.



### LEGISLATURE

---

TAMEST serves Texas with key research and findings about critical issues, providing a non-partisan platform where influential experts share knowledge and information, helping legislators make informed decisions, create a better Texas and set the course for America.



### INDUSTRY

---

TAMEST combines influential industry leaders with Texas' top scientists and researchers and brings them together in forums that promote cross-industry and cross-disciplinary discussion and opportunities.

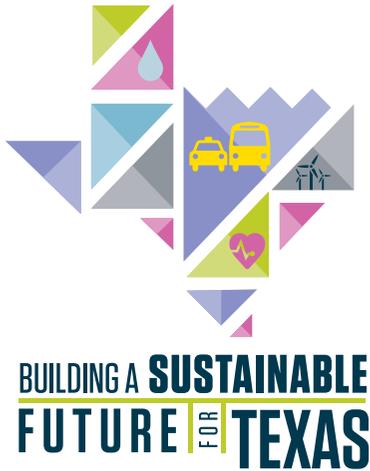


### MEMBERS

---

TAMEST gives its members, some of Texas' most prestigious and respected experts in academia and industry, the opportunity to serve as experts in their field at a state and national level, the ability to collaborate with other experts who can help further research and business, and the power to promote protégés at the annual conference and nominate peers for the National Academies.

## BUILDING A SUSTAINABLE FUTURE FOR TEXAS



Hundreds of Texas' top minds gathered at the TAMEST 2017 Annual Conference to explore solutions for the state's growing population, dynamic economy and changing climate.

**Building a Sustainable Future for Texas** examined key issues like energy, health, water and transportation and the challenges we face ensuring an equitable, efficient supply of them in the coming century.



## RECOGNIZING TEXAS' RISING STAR RESEARCHERS

Discovering new clues to natural treatments that could allow our bodies to age better. Inventing new ways to see with lasers what's happening in our brains. Searching for keys to our immune systems by studying parasite-resistant fish. These are the discoveries by Texas' rising stars in research being honored with the 2017 Edith and Peter O'Donnell Awards.

The O'Donnell Awards showcase the best and brightest in Texas research, whose creative work could have a lasting impact on our lives.

Over \$1 million has been awarded to 47 recipients in the categories of medicine, engineering, science and technology innovation since the inception of the O'Donnell Awards. 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.



MEDICINE

Meng Wang, Ph.D.

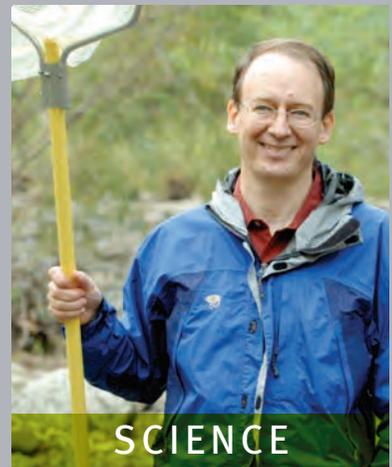
Associate Professor, Department of Molecular and Human Genetics, Baylor College of Medicine



ENGINEERING

Andrew K. Dunn, Ph.D.

Professor of Biomedical Engineering and Donald J. Douglass Centennial Professor of Engineering, The University of Texas at Austin



SCIENCE

Daniel I. Bolnick, Ph.D.

Professor of Integrative Biology and Chair of the Graduate Program in Ecology Evolution and Behavior, The University of Texas at Austin

## TAMEST SHALE TASK FORCE

TAMEST has convened a task force to examine the environmental and community impacts of shale oil and gas development in Texas. TAMEST's Shale Task Force is a first-of-its-kind, comprehensive review of scientific research and related findings regarding impacts of shale oil and gas development in Texas.

The group has reviewed existing research with a focus on six areas: seismicity, land resources, water, air, transportation and community impacts. This independent, peer-reviewed report will be released in summer 2017.

The Cynthia & George Mitchell Foundation is a sponsor of this important work. No funding was sought or accepted from oil and gas industry interests for this project.



# TAMEST SHALE TASK FORCE



*“This task force will help improve practices for the industry, better inform our society and improve policies for regulators of shale oil and gas development.”*

**Christine Ehlig-Economides, Ph.D. (NAE)**

*TAMEST Shale Task Force Chair*

**PROFESSOR, PETROLEUM ENGINEERING • UNIVERSITY OF HOUSTON**



## CELEBRATING TAMEST'S NEWEST MEMBERS

In 2016, TAMEST welcomed 21 new members.

