

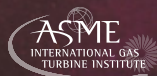
ASME 2018 TURBO EXPO

AWARDS PROGRAM

ASME INTERNATIONAL GAS TURBINE INSTITUTE

June 11, 2018 | Lillestrøm, Norway

American Society of Mechanical Engineers (ASME)



The Awards

2018 ASME R. Tom Sawyer Award
2016 ASME Gas Turbine Award
2017 and 2018 ASME Dedicated Service Awards
2016 John P. Davis Award
2018 Aircraft Engine Technology Award
2018 Industrial Gas Turbine Technology Award
2018 Dilip R. Ballal Early Career Engineer Award

Award Committees

Honors & Awards Committee
John Blanton, Chair
Aircraft Engine Technology Award Committee
Keith Boyer, Chair
Industrial Gas Turbine Technology Award Committee
John Gülen, Chair

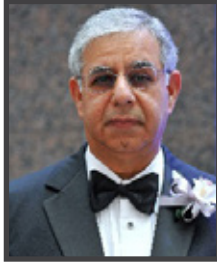
Closing Ceremony

Outgoing Committee Chairs, 2018 Student Best Poster Winners, Student Advisory Committee Travel Award Recipients and Young Engineer Turbo Expo Participation Award Recipients will be recognized during the Exposition Closing Ceremony on Thursday, June 14.

Best Paper and Best Tutorial Award Winners will be recognized at the appropriate committee meeting.

2018 ASME R. Tom Sawyer Award

Awarded to an individual who has made important contributions to advance the purpose of the gas turbine industry and the ASME International Gas Turbine Institute over a substantial period of time. The contribution may be in any area of Institute activity, but must be marked by sustained forthright efforts.



Dr. Aspi Wadia, *Chief Consulting Engineer – Aerodynamics, GE Aviation*

Dr. Wadia joined Garrett Turbine Engine Company in Phoenix in 1979 as a development engineer where he used viscous analysis tools to develop and test tip treatment concepts to reduce turbine blade tip leakage flow. In 1982, as a senior project engineer at Allison Gas Turbines in Indianapolis, he developed a leading-edge showerhead film cooling model, later modified and applied to develop effusion cooled combustor liners. Dr. Wadia is presently Chief Consulting Engineer – Aerodynamics at GE Aviation in Cincinnati.

In his 33-year career at GE, he has been the manager for turbomachinery aerodynamics, engineering systems program leader for large military engines and six sigma Master Black Belt. He has played a leadership role in the aerodynamic designs of the F110-GE-132 fan, the LM2500+ and CF6-80C2 high-pressure compressors and the LM6000 booster.

Dr. Wadia holds 43 patents and has published over 65 papers in archival journals. He received ASME's Melville Medal in 1999 for his pioneering work on transonic swept blades and again in 2009 for the development of a stability management system for aircraft engines. He received IGTT's Aircraft Engine Technology Award in 2009 for significant contributions to turbomachinery aerodynamics and cooling technology. He is a Fellow of both the AIAA and ASME. He received GE Aviation's Perry T. Egbert Career Technical Achievement Award in 2017.

2016 ASME Gas Turbine Award

The Gas Turbine Award was established in 1963 to be given in recognition of an outstanding contribution to the literature of combustion gas turbines or gas turbines thermally combined with nuclear or steam power plants.

RECEIVING THE 2016 GAS TURBINE AWARD FOR THEIR PAPER:

“Comparison of a Single and Double Lip Rim Seal Geometry”



Dr. Svilen Svilenov Savov completed his undergraduate degree in Mechanical Engineering at McGill University in 2010. Coming to the end of his undergraduate degree, he was interested in fluid dynamics, and this led him to pursue a Ph.D. at the Whittle Laboratory, University of Cambridge, researching gas turbine rim seal flows in collaboration with Mitsubishi Heavy Industries. Savov continued at the Whittle Laboratory as a Research Associate working on developing a model for rim sealing based on the results of his Ph.D. During this time, he was also appointed as a Teaching Associate at Gonville and Caius College, University of Cambridge, to provide supervision to first year undergraduate students. As of the end of 2017, he is employed as a consultant engineer at TTP Plc. in Cambridge, UK. Savov has received the IGTI Heat Transfer Committee Best Paper Award in 2016 and the Ernest Brown Gold Medal in 2010 from McGill University.



