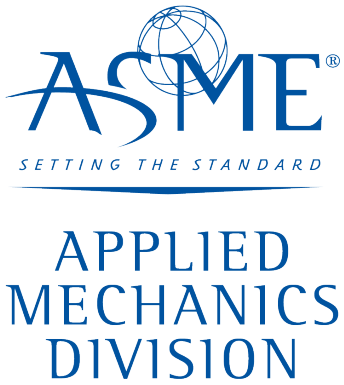


2024
International Mechanical Engineering Congress & Exposition

APPLIED MECHANICS DIVISION

Honors & Awards Banquet

Tuesday, November 19, 2024

Portland, OR, USA

Glaucio H. Paulino

Presiding Chair, 2024-2025

Applied Mechanics Division

2023-2024 Executive Committee

Marco Amabili, Chair

Glaucio H. Paulino, Vice-Chair

Narayana Aluru, Program Chair

Samantha Daly, Program Vice-Chair

Yashashree Kulkarni, Secretary

2023 HONORS AND AWARDS COMMITTEES

THOMAS J. R. HUGHES YOUNG INVESTIGATOR AWARD COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif

TED BELYTSCHKO APPLIED MECHANICS AWARD COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif
Somnath Ghosh, Narayana Aluru

ZDENĚK P. BAŽANT COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif

THOMAS K. CAUGHEY DYNAMICS MEDAL COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif

WARNER T. KOITER MEDAL COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif
K.T. Ramesh, Anthony Waas

DANIEL C. DRUCKER MEDAL COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif
Markus Buehler

TIMOSHENKO MEDAL COMMITTEE

Macro Amabili, Glaucio Paulino, Kenji Takizawa, Sam Daly, Yashashree Kulkarni
Balakumar Balachandran, Yonggang Huang, Yuri Bazilevs, Pradeep Guduru, Taher Saif
Huajian Gao

PI TAU SIGMA-ASME AWARDS

Pi Tau Sigma (PTS), the International Mechanical Engineering Honor Society, and the American Society of Mechanical Engineers (ASME), each year, jointly offer three prestigious awards to recognize outstanding individuals for achievements in Mechanical Engineering. These awards are the Pi Tau Sigma Gold Medal Award, the Gustus L. Larson Memorial Award, and the Charles Russ Richards Memorial Award. A description on the rules for each award can be found in the ASME website.

PI TAU SIGMA GOLD MEDAL AWARD COMMITTEE
GUSTUS L. LARSON MEMORIAL AWARD COMMITTEE
CHARLES RUSS RICHARDS MEMORIAL AWARD COMMITTEE

Jacob McFarland, Q. Jane Wang, Glaucio Paulino, Pradeep Sharma

PROGRAM

WELCOME AND INTRODUCTION

RECOGNITION

SERVICE AWARD: Marco Amabili

DEDICATED SERVICE AWARD:
Dumitru Caruntu

JOURNAL OF APPLIED MECHANICS

Editor: Pradeep Sharma

Associate Editors, New Appointments:

Shelly Zhang (UIUC), Ruike Zhao (Stanford), Kaushik Dayal (CMU), Shyam Keralavarma (IITM), Guoliang Huang (Peking)

Journal of Applied Mechanics Award:
Heling Wang, Tsinghua University

APPLIED MECHANICS REVIEWS

Editor: Yonggang Huang

Associate Editors, New Appointments:

Jose Andrade (Caltech), Rinaldo Garziera (UNIPR), Alexander Hartmaier (RUB), Yashashree Kulkarni (UH), Nanshu Lu (UT-Austin), Anna Tarakanova (UConn), Kejie Zhao (Purdue)

Associate Editors who Completed Their Terms:
Arezoo Ardekani (Purdue), Dennis Kochmann (ETH), Gary Seidel (Virginia Tech), Julie Young (UM-Ann Arbor), Oleg Zikanov (UM-Dearborn)

The Lloyd H. Donnell Applied Mechanics Reviews Paper Award:
Vikram S. Deshpande, Cambridge University
Robert M. McMeeking, University of California, Santa Barbara

