

TEXAS A&M UNIVERSITY TURBOMACHINERY LABORATORY

Making a Vital Impact

The Turbomachinery Laboratory, a center of the Texas A&M Engineering Experiment Station (TEES) and a member of the Texas A&M University System, proudly continues Texas A&M's land-grant charter and tradition of identifying research areas critical to economic development, leadership, and quality of life. Priorities include Basic and Applied Research, Undergraduate and Graduate Education, and Continuing Education and Professional Workforce Development.



**TURBOMACHINERY
LABORATORY**
TEXAS A&M ENGINEERING EXPERIMENT STATION

- 37,000 square foot (3440 sm) High-Bay Laboratory Facility
- 7 Faculty Researchers
- 90+ Graduate Students
- *Washington Monthly* ranks Texas A&M 4th among top national universities based on social mobility, research, and service.



Located in College Station, Texas



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Research

Engaging in research that benefits industry on a practical level.



Education

Advancing undergraduate and graduate education at Texas A&M University.



Workforce Development

Providing continuing education opportunities for professional engineers and technicians.



Areas of Impact



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



Dr. Eric Petersen
Turbomachinery Lab Director
Nelson-Jackson Professor
Mechanical Engineering



Dr. Paul Cizmas
Professor
Aerospace Eng.



Dr. Adolfo Delgado
Associate Professor
Mechanical Eng.



Dr. Je-Chin Han
Distinguished Professor
and Marcus Easterling
Endowed Chair
Mechanical Eng.



**Dr. Waruna
Kulatilaka**
Associate Professor
Mechanical Eng.



Dr. Alan Palazzolo
Professor
Mechanical Eng.



Dr. Luis San Andres
Mast-Childs Chair
Professor Mechanical
Eng.

- 37,000 square-foot high-bay facility
- 12 vibration damped test cells
- Variety of compressors that provide air for test rigs (4000 scfm at 120 psig to 1350 scfm at 330 psig)
- Connected to a reciprocating compressor via high-pressure air line to the Texas A&M Wind tunnel with high-pressure air at 2500 psi

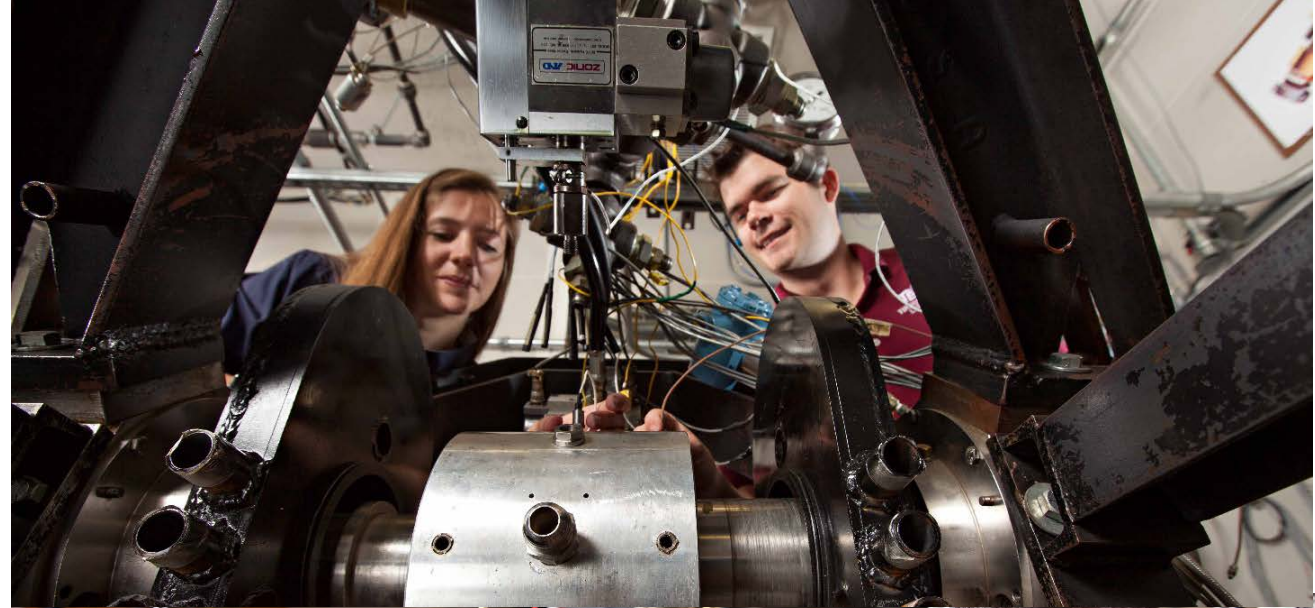


Facilities & Capabilities



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

- Turbine Combustion & Cooling Technologies
- Aerodynamic Performance and Efficiency of Turbomachinery
- Dynamics and Structures of Turbomachinery including Fluid-Structure Interaction Forces
- Oil-Free Micro-Turbomachinery
- Development and Application of Advanced Diagnostic Techniques
- Major Research Facilities for Pumps, in particular, Electrical Submersible Pumps