Dr. Nicholas Atkins holds an MHI Lectureship in Turbomachinery at the Whittle Laboratory at the University of Cambridge. His research covers a wide range of aerothermal flows in industrial and aero engine gas turbines. He obtained his M.Eng. and D.Phil. in Engineering Science at the University of Oxford. His doctoral research was on the development of turbine efficiency measurements in short duration test facilities. After the completion of his D.Phil., he was a Junior Research Fellow at New College, Oxford, working on turbine heat transfer. In 2007 he took up a Lectureship in Turbomachinery at the Thermo Fluid Mechanics Research Centre at the University of Sussex. He was appointed the acting Director of the Rolls-Royce University Technical Centre in Fluid Systems in 2008, before moving to Cambridge in 2010. He is a member of IGTI's Turbomachinery Committee, and his honors include ASME IGTI Heat Transfer Committee best paper awards in 2010, 2013, 2016 and 2017.



Dr. Sumiu Uchida received his Doctor of Engineering from Kyusyu University in 2009. He joined the Mitsubishi Heavy Industries Turbine Development Group in 1984. From 2001-2002, Uchida was the Engineering manager with Mitsubishi Heavy Industries America. He has held positions as the Manager of the Turbomachinery Laboratory, Director of Takasago Research & Development Center, Director of Nagasaki Research & Development Center. He is a Fellow of Mitsubishi Heavy Industries and currently holds the position of the Head of Research & Innovation Center.

ASME Dedicated Service Award

The ASME Dedicated Service Award honors unusual dedicated voluntary service to the Society marked by outstanding performance, demonstrated effective leadership, prolonged and committed service, devotion, enthusiasm and faithfulness.



Dr. Kenneth C. Hall received his S.B., S.M., and Sc.D. degrees from the Department of Aeronautics and Astronautics at MIT. After graduate school, Dr. Hall spent two and one-half years working at the United Technologies Research Center before joining the faculty of the Department of Mechanical Engineering and Materials Science at Duke University in 1990. From 2001 to 2007 he was the chair of that department, and is now the Julian Francis Abele Professor of Mechanical Engineering. Dr. Hall's research has focused primarily on novel methods for computing the unsteady aerodynamics, structural dynamics, and aeroelasticity of turbomachinery and aerospace vehicles, and on the optimal aerodynamic performance of helicopters.

Dr. Hall was Technical Program Chair of ASME Turbo Expo 2003, and served on the Board of the International Gas Turbine Institute of the ASME from 2003 through 2013, serving as Chair from 2007-2008. He is a past Vice President of the American Society of Mechanical Engineers, and a member of both the Turbomachinery and the Structures and Dynamics Technical Committees of the IGTI. He currently serves as Editor of the ASME Journal of Turbomachinery. Dr. Hall is a Fellow of the ASME, and a Fellow of the AIAA.



Dr. Sy A. Ali received his Ph.D. from Michigan State University. He is a member of the Secretary of Energy National Advisory Council, an ASME Life Member, and an Associate Fellow with AIAA. He serves as a session chair, co-chair, and author at ASME conferences.

As Principal, Clean Energy Consulting, Dr. Ali has oversight of the consulting services for project management, business case evaluations, interaction and presentation at DOE, EPA and Congressional hearings, and conducted peer review of the DOE solicitations, and AARPA projects. He handles energy and environmental business joint ventures, partnerships, teaming, and mergers and acquisitions opportunities.

2016 John P. Davis Award

Awarded to a paper that focuses on new or continuing gas turbine applications, identifies planning, installation, operating and/or maintenance problems and their solutions, and exemplifies candid exposure of real-world problems and solutions.

RECEIVING THE 2016 JOHN P. DAVIS AWARD FOR THEIR PAPER:

“Full-Scale Turbofan Demonstration of a Deployable Engine Air-Brake for Drag Management Applications” (GT2016-56708)



Dr. Parthiv N. Shah At ATA, Dr. Shah is a Senior Technical Advisor and ATA's Technical Director of Fluid Dynamics and Propulsion. He leads engineering service projects and R&D methods development in aerodynamics, propulsion, aeroacoustics, and turbomachinery. He has been a principal investigator for a number of recent efforts on the development of coupled aero-thermal-structural analysis methods for high-speed flight vehicle structures and development of high-resolution measurement methods for characterizing aeroacoustic sound.