ASME FELLOWS (2024)

Craig Redding, Chih-yung Huang, Yi-chung Shu, Peretz Friedmann, Glen Niebur, Bhaskar Shitole, Veera Sundararaghavan, Stephen Engelstad, Uttam Chakravarty, Antonio Seijas, Andreas Muller, Julian Norato, Xue Feng

Robert M. and Mary Haythornthwaite Foundation Student Travel Awards

Honghui Du, Juana Gresia, Chase Hartquist, Sahil Kamath, Ilyes Krida, Teerapong Poltue, Nathaly Villacís Núñez, Zhengxuan Wei, Shuai Wu

Robert M. and Mary Haythornthwaite Foundation Research Initiation Grants Awards

Oliver Giraldo-Londono, Aditya Kumar, Haiwen Luan, Larissa Novelino, Abigail Plummer

PRESENTATION OF AWARDS

PI TAU SIGMA (PTS) AWARDS

2024 Pi Tau Sigma Gold Medal: Raudel Avila

2024 Gustus L. Larson Memorial Award: Sinan Keten

2024 Charles Russ Richards Memorial Award: Narayana Aluru

APPLIED MECHANICS DIVISION (AMD) AWARDS

2024 Eshelby Mechanics Award for Young Faculty: Tal Cohen

2024 Thomas J. R. Hughes Young Investigator Award: Diego Misseroni

2024 Ted Belytschko Applied Mechanics Award: Xue Feng

2024 Zdeněk P. Bažant Medal: Yong Zhu

2024 Thomas K. Caughey Dynamics Medal: Friedrich Pfeiffer

2024 Warner T. Koiter Medal: H. Jerry Qi

2024 Daniel C. Drucker Medal: Pradeep Sharma

2024 Stephen P. Timoshenko Medal: Pierre Suquet

PI TAU SIGMA-ASME AWARD

Pi Tau Sigma Gold Medal Award

Raudel Avila

Assistant Professor of Mechanical Engineering
Department of Mechanical, Rice University, Houston, TX, USA

Raudel Avila joined the Department of Mechanical Engineering at Rice University in 2023, where he directs the Computational Mechanics and Bioelectromagnetics Laboratory. He earned his BSc in Mechanical Engineering from the University of Texas at El Paso in 2017 and his PhD in Mechanical Engineering from Northwestern University in 2023. At Northwestern, he focused on developing computational mechanics and electromagnetic models for bioelectronics. Dr. Avila has authored over 50 peer-reviewed publications in interdisciplinary journals, including Science, Nature, and PNAS, as well as leading mechanics journals such as the Journal of the Mechanics and Physics of Solids and the Journal of Applied Mechanics. In 2024, he was awarded the ASME Pi Tau Sigma Gold Medal for his outstanding contributions to mechanical engineering within 10 years of receiving his BSc.

Dr. Avila has made significant contributions in developing mechanics scaling laws and computational models in bioelectronics that led to major advances in establishing a mechanics modeling framework to understand physical phenomenon in injectable optofluidic devices, bio-integrated antennas, skin-integrated electronics, and bioresorbable cardiac devices.

His research focuses on creating numerical and analytical models for bio-integrated electronics to investigate key challenges in biomedical devices, including miniaturization, scalability, packaging, power limitations, tissue interactions, and energy absorption. In 2023, he received the ASME Applied Mechanics Division – Haythornthwaite Foundation Research Initiation Grant for his work on the mechanics of strain-insensitive bioelectronics. His broader goal is to integrate mechanics and electromagnetics to design and optimize biomedical technologies.

Dr. Avila is the recipient of several prestigious honors, including the National Science Foundation Graduate Research Fellowship (2018–2022), the Ford Foundation Predoctoral Fellowship (2018–2022), the ASME Auxiliary Elisabeth M. and Winchell M. Parsons Scholarship (2018), and the Outstanding Researcher Award from the International Institute of Nanotechnology (2019). In 2022, he was recognized as a Future Trailblazer in Engineering by Purdue University for his potential to advance representation and diversity in engineering. In 2017, he was selected as one of the Top 10 Seniors at the University of Texas at El Paso (the only mechanical engineer among approximately 5,000 graduates) and received the ASME Auxiliary Irma and Robert Bennet Scholarship.