Of these new members, ten were elected to one of the National Academies in 2016, and 11 became members through their relocation to Texas.

Nine new members came to Texas through the Governor's Research University Initiative (GURI), a program that helps Texas universities recruit National Academies members to expand their work here in Texas.



**Girish Saran Agarwal, Ph.D.**

THE ROYAL SOCIETY: 2008  
Texas A&M University

**Leif Andersson, Ph.D.**

NATIONAL ACADEMY OF SCIENCES: 2012  
Texas A&M University

**Satya N. Atluri, Sc.D.**

NATIONAL ACADEMY OF ENGINEERING: 1996  
Texas Tech University

**Bonnie Bartel, Ph.D.**

NATIONAL ACADEMY OF SCIENCES: 2016  
Rice University

**Joan Frances Brennecke, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2012  
The University of Texas at Austin

**Malcolm K. Brenner, M.D., Ph.D.**

NATIONAL ACADEMY OF MEDICINE: 2016  
Baylor College of Medicine

**Maurice Brookhart, Ph.D.**

NATIONAL ACADEMY OF SCIENCES: 2001  
University of Houston

**James J. Bull, Ph.D.**

NATIONAL ACADEMY OF SCIENCES: 2016  
The University of Texas at Austin

**Frederick R. Chang, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2016  
Southern Methodist University

**Basil Louis Joffe, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2016  
Spiral Software

**David R. Maidment, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2016  
The University of Texas at Austin

**Richard Miles, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2011  
Texas A&M University

**Thomas J. Overbye, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2013  
Texas A&M University

**George M. Pharr IV, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2014  
Texas A&M University

**Andrea Prosperetti, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2012  
University of Houston

**Ann Beal Salamone**

NATIONAL ACADEMY OF ENGINEERING: 2016  
Rochal Industries LLC

**Bridget R. Scanlon, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2016  
The University of Texas at Austin

**John Suppe, Ph.D.**

NATIONAL ACADEMY OF SCIENCES: 1995  
University of Houston

**Ganesh C. Thakur, Ph.D.**

NATIONAL ACADEMY OF ENGINEERING: 2016  
University of Houston

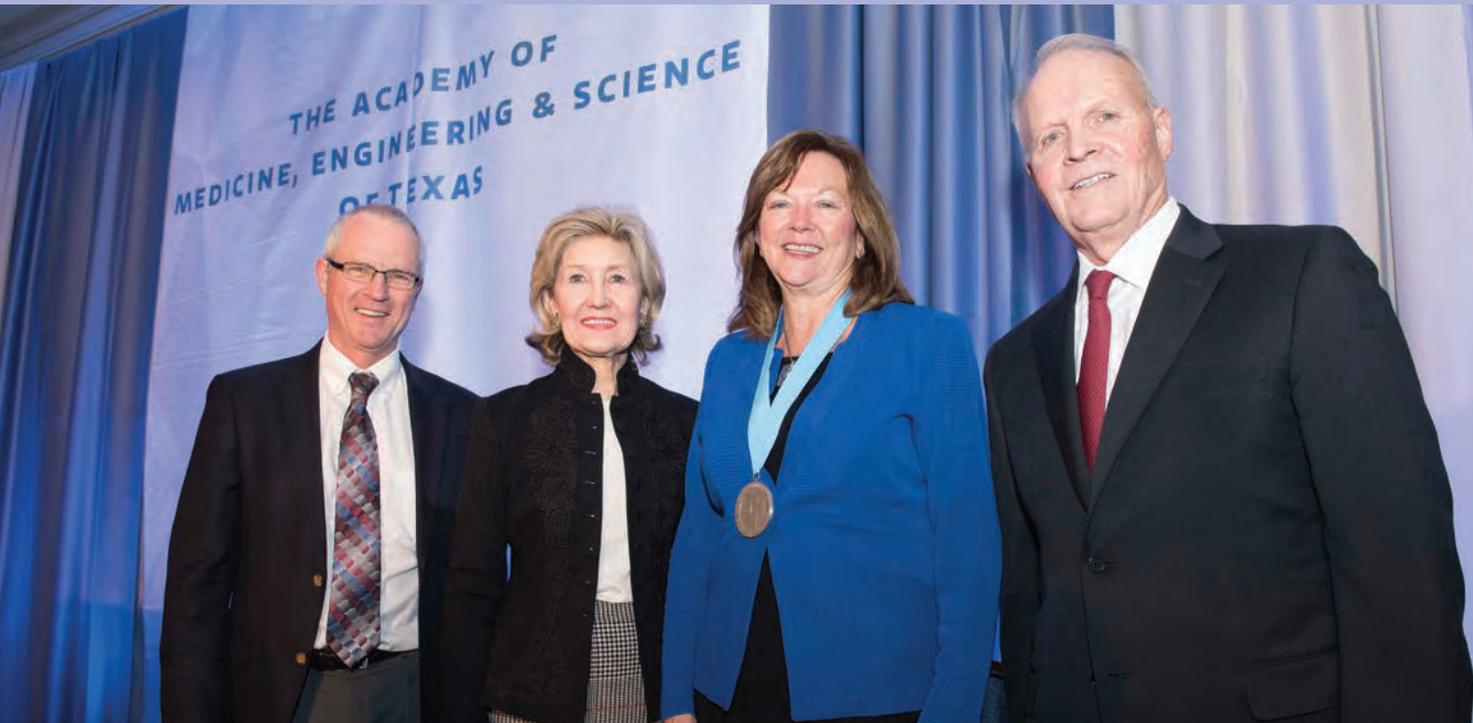
**William Tierney, M.D.**

NATIONAL ACADEMY OF MEDICINE: 2006  
Dell Medical School at The University of Texas at Austin

**Cheryl Lyn Walker, Ph.D.**

NATIONAL ACADEMY OF MEDICINE: 2016  
Baylor College of Medicine