He holds a BS in Aerospace Engineering from the University of Virginia, an MS in Mechanical and Aerospace Engineering from Rutgers University, and a Ph.D. in Mechanical Engineering from MIT. A part of his Ph.D. research in the MIT Gas Turbine Laboratory led to ATA's development and full-scale turbofan demonstration of the deployable engine air-brake for quiet approach applications. Prior to his doctoral studies he worked at Pratt and Whitney from 1998 to 2002 in a number of disciplines. He is an active member of AIAA and ASME and is a member of the ASME/IGTI Aircraft Engine Committee and Turbomachinery Committee.



Thomas Hartley serves as technical fellow in the dynamics group at Williams International where he emphasizes high-value product solutions to help customers meet complex aerospace requirements. His research interests are multi-disciplinary, typically in the areas of structural dynamics, acoustics, and heat transfer. Hartley has publications in reputable technical journals, i.e. ASME, AIAA, etc.

While working, he earned a Master of Science degree in Aeronautical Engineering from the University of Washington. Prior to working, he earned Master of Science and Bachelor of Science degrees in Mechanical Engineering from Michigan State University. During that time, he enjoyed playing baseball for the Spartans, serving as team co-captain as a senior and earning accolades such as Big Ten All Conference, Big Ten Player of the Week, Academic All-Big Ten, MSU Student Athlete of the Month, and Most Improved Player of the Year.

2016 John P. Davis Award



Gordon Pfeiffer has been with ATA for the past 6 years developing his expertise in the design of mechanical structures, solid modeling, drafting, and finite element analysis on a variety of analysis and design/build projects in the aerospace and entertainment industries.

He also has experience with computational fluid dynamics, 3D printing, machining and computer-aided manufacturing. Prior to working, he earned his B.S. and M.S. in Mechanical Engineering from the University of California at Irvine. In his free time he enjoys mountain biking, soccer, and building battle bots.



Dr. Rory R. Davis is currently Lead Engineer of Analysis-Driven Design and Senior Technical Advisor at ATA Engineering Inc. His expertise is in engineering mechanics, design (holder of 6 patents), analysis, and testing. Particular skills include sophisticated applications of the ANSYS finite element code, mechanical design, material allowables, design/analysis/testing of laminated composites, flexible rotating machinery dynamics from wind turbines to high pressure turbomachines, structural dynamics, and probabilistic methods. Aside from directed project work, Dr. Davis devotes substantial time to advising and review on a wide breadth of ATA projects and mentoring more junior personnel, as well as performing detailed third party reviews of design analysis for numerous clients.



Dr. Zoltan Spakovszky is Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology and the Director of the Gas Turbine Laboratory. He obtained his Dipl. Ing. degree in Mechanical Engineering from the Swiss Federal Institute of Technology (ETH) Zürich and his MS and Ph.D. degrees in Aeronautics and Astronautics from MIT. Dr. Spakovszky's principal fields of interest include internal flows in turbomachinery, compressor aerodynamics and stability, dynamic system modeling of aircraft gas turbine engines, micro-scale gas bearing dynamics, and aero-acoustics. He currently directs analytical and experimental research in these areas and teaches graduate and undergraduate courses in thermodynamics, propulsion and fluid mechanics, and aero-acoustics.

2018 Aircraft Engine Technology Award

For Outstanding Contribution to Air Breathing Propulsion Through Inspiring Leadership, Education, and Research Having Major Impacts on Aircraft Engine Operational Capability, Performance, and Design



Dr. Charles J. Cross is an internationally recognized expert in turbine engine dynamics, mechanics and durability and has led numerous national and international teams to investigate costly turbine engine fatigue and structural dynamics issues to resolve problems that impacted fielded engine systems for many years. His publication record includes over 110 journal papers, technical reports and proceedings, and one patent.