The Pi Tau Sigma Gold Medal, established in 1938, recognizes outstanding achievement in mechanical engineering within ten years following graduation with a baccalaureate (bachelors) degree in Mechanical Engineering or related field. The award is bestowed for overall outstanding achievement in the mechanical engineering field during the set period of time.

PI TAU SIGMA-ASME AWARD

Gustus L. Larson Memorial Award

Sinan Keten

Jerome B. Cohen Professor of Mechanical Engineering
Professor of Mechanical Engineering and Civil and Environmental Engineering and (by courtesy) Biomedical Engineering
Associate Chair of Mechanical Engineering
Northwestern University, Evanston, IL, USA

Sinan Keten is the Jerome B. Cohen Professor of Mechanical Engineering, Civil & Environmental Engineering, and Biomedical Engineering (by courtesy), and the Associate Chair of the Dept. of Mechanical Engineering at Northwestern University. He joined Northwestern University faculty in 2010 after obtaining his Ph.D. from MIT. His research expertise is on computational materials design and mechanics with an emphasis on soft matter, and he has co-authored over 150 journal articles in this area. His research interests include multi-scale approaches and sequence-based learning models that describe the mechanical behavior of protein-based and bioprogrammable materials, conceptual design of synthetic catch bonds, robust magnetoelastic architected materials that self-assemble and heal under random excitation, and understanding of nanoconfinement and interfacial mechanics phenomena in nanocomposites. Prof. Keten has received honors including the Presidential Early Career Award for Scientists and Engineers (PECASE), selection for the 2024 Defense Science Study Group, Office of Naval Research (ONR) Young Investigator Program (YIP) Award, Society of Engineering Science Young Investigator Medal, ASME Sia Nemat Nasser Award, ASME Thomas J. R. Hughes Young Investigator Award, and ASCE Huber Prize. He is a Fellow of the American Physical Society. He served as an Associate Editor for the Journal of Applied Mechanics and currently serves as an Associate Editor for npj Computational Materials. He is the Society of Engineering Science Representative for the US National Committee on Theoretical and Applied Mechanics (USNC/TAM). He currently serves as the Vice-President of the Society of Engineering Science and will be its President in 2025.

The Gustus L. Memorial Award, established in 1974, is bestowed in recognition of distinguished contributions to the field of solid mechanics with special emphasis on the effective blending of theoretical and applied elements of the discipline, and on a high degree of leadership in the international solid mechanics community.

PI TAU SIGMA-ASME AWARD

Charles Russ Richards Memorial Award

Narayana R Aluru

Cockrell Family Regents Chair in Engineering #9
Walker Department of Mechanical Engineering
Oden Institute for Computational Engineering & Sciences
The University of Texas at Austin, Austin, TX, USA

Aluru received the B.E. degree with honors and distinction from the Birla Institute of Technology and Science (BITS), Pilani, India, in 1989, the M.S. degree from Rensselaer Polytechnic Institute, Troy, NY, in 1991, and the Ph.D. degree from Stanford University, Stanford, CA, in 1995. He was a Postdoctoral Associate at the Massachusetts Institute of Technology (MIT), Cambridge, from 1995 to 1997. He joined the Walker Department of Mechanical Engineering and the Oden Institute for Computational Engineering and Sciences at the University of Texas (UT) at Austin in August 2021. Prior to joining UT Austin, he was on the faculty at the University of Illinois at Urbana-Champaign (UIUC) from 1998 to 2021.