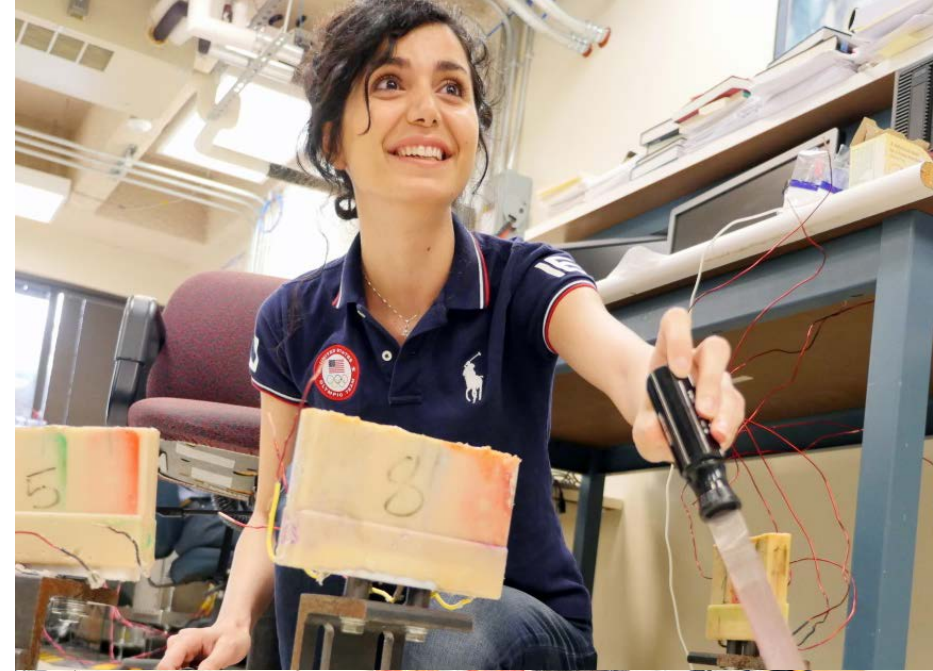
Research Areas



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FUNDING SOURCES

- External Government Contracts
- Individual Contracts with Private Firms
- Joint industry research agreements
- Multi-Disciplinary / Multi-Institution Collaborations
- Turbomachinery Research Consortium Company Memberships





- 35-40 Industry Members
- Student-led research projects
- Members select research projects at annual meeting
- Benefits include:
 - Immediate access to broad spectrum of faculty expertise
 - Immediate access to computer programs (XLTRC2 and other codes)





TEXAS A&M
UNIVERSITY

TURBOMACHINERY LABORATORY STUDENTS

- 90+ Graduate Students
- Prepared for global competency through practical training
- Ready for open-ended multidisciplinary problems
- Experienced in research directly tied to industrial needs, in particular, experimental research through TRC
- Equipped with professional ethics and integrity as core values of Texas A&M University



Education



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



TURBOMACHINERY & PUMP SYMPOSIA



ASIA TURBOMACHINERY & PUMP SYMPOSIUM

World-Class Technical Training Curated by Top-Tier Industry Advisory Committees

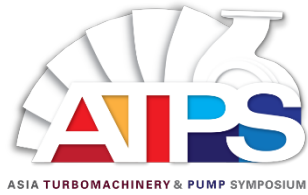
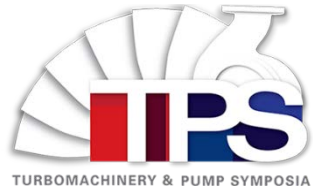
For the Industry, By the Industry

Training on a Practical Level

Workforce Development



TURBOMACHINERY LABORATORY
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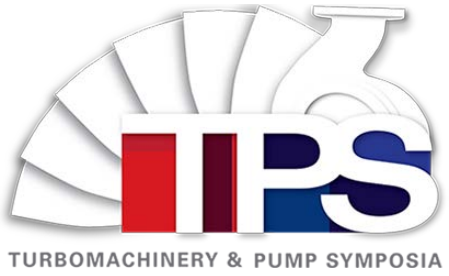
- Turbomachinery and Pump Advisory Committees are dedicated industry experts who volunteer their time to oversee the success of the Symposia.
- Advisors are respected leaders in their companies and fields who select the technical program for TPS and ATPS each year.
- Advisors represent top-tier global companies from various industries including Oil & Gas, Chemical, Power, Water, and Aerospace.