2018 Industrial Gas Turbine Technology Award

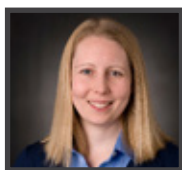
For Outstanding Contributions and Industry Leadership in Gas Turbine Combined Cycle System Research, Design, Development and Deployment



Leroy O. Tomlinson made significant contributions to industrial gas turbine and combined cycle power plant technology during his 59 year career. He held technical and leadership roles in gas turbine design, development, application, operation and maintenance. Leroy earned a BSME from Oklahoma State University in 1954. He is an ASME member of 63 years and served on the Heat Recovery Steam Generator Steam Generator Power Test Code Committee. He holds 27 patents and is a registered professional engineer.

2018 Dilip R. Ballal Early Career Award

Awarded to an individual who has made significant contributions in the gas turbine industry within the first five years of their career.



Dr. Jacqueline O'Connor also the director of the Reacting Flow Dynamics Laboratory. Her research interests include turbulent flames, thermoacoustic combustion instability, unsteady flow dynamics, and soot formation. Her research focuses on using high-speed laser diagnostics for quantifying unsteady phenomena in flames, with applications to power generation gas turbines, aircraft engines, industrial boilers, and diesel engines.

She is the recipient of numerous awards, including the Dorothy Quiggle Career Developmental Professorship at Penn State, the Irvin Glassman Young Investigator Award and Lecture from the Eastern States Section of the Combustion Institute, and the John Johnson Award for Outstanding Research in Diesel Engines from the Society of Automotive Engineers.

ASME IGTI Committee Best Papers

Aircraft Engine

NON-AXISYMMETRIC STATOR DESIGN FOR BOUNDARY LAYER INGESTING FANS

Evan Gunn, Cesare Hall

GT2017-63082

A CENTRIFUGAL COMPRESSOR OPERABILITY CORRELATION WITH COMBINED
TOTAL PRESSURE AND SWIRL DISTORTION

Yogi Sheoran, Bruce Bouldin, Robert Hoover, Mark Matwey

GT2017-63721

Ceramics

STUDY OF INTERLAMINAR FRACTURE PROPERTIES OF CERAMIC MATRIX
COMPOSITES AT ROOM AND ELEVATED TEMPERATURES

*Rabih Mansour, Yogesh Pratap Singh, Manigandan Kannan, Gregory Morscher,
Frank Abdi, Jalees Ahmad, Cody Godines, Saber DorMohammadi, Sung Choi*

GT2017-65168

Combustion, Fuels & Emissions

EXPERIMENTAL STUDY OF TRANSIENT MECHANISMS OF BI-STABLE FLAME
SHAPE TRANSITIONS IN A SWIRL COMBUSTOR

Michael Stöhr, Kilian Oberleithner, Moritz Sieber, Zhiyao Yin, Wolfgang Meier

GT2017-65003

EXPERIMENTAL STUDY OF SUPERHEATED KEROSENE JET FUEL SPRAYS FROM A
PRESSURE-SWIRL NOZZLE

Shaji S. Manipurath

GT2017-64846

Controls, Diagnostics & Instrumentation

PLANAR VELOCITY MEASUREMENTS AT 100 KHZ IN GAS TURBINE COMBUSTORS
WITH A CONTINUOUS LASER SOURCE

*Marek Mazur, Philippe Scoufflaire, Franck Richecoeur, L'eo Cunha Caldeira Mesquita,
Aymeric Vie, S'ebastien Ducruix*

GT2017-64597

Cycle Innovations

EXPERIMENTAL DYNAMIC ANALYSIS ON A T100 MICROTURBINE CONNECTED
WITH DIFFERENT VOLUME SIZES

Mario L. Ferrari, Paolo Silvestri, Matteo Pascenti, Federico Reggio, Aristide F. Massardo