Aluru's research group made pioneering contributions to nanofluidics. Some of the new physical phenomena his group has shown include the significance of size effects in confined fluids and the breakdown of classical theories, charge inversion near interfaces, fast transport of water in carbon nanotubes, observation of anomalous hexagonal ice-like structures of water in nanotubes, coupling between rotational and translational motions of confined fluids, existence of multiphase structure of water near interfaces, hydrodynamics in single atom thick membranes, universal reduction in dielectric response of confined fluids, dynamic and weak double layers in ultrathin nanopores, and Coulomb drag effects where ions drag electrons and vice versa in nanofluidics. Many of these phenomena have subsequently been observed experimentally. Furthermore, his work also corrected classical theories (Hagen-Poiseuille theory, Simpson's theory, and Lucas-Washburn theory), which have been in existence for centuries, to account for nanoscale physical phenomena. In a series of papers, Aluru's group developed multiscale approaches where interatomic potentials used in molecular dynamics have been incorporated into classical theories. These methods have been shown to accurately predict all aspects of fluid properties including structure, dynamics, thermodynamics, and transport.

Aluru received the NSF CAREER award in 1999, 2001 CMES Distinguished Young Author Award, Xerox Award for Faculty Research from UIUC in 2002, ASME Gustus L. Larson Memorial Award in 2006, Ted Belytschko Applied Mechanics Division Award from ASME in 2020, USACM Gallagher Young Investigator Award in 2007 and the USACM J. Tinsley Oden Medal in 2017. He was named a Willett Faculty Scholar and a University Scholar at UIUC. At UIUC, he held the Richard W. Kritzer Distinguished Professorship from 2009-2021. He received the Distinguished Alumnus Award from BITS (Pilani, India) in 2017 and the UIUC College of Engineering Teaching Excellence Award in 2012. He is a Fellow of USACM, IACM, ASME, AAAS, and APS. He served as the Director of the Computational Science and Engineering Program at UIUC from 2012-2017. He served as the Secretary (2018-2020), Vice-President (2020-2022) and President (2022-2024) of the United States Association for Computational Mechanics.

The Charles Russ Richards Memorial Award, established in 1944 by Pi Tau Sigma in coordination with ASME, is presented to an engineering graduate who has demonstrated outstanding achievement in mechanical engineering twenty years or more following graduation with a baccalaureate degree. The award is bestowed for overall outstanding achievement in the mechanical engineering field during the set period of time.

Eshelby Mechanics Award for Young Faculty

Tal Cohen

Associate Professor
Civil & Environmental Engineering
Mechanical Engineering
Massachusetts Institute of Technology

For insightful and innovative contributions that have advanced our understanding of the mechanics of engineering materials under extreme conditions.

Tal Cohen is an Associate Professor at MIT. She joined the Department of Civil & Environmental Engineering in November 2016 and has a joint appointment in the Department of Mechanical Engineering. She received both her MSc and PhD degrees in Aerospace Engineering at the Technion in Israel. Following her graduate studies, Tal was a postdoctoral fellow for two years at the Department of Mechanical Engineering at MIT and continued for an additional postdoctoral period at the School of Engineering and Applied Sciences at Harvard University. She received the ONR Young Investigator award and the NSF CAREER award in 2020, and the ARO Young Investigator award in 2019. Earlier awards include the MIT-Technion Postdoctoral Fellowship, and the Zonta International Amelia Earhart Fellowship. Her research, which combines both theoretical and experimental tools, is broadly aimed at understanding the nonlinear mechanical behavior and constitutive sensitivity of solids. This includes behavior under extreme loading conditions, involving propagation of shock waves and dynamic cavitation, material instabilities, and chemo-mechanically coupled phenomena such as material growth. Among various contributions, Cohen's research group developed the Volume Controlled Cavity Expansion (VCCE) method; a minimally invasive technique for measuring local nonlinear mechanical properties of soft and biological materials. VCCE is currently being applied in human tissue for disease research and diagnosis.

The Eshelby Mechanics Award for Young Faculty, launched in 2012, is given annually to rapidly emerging junior faculty who exemplify the creative use and development of mechanics. The intent of the award is to promote the field of mechanics, especially among young researchers, and commemorate the memory of Professor John Douglas Eshelby. While interdisciplinary work that bridges mechanics with physics, chemistry, biology and other disciplines is encouraged, the ideal awardee will demonstrate clear inspiration from mechanics in his or her research.