## THE KAY BAILEY HUTCHISON DISTINGUISHED SERVICE AWARD



In recognition of their steadfast support of TAMEST and research in Texas, ExxonMobil received the Kay Bailey Hutchison Distinguished Service Award in 2017.

“ExxonMobil’s support has been truly beneficial to our organization,” says TAMEST 2016 President David Russell, vice provost and dean of basic research at UT Southwestern Medical Center. “Under the leadership of [former] Chairman and CEO Rex Tillerson, ExxonMobil has been an active and consistent partner to our organization by sponsoring TAMEST events and initiatives.

XTO President Sara Ortwein has also been a constant champion of TAMEST and rising star researchers in Texas, and ExxonMobil has been a leader furthering STEM education in Texas and across the nation. We’re honored to recognize ExxonMobil for their contributions to TAMEST and the research community in Texas.”

The Kay Bailey Hutchison Distinguished Service Award was established in 2013 to recognize individuals and organizations that have demonstrated outstanding leadership in furthering TAMEST’s mission. This is the first TAMEST award recognizing an organization.



## THANK YOU

### Unrestricted Giving

---

Unrestricted gifts provide supplemental revenue for enhancements to TAMEST programs and for funding new initiatives. TAMEST thanks the following individuals for their contributions to the TAMEST Annual Fund Campaign:

H. Norman Abramson	Jeff Kodosky
Anonymous (2)	Dr. Brendan and Maria Lee
Ruth and Kenneth Arnold	David M. Lee
J. J. Azar	Hans Mark
Arthur L. Beaudet	Bettie Sue Masters (In Memory of Robert Sherman Masters)
Rena Bizios	Kishor C. Mehta
C. Thomas Caskey, M.D.	David J. Meltzer
Brian Clark	Bob Metcalfe
Melanie H. Cobb	Antonios G. Mikos
Robert F. Curl	Alan Needleman
David E. Daniel	Thomas K. Perkins
Johann Deisenhofer	Helen and David Piwnica-Worms
Ronald DePinho	William H. Press
Linn Draper	Henry H. Rachford
The Honorable Gordon R. England	David W. Russell
Peter T. Flawn	Don Russell
Daniel W. Foster, M.D.	Donald W. Seldin, M.D.
George J. Hirasaki	Don Shaw
Peter Hotez	Ben Streetman
Youxing Jiang	C. Michael Walton
Melvin F. Kanninen	Jean D. Wilson
Lydia E. Kavraki	Sharon L. Wood

### Individual Gifts to the TAMEST Endowment

---

TAMEST gratefully acknowledges the following contribution to the TAMEST Endowment:

Rebecca Nelson Davis

### Individual Gifts to the O'Donnell Endowment

---

TAMEST gratefully acknowledges the following contribution to the Edith and Peter O'Donnell Awards Endowment:

Susser Family Foundation (In Honor of Phyllis Steinhart)