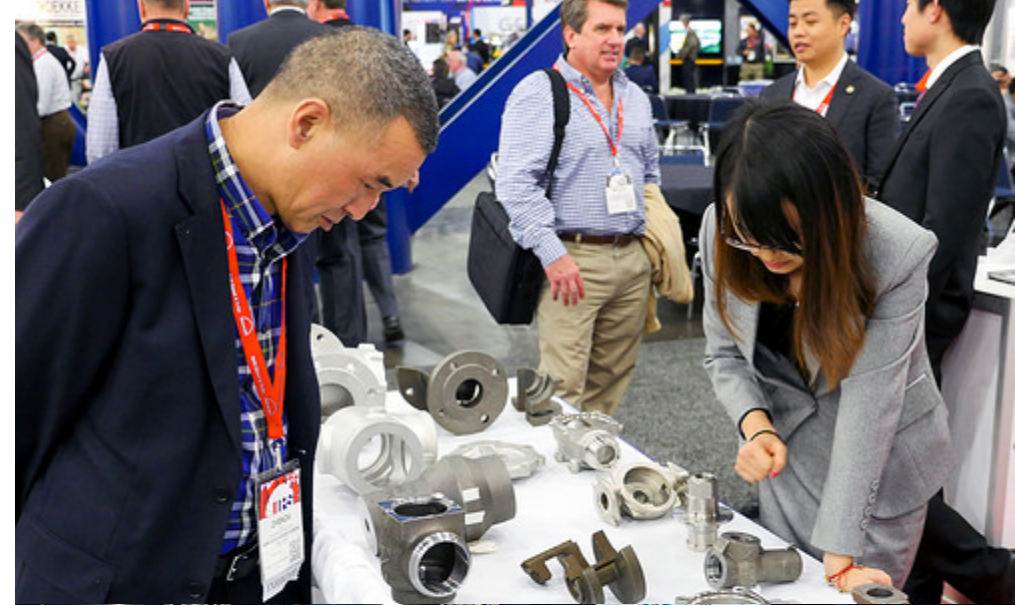
Advisory Committees

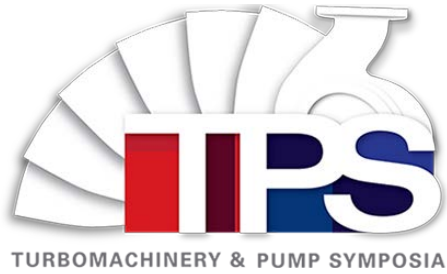


TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



- 46 year history as preeminent event for Turbomachinery and Pump professionals
- Held annually at George R. Brown Convention Center in Houston, Texas with 200,000+ square feet (18,600 sm) Exhibit Hall
- 350+ Exhibiting Companies representing major global industries including O&G, Petrochemical, Water, Power, Manufacturing, and Repair
- 46+ Countries represented





- 5400+ Attendees
- 74% of attendees make or influence final purchasing decisions for their companies.
- 98+ Technical Sessions
 - Full day Short Courses
 - Lectures
 - Tutorials
 - Discussion Groups
 - Case Studies



Symposia



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



ASIA TURBOMACHINERY & PUMP SYMPOSIUM

- Inaugural 2016 Symposium held at Marina Bay Sands Singapore
- Full Symposium scheduled Biennially (2018 held at Suntec Convention Center Singapore, 2020 in KL ?)
- Similar Session Format to TPS plus Industry Panel Sessions on Emerging Topics
- 35 Countries represented
- 62% of Attendees make or influence final purchasing decisions for their companies



Symposia



TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Sponsors



ASIA TURBOMACHINERY & PUMP SYMPOSIUM



Association Partners

Korea Rotating Machinery
Engineers Association



Institution of Engineers, Singapore



Institution of Engineers, Malaysia



Academic Partners

Nanyang Technological University



National University of Singapore



Universiti Teknologi Malaysia



ATPS Partners



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ASIA TURBOMACHINERY & PUMP SYMPOSIUM