Thomas J. R. Hughes Young Investigator Award

Diego Misseroni, Ph.D.

Professor of Aerospace Structures,
University of Trento, Trento, Italy

For contributions to the fundamental understanding of the mechanical behavior of architected metamaterials by innovative experimental realizations leading to new insights and theoretical findings.

Diego Misseroni is a Full Professor of Aerospace Structures at the University of Trento, Italy. He earned both his Bachelor's and Master's degrees in Civil Engineering with honors from the University of Trento. In 2013, he completed his PhD in "Solid and Structural Mechanics" at the same institution. In 2014, he was a Marie Curie Experienced Researcher at the University of Liverpool, UK. Afterward, he returned to the University of Trento as a Tenure-Track Researcher and was promoted to Associate Professor in 2022, before achieving the rank of Full Professor in 2024. In 2023, he was a Fulbright Visiting Scientist at the School of Engineering and Applied Science, Princeton University.

Dr. Misseroni extensive research interests span the Mechanics of Solids, Materials, and Structures, encompassing architected materials, metamaterials, and origami engineering. Additionally, he delves into flexible structures, buckling phenomena, and instabilities of structures undergoing large deformations. Dr. Misseroni approach to research is a combination of theoretical modelling, numerical simulations and experimental activity that always ends with the realization of proof-of-concept prototypes. Dr. Misseroni has obtained important scientific achievements as documented by his numerous publications in top-tier journals in solid and structural mechanics, as well as in multidisciplinary journals, several of which have been featured on journal covers.

Dr. Misseroni has received several awards, including an ERC Consolidator Grant, the Extreme Mechanics Letters (EML) Young Investigator Award, a Fulbright Fellowship – Research Scholar Award, the Zwick Roell Science Award, and the Paul Roell Medal, all in 2022. He was also honored with the 2022 Trentino Research Award for Young Researchers, the AIMETA Junior Prize in 2017, and the DICAM Teaching Excellence Award from the University of Trento in both 2019 and 2024.

The Young Investigator Award was established in 1998 and renamed the Thomas J.R. Hughes Young Investigator Award in 2008. The award recognizes special achievements in applied mechanics for researchers who have not reached their 41st birthday by December 31st of the year of the awards presentation.

Ted Belytschko Applied Mechanics Award

Xue Feng

Professor of Engineering Mechanics and state key laboratory of Flexible Electronics Technology
Tsinghua University, Beijing, China

For his fundamental contributions to theories of interfacial mechanics, and pioneering the transfer printing techniques leading to functional systems of heterogeneous materials including stretchable inorganic electronics with applications to biomedicine, biomedical engineering and industrial scale production of flexible integrated circuits.

Professor Xue Feng is a tenured professor of Tsinghua University. He received Ph.D. from the Department of Engineering Mechanics, Tsinghua University in 2003, and was a postdoc (2004-2007) at the University of Illinois at Urbana Champaign and the California Institute of Technology. He is also the founding director of the state key laboratory of Flexible Electronics Technology.

Professor Feng has been engaged in the research of solid mechanics and flexible electronics. Based on the principles of mechanics, he has developed the basic design theory and core manufacturing technology of flexible integrated devices, with applications in a diverse range of engineering disciplines. The developed devices and equipment have been adopted by many universities, research institutes, and industry. His fundamental research has been transformed to various products of flexible electronics. He has published more than 280 papers in journals such as Nature, Science, Nature Materials, Science Advances, National Science Review, 9 of which are selected as highly cited papers by ESI. He has over 100 patents, more than 30 of which are licensed or in active use.

Professor Feng is a member of the European Academy of Sciences and Arts. He is also an ASME fellow, a fellow of the Society of Engineering Science, and a fellow of the Society for Experimental Mechanics. He has received a series of awards and, including: ASME Melville Medal (2023); Qiushi Outstanding Youth Award, China (2022), which is awarded annually to 25 recipients selected from all disciplines of science and engineering; Ho Leung Ho Lee Foundation Science and Technology Innovation Prize, China (2022), which is awarded annually to 20 recipients selected from all disciplines of science and engineering.