GT2017-63579

ELECTROCHEMICAL CARBON SEPARATION IN A SOFC-MCFC POLY-GENERATION
PLANT WITH NEAR-ZERO EMISSIONS

Luca Mastropasqua, Stefano Campanari, Jack Brouwer
GT2017-63483

Education

ORAL ASSESSMENTS OF STUDENT LEARNING IN UNDERGRADUATE AEROSPACE
PROPULSION AND POWER COURSES

Kurt P. Rouser
GT2017-64082

Electric Power

GAS TURBINE COMBINED CYCLE OPTIMIZED FOR POST-COMBUSTION
CARBON CAPTURE

S. Can Gülen, Chris Hall
GT2017-65261

Fans & Blowers

PARTIALLY VANED DIFFUSER WITH VARIABLE CROSS-SECTION FOR
CENTRIFUGAL FANS

Magnus Fischer, Sebastian Burgmann, Manuel Rudersdorf, Joerg Seume
GT2017-63965

Heat Transfer

EXPERIMENTAL EVALUATION OF THERMAL AND MASS TRANSFER TECHNIQUES
TO MEASURE ADIABATIC EFFECTIVENESS WITH VARIOUS COOLANT TO
FREESTREAM PROPERTY RATIOS

Connor J. Wiese, James L. Rutledge, Marc D. Polanka
GT2017-65019

A RIM SEAL INGRESS MODEL BASED ON TURBULENT TRANSPORT

Svilen S. Savov, Nicholas R. Atkins
GT2017-63531

FILM COOLING EFFECTIVENESS COMPARISON ON FULL-SCALE TURBINE VANE
ENDWALLS USING PSP TECHNIQUE

Chao-Cheng Shiau, Andrew F Chen, Je-Chin Han, Salam Azad, Ching-Pang Lee
GT2017-64994

Industrial & Cogeneration

INFLUENCE OF NON-EQUILIBRIUM FLUID PROPERTIES DURING FOGGING ON
INTAKE DUCT AND COMPRESSOR CHARACTERISTICS

Christoph Günther, Franz Joos

GT2017-63267

Manufacturing Materials & Metallurgy

BENDING FATIGUE OF THERMAL BARRIER COATINGS

Robert Eriksson, Zhe Chen, Krishna Praveen Jonnalagadda

GT2017-63604

Marine

OPTIMIZED GAS TURBINE CONTROL SYSTEM FOR IMPROVED US NAVY LANDING
CRAFT AIR CUSHION (LCAC) OPERATION

Sunit Oliver, James Hampshire, Dr. Martin Engber, Alan Louie

GT2017-63651

Microturbines, Turbochargers & Small Turbomachines

CORRECTING TURBOCHARGER PERFORMANCE MEASUREMENTS FOR HEAT
TRANSFER AND FRICTION

Mario Schinnerl, Dr. Jan Ehrhard, Dr. Mathias Bogner, Prof. Joerg Seume

GT2017-64283

Oil & Gas Applications

DEVELOPMENT AND EVALUATION OF A MOBILE PLANT TO PREPARE NATURAL
GAS FOR USE IN FOAM FRACTURING TREATMENTS

Griffin Beck, Melissa Poerner, Kevin Hoopes, Sandeep Verma, Garud Sridhar,

Alhad Phatak

GT2017-64689

Steam Turbines

ASSESSMENT OF UNSTEADINESS MODELLING FOR TRANSIENT NATURAL
CONVECTION

Mohamed Fadl, Li He, Peter Stein, Gabriel Marinescu

GT2017-63592

Structures & Dynamics – AERODYNAMIC EXCITATION & DAMPING

MEASUREMENTS OF RADIAL VORTICES, SPILL FORWARD AND VORTEX
BREAKDOWN IN A TRANSONIC COMPRESSOR

Christoph Brandstetter, Maximilian Jüngst, Heinz-Peter Schiffer

GT2017-64576

Structures & Dynamics – BEARING & SEAL DYNAMICS

EXPERIMENTAL STUDY OF THE STATIC AND DYNAMIC CHARACTERISTICS OF A
LONG SMOOTH SEAL WITH TWO-PHASE, MAINLY-AIR MIXTURES

Ming Zhang, James E. McLean, Dara Childs

GT2017-63988

LEAKAGE, DRAG POWER AND ROTORDYNAMIC FORCE COEFFICIENTS OF AN AIR
IN OIL (WET) ANNULAR SEAL

Luis San Andres, Xueliang Lu

GT2017-63254

Supercritical CO₂ Power Cycles

CHARACTERIZATION OF NON-EQUILIBRIUM CONDENSATION OF
SUPERCRITICAL CARBON DIOXIDE IN A DE LAVAL NOZZLE
Claudio Lettieri, Derek Paxson, Zoltan Spakovszky, Peter Bryanston-Cross