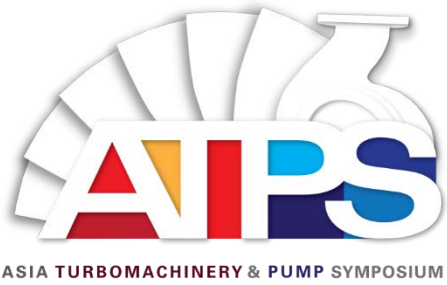
- 110 Technical Sessions
 - Full day Short Courses
 - Lectures
 - Tutorials
 - Discussion Groups
 - Case Studies
 - Panel Sessions
- 800+ Attendees
- 59% Management Level
 - 35% Senior Management Level



ATPS Technical Sessions



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ATTENDANCE VALUE

Learn how to do what you do, better, with insights from experienced industry experts

- Self Improvement through Professional Development courses delivered by top industry professionals
- Peer Networking and Exchange of Ideas that Impact Industry
- Development of young engineers into seasoned professionals



ATPS Value



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ASIA TURBOMACHINERY & PUMP SYMPOSIUM

2018 DELEGATE FEEDBACK

- “It is where the cream of the industry comes together in Asia”
- “ATPS is highly sought after and specialized event targeted for rotating machinery manufacturers, service providers and users. It is an arena to gaining insights to advancements in turbomachinery, sharing of knowledge and enhancing one's overall professional development. It is highly recommended to attend for anybody working with rotating machinery.”
- “One of the rare conference that is heavily industry oriented. It’s highly recommended for academia to expand their horizon and industry personnel to outreach to potential clients or suppliers”
- “This event is a MUST for O&G turbomachinery experts.”
- “ATPS is a great way to increase your knowledge and remain up to date in rotating equipment without having to travel to Houston, TX.”



ATPS Value



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ASIA TURBOMACHINERY & PUMP SYMPOSIUM

EXHIBITOR AND SPONSOR VALUE

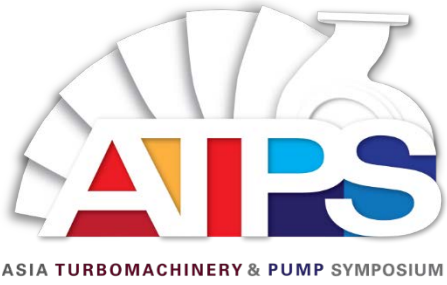
- Association with Texas A&M University and Turbomachinery Laboratory, the global authority on Turbo and Pump research & education
- Exposure to top management and influencers from leading global companies
- Reinforce branding and high-value customer relationships
- Prestige from supporting symposium with technical program developed by top industry experts
- Local/Regional audience – Low Cost/No Travel



ATPS Value



TURBOMACHINERY LABORATORY
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**LEARN
INNOVATE
CONNECT**

Author & Presenter Companies

lyondellbasell <i>Advancing Possible</i>	MAN MAN Diesel & Turbo	MANN+HUMMEL	MITSUBISHI HEAVY INDUSTRIES
Monroe Energy	NANYANG TECHNOLOGICAL UNIVERSITY	पावरग्रिड	PETRONAS
Qenos	R.I.T	SKF	SK
SIEMENS	SRC	Solar Turbines <i>A Caterpillar Company</i>	SwRI SOUTHWEST RESEARCH INSTITUTE
ATM TEXAS A&M UNIVERSITY	TEES TURBOMACHINERY LABORATORY TEXAS A&M ENGINEERING EXPERIMENT STATION	TechnipFMC	TECVIB
wood.	Altra Industrial Motion	amot	CALPINE NYSE: COP
SUND 赛德科技	OZ OPTICS LIMITED	QPS Photonics	中国矿业大学北京
VOITH			

Author & Presenter Companies

AESSEAL EXPERIENCE THE EXCEPTIONAL	ARC Advisory Group	ATGI	ADMA
bp	BRG MACHINERY CONSULTING	BAKER HUGHES a GE company	BUE The British University in Egypt الجامعة البريطانية في مصر
Chevron	CCC	CURTISS WRIGHT	
DRESSER-RAND A Siemens Business	EagleBurgmann.	ELLIOTT GROUP EBARA CORPORATION	engro fertilizers
ExxonMobil	GE Oil & Gas	HMEL	FLOWSERVE
Inno	INSTITUT P	GHS GHS VINA CO., LTD.	HESS
LIBERTY RESOURCES	LIBERTY RESOURCES	LCC LOVEJOY CONTROLS CORPORATION	

ATPS Value



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THANK YOU!

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