Professor Feng served as an Associate Editor of ASME Journal of Applied Mechanics, and is currently the Associate Editor of Applied Mechanics Reviews. He also launched two new journals on flexible electronics, named as FlexTech and Wearable Electronics, as an editor-in-chief for both journals. He launched the international conference on flexible electronics (ICFE) in 2018, and consecutively served as the chair of the conference five times (ICFE 2018, 2019, 2021, 2022, and 2023). This series of conferences is now recognized as the most influential international conference on flexible electronics.

The Applied Mechanics Award was established in 1988 and renamed the Ted Belytschko Applied Mechanics Award in 2008. The award is given to an outstanding individual for significant contributions in the practice of engineering mechanics; contributions may result from innovation, research, design, leadership or education.

Zdeněk P. Bažant Medal

Yong Zhu

Andrew A. Adams Distinguished Professor
Department of Mechanical and Aerospace Engineering
North Carolina State University, Raleigh, NC, USA

For pioneering contributions in the field of nanomechanics through development and application of novel, innovative instrumentation to discover new deformation mechanisms and understand their mechanistic origins, leading to advances in mechanics of nanomaterials for both soft electronics and soft robotics.

Yong Zhu is the Andrew A. Adams Distinguished Professor and Associate Head for Research and Faculty Advancement in the Department of Mechanical and Aerospace Engineering at North Carolina State University. He received his B.S. degree from the University of Science and Technology of China (USTC) in 1999, followed by an M.S. in 2001 and a Ph.D. in 2005 from Northwestern University, Evanston, IL. After completing a postdoctoral research fellowship at the University of Texas at Austin, he joined NC State in 2007.

Dr. Zhu has made substantial contributions to mechanics and engineering applications of nanomaterials. He has pioneered the development of microelectromechanical systems (MEMS) for in-situ mechanical testing of nanomaterials within electron microscopy, significantly advancing our understanding of size effects and deformation mechanisms at the nanoscale. His research has uncovered novel phenomena in crystalline nanowires, including recoverable plasticity in twinned nanowires, anelasticity driven by point defect diffusion, detwinning under tensile loading, hydrogen embrittlement in metal nanowires, and the brittle-to-ductile transition in silicon nanowires. Additionally, he has investigated the interfacial mechanics between nanomaterials and stretchable substrates, a crucial aspect for their practical applications. In addition to his fundamental work, Dr. Zhu has creatively employed nanomaterials for emerging technologies, including stretchable electronics and soft robotics. His group has developed a range of soft wearable sensors for monitoring both human and plant health.

Dr. Zhu is a Fellow of the ASME and the Society for Experimental Mechanics (SEM). His work has been recognized with many honors and awards, including the Gustus L. Larson Memorial Award and the Sia Nemat-Nasser Award from ASME, the James R. Rice Medal from the Society of Engineering Science (SES), and the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt Foundation. He was also honored with the JSA Young Investigator Lecture Award from SEM. At NC State, Dr. Zhu was named a University Faculty Scholar and received the Alcoa Foundation Engineering Research Achievement Award from the College of Engineering. He has been active in serving the mechanics and materials community, including serving as Chair of the ASME Materials Division. Currently he is on the Board of Directors for SES and the U.S. National Committee on Theoretical and Applied Mechanics.

The Zdeněk P. Bažant Medal was established in 2022 by the Applied Mechanics Division and recognizes an individual who has made significant contributions to the field of mechanics through research, practice, teaching and/or outstanding leadership.

Thomas K. Caughey Dynamics Medal

Friedrich Pfeiffer

TUM Emeritus of Excellence, former Chair and former Industry Positions,
TUM School of Engineering and Design,
Technische Universität München, Germany

For his many contributions as a researcher, educator and practitioner in the field of Nonlinear Dynamics which have resulted in significant advances in the modeling, analysis, simulation, design and manufacture of many mechanical/fluid power transmission, robotic and aerospace systems.