GT2017-64641

Turbomachinery: DEPOSITION, EROSION, FOULING, AND ICING

DYNAMIC SIMILARITY IN TURBINE DEPOSITION TESTING AND THE ROLE OF
PRESSURE

*Craig Sacco, Chris Bowen, Ryan Lundgreen, Jeffrey Bons, Eric Ruggiero, Jason Allen,
Jeremy C Bailey*

GT2017-64961

Turbomachinery: UNSTEADY FLOWS IN TURBOMACHINERY

THE ROLE OF TIP LEAKAGE FLOW IN SPIKE-TYPE ROTATING STALL INCEPTION
Max Hewkin-Smith, Graham Pullan, Samuel Grimshaw, Edward Greitzer,

Zoltan Spakovszky

GT2017-63655

TWO-PHASE CFD-CALCULATIONS FOR THE DESIGN OF WATER-BASED TURBINE
CLEANING SYSTEMS FOR TURBOCHARGERS

Magnus Fischer, Ansgar Weickgenannt

GT2017-64332

Wind Energy

COMPARATIVE ANALYSIS OF DIFFERENT NUMERICAL TECHNIQUES TO ANALYZE
THE WAKE OF A WIND TURBINE

*Alessandro Bianchini, Francesco Balduzzi, Domenico Gentiluomo, Giovanni Ferrara,
Lorenzo Ferrari*

GT2017-64723

ASME IGTI Committee Best Tutorial

MANUFACTURING MATERIALS & METALLURGY

ADVANCED TURBOMACHINERY MANUFACTURING - FUNDAMENTALS OF
MANUFACTURING PROCESSES AND PROCESS CHAINS

Rainer Kurz, Klaus Brun, Michele Pinelli

24-12

Outgoing Chairs

Aircraft Engine

Wing Ng

Ceramics

Sai Sarva

Coal, Biomass & Alternative Fuels

Ajay Agrawal

Controls, Diagnostics & Instrumentation

Lorenzo Ferrari

Education

Sabri Deniz

Electric Power

Jeffrey A. Benoit

Fans and Blowers

Alessandro Corsini

Heat Transfer

Phil Ligrani

Manufacturing Materials & Metallurgy

Ashok Koul

Structures & Dynamics

Harald Schoenenborn

Student Advisory

Zhiping Mao

Young Engineer Turbo Expo Participation Award Recipients

Alireza Ameli	David Gonzalez Guadrado	Jomar Mendoza
Reid Berdanier	Mohammad Arif Hossain	Gladys C. Negtich
Diogo Berta Pitz	Sunghwa Jeung	Jorge Saavedra
Tania Sofia Cacao Ferreira	R. Krishna Chaitanya Kalvakala	Prashant Singh
Bogdan Cezar Cernat	Kathryn Kirsch	Charles Stuart
Wyatt Culler	Weihong Li	Jonathan Tobias
Hanna Ek	Shyang Maw Lim	Cori Watson
	Xueliang Lu	Yu Xia

2017 Student Advisory Committee Travel Award (SACTA)

Raghu Veera Manikantachari, Kancherla	Valeria Andreoli	Nicolas Ulysse Poujol
Owen Marcus Pryor	Amirabas Bakhtiari Bundeswehr James Braun	Francesca De Domenico
Simone Giorgetti	Gen Fu	Utkudeniz Ozturk
Patrick Neumann	Christopher Paul Bowen	Luisana Calderon
Jee Loong Hee	Nian Wang	Shawn Siroka
Zhe Liu	Wenqiang Zhang	Xin Deng
		Andres Curbelo



Save the Date!





**CONGRATULATIONS TO ALL AWARD RECIPIENTS
AND THANK YOU TO ALL ASME IGTI COMMITTEE
AWARD REPRESENTATIVES WHOSE WORK ASSISTS
THE AWARDS AND HONORS CHAIR AND THE
READING COMMITTEE.**