# THANK YOU

## 2017 Annual Conference Sponsors

---

### DIAMOND

Exxon Mobil Corporation

Texas A&M University

The Welch Foundation

### GOLD

Bell Helicopter

Capital Royalty Group

Lockheed Martin

The Texas A&M University System

The University of Texas at Austin

The University of Texas at Dallas

The University of Texas System

UT Southwestern Medical Center / Southwestern Medical Foundation

### SILVER

Schlumberger

Southwest Research Institute

St. David's HealthCare

Texas Instruments

Texas Tech University Health Sciences Center

UT Health San Antonio

The University of Texas MD Anderson Cancer Center

University of Houston

The University of Texas Medical Branch at Galveston

Winstead PC

### OPENING RECEPTION SPONSOR

Bank of America

*at the designation of Kay Bailey Hutchison*

## TAMEST LEADERSHIP

### TAMEST Board of Directors 2017

**The Honorable Gordon R. England, President**  
V1 Analytical Solutions

**Amelie G. Ramirez, Dr.P.H, M.P.H., Vice President**  
UT Health San Antonio

**David W. Russell, Ph.D., Past President**  
UT Southwestern Medical Center

**Kenneth E. Arnold, P.E., Treasurer**  
Oxy

**Brendan Lee, M.D., Ph.D., Treasurer-Elect**  
Baylor College of Medicine

**Danny D. Reible, Ph.D., Secretary**  
Texas Tech University

**C. Thomas Caskey, M.D., F.A.C.P., F.A.C.M.G., F.R.S.C.**  
Baylor College of Medicine

**Francisco G. Cigarroa, M.D.**  
UT Health San Antonio

**Brian Clark, Ph.D.**  
Schlumberger

**Melanie H. Cobb, Ph.D.**  
UT Southwestern Medical Center

**Bonnie J. Dunbar, Ph.D.**  
Texas A&M University

**Peter J. Hotez, M.D., Ph.D.**  
Baylor College of Medicine

**Danny O. Jacobs, M.D., M.P.H., F.A.C.S.**  
The University of Texas Medical Branch at Galveston

**David J. Mangelsdorf, Ph.D.**  
UT Southwestern Medical Center

**David J. Meltzer, Ph.D.**  
Southern Methodist University

**Bob Metcalfe, Ph.D.**  
The University of Texas at Austin

**Antonios G. Mikos, Ph.D.**  
Rice University

**Sharon L. Wood, Ph.D.**  
The University of Texas at Austin

## TAMEST MEMBER INSTITUTIONS

As Texas continues to attract more and more top-tier scientists and researchers, the number of TAMEST member institutions also continues to grow. TAMEST member institutions are Texas universities where TAMEST members hold positions on the faculty or in the administration.

Annual dues from these member institutions is a crucial resource for TAMEST's mission. TAMEST recognizes the following institutions for their generous support:

Baylor College of Medicine  
Houston Methodist Research Institute  
Rice University  
Southern Methodist University  
Texas A&M University  
Texas A&M University Health Science Center  
Texas Tech University  
The University of Texas at Arlington  
The University of Texas at Austin  
The University of Texas at Dallas

The University of Texas at San Antonio  
The University of Texas Health Science Center at Houston (UTHealth)  
UT Health San Antonio  
The University of Texas Medical Branch at Galveston  
The University of Texas MD Anderson Cancer Center  
UT Southwestern Medical Center  
University of Houston  
University of North Texas

## 2018 SAVE THE DATE

### 2018 TAMEST Annual Conference

---

# The Space Beyond: Aerospace Opportunities in Texas

## January 10-12, 2018

South Shore Harbour Resort and Conference Center  
League City, Texas



Program Chair:

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

Texas A&M Engineering Experiment Station (TEES)  
Distinguished Research Professor  
Department of Aerospace Engineering  
Texas A&M University  
Retired Astronaut

TAMEST's 2018 Annual Conference will focus on the fundamental elements of space and aeronautics in Texas. **The Space Beyond: Aerospace Opportunities in Texas** will explore the potential in Texas for greater research and development in aerospace, specifically in areas of defense, human spaceflight, aeronautics and planetary research. The conference will take place just outside Houston in League City, Texas, near the NASA Johnson Space Center. Plan to be part of this unique opportunity to explore Texas' future in the space beyond.

Connect with TAMEST

---



Find more online

---

[tamest.org](http://tamest.org)