Friedrich Pfeiffer, born in 1935, received his Dr.-Ing. in Aerodynamics from the Technische Hochschule Darmstadt, Institut für Flugtechnik in 1965. Then, he joined the aerospace company Messerschmitt-Bölkow-Blohm (MBB), München, and, after 16 years industry, he became Professor of Applied Mechanics, Technical University München, in 1982. He was retired in 2001 and continued then various scientific activities.

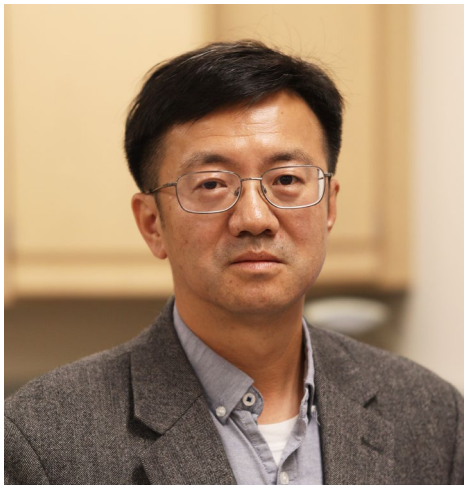
Professor Pfeiffer served as head of the MBB space dynamics department from 1969 to 1975, as technical manager of a company producing propulsion units for guided missiles from 1976 to 1978 and in addition as a technical division manager for guided missiles from 1980 to 1982, when he started a new career as professor and scientist, faculty of mechanical engineering, TUM. He served at TUM as a member of the faculty council from 1984 to 2000, as a dean of the faculty together as member of the TUM Senate from 1993 to 1995, and in various external scientific organizations, for example, Senate of National Research Foundation (DFG) from 1996-2002, Chair Hercules-Science-Foundation Brüssel 2008-2015, Council University Bundeswehr (military university) 2008-2016, Rector CISM Udine 2010-2016. In addition he served automotive and mechanical engineering industry as a consultant. He served as a Vice-President and President of GAMM (Gesellschaft für Angewandte Mathematik und Mechanik) from 2002-2007 and was associate editor of various scientific journals.

Professor Pfeiffer published more than 200 papers, seven books and some book contributions. He is member or fellow in scientific societies, so ASME (fellow), IEEE (fellow), GAMM (former president, vice-president), VDI, DGLR, EUROMECH, IUTAM(chair working group dynamics), and he organized a couple of national and international conferences. He was awarded by three honorary doctors (Moscow 1998, Dresden 2004, Bologna 2008) and by prestiguous awards like Körber Preis Hamburg 1990, order of merit (Bundesverdienstkreuz am Bande) 2000,

Bavarian Order of Merit 2006, Leonardo da Vinci Award 2010, ASME-IDETC, USA and Calvin W. Rice Lecture Award 2013, ASME-IDETC, USA.

The Thomas K. Caughey Dynamics Award was established in 2008 and is conferred in recognition of an individual who has made significant contributions to the field of nonlinear dynamics through practice, research, teaching, and/or outstanding leadership.

Warner T. Koiter Medal



H. Jerry Qi

Woodruff Professor
George W. Woodruff School of Mechanical Engineering
Georgia Institute of Technology, Atlanta, GA, USA

For his significant contributions to nonlinear mechanics and multiphysics behaviors of active polymers through experimentation and theoretical modeling and by applying the fundamental understanding to pioneer and lead the emerging field of 4D printing.

Professor H. Jerry Qi is the Woodruff Endowed Professor in the School of Mechanical Engineering at Georgia Institute of Technology and is the site director of NSF IUCRC on Science of Heterogeneous Additive Printing of 3D Materials (SHAP3D). He received his undergraduate and graduate degrees from Tsinghua University and a ScD degree from MIT. After one-year postdoc at MIT, he joined University of Colorado Boulder as an assistant professor and moved to Georgia Tech in 2014. Prof. Qi's research is in the field of nonlinear mechanics of polymers and focuses on developing fundamental understanding of multiphysics properties of active polymers through experimentation and constitutive modeling then applying these understandings to application designs. He has been working on a range of active polymers, including shape memory polymers, light activated polymers, covalent adaptable network polymers (or vitrimers), and liquid crystal elastomers. In recent years, he has also been working on integrating active materials with 3D printing. He and his collaborators pioneered the 4D printing concept. He is a recipient of NSF CAREER award (2007), Sigma Xi Best Faculty Paper Award (2018), Gerhard Kanig Lecture by the Berlin-Brandenburg Association for Polymer Research (2019), and the James R. Rice Medal from Society of Engineering Science (2023), and the T. H. H. Pian Award from International Conference on Computational & Experimental Engineering and Sciences (2024). He was elected to an ASME Fellow in 2015.

The Warner T. Koiter Medal, established in 1996, is bestowed in recognition of distinguished contributions to the field of solid mechanics with special emphasis on the effective blending of theoretical and applied elements of the discipline, and on a high degree of leadership in the international solid mechanics community.

Daniel C. Drucker Medal

Pradeep Sharma

Hugh Roy and Lillie Cranz Cullen Distinguished University Professor
Dean of Cullen College of Engineering
University of Houston, Houston, TX

For pioneering contributions to the foundation of solid mechanics and their connection with statistical mechanics, electricity, and magnetism.

Pradeep Sharma is the Hugh Roy and Lillie Cranz Cullen Distinguished University Professor and the Dean of Cullen College of Engineering at the University of Houston. He received his Ph.D. in mechanical engineering from the University of Maryland at College Park in the year 2000. Subsequent to his doctoral degree, he was employed at General Electric R & D for more than three years as a research scientist. He joined the mechanical engineering department at the University of Houston in January 2004.

His research interests and contributions include soft matter, surface energy, flexoelectricity, theory of homogenization, coupling of mechanical deformation and electromagnetic fields, quantum materials, metamaterials, statistical mechanics and physics of materials, biophysics, and human perception of music.

He is a member of the US National Academy of Engineering. His other honors and awards include the Young Investigators Award from Office of Naval Research, Thomas J.R. Hughes Young Investigator Award from the ASME, Texas Space Grants Consortium New Investigators Program Award, the Fulbright fellowship, the Melville medal, the James R. Rice medal from the Society of Engineering Science, ASME Charles R. Russ medal, the Society of Engineering Science medal, Guggenheim award, the Cozzarelli prize from the National Academy of Science, and the University of Houston Research Excellence Award. He is a fellow of the ASME, the associate editor of the Journal of the Mechanics and Physics of Solids, and the chief editor of the Journal of Applied Mechanics. He serves on the editorial board of several other journals. He has served as the President of the Society of Engineering Science and member and Chair of the Executive Committee of the Applied Mechanics Division of the ASME.

The Daniel C. Drucker Medal was established in 1997 and is conferred in recognition of distinguished contributions to the field of applied mechanics and mechanical engineering through research, teaching, and service to the community over a substantial period of time.

Stephen P. Timoshenko Medal

Pierre M. Suquet

Senior Researcher (Emeritus)
Centre National de la Recherche Scientifique
Marseille (France)

For pioneering contributions in the development of homogenization methods for composite materials.

Pierre Suquet is a former student at the Ecole Normale Supérieure in Paris where he received his BS in Mathematics. After a MS in Theoretical Mechanics from the University Pierre et Marie Curie (UPMC) in Paris, he joined the Centre National de la Recherche Scientifique (CNRS) as a junior scientist in 1978. He obtained his PhD and his Thèse d'Etat, all from UPMC, while being at the Laboratoire de Mécanique Théorique. In 1983 he was appointed Professor at the University of Montpellier and in 1988 he returned to CNRS as a senior scientist at the Laboratoire de Mécanique et d'Acoustique in Marseille. He headed this laboratory from 1993 to 2000. In 2000-2001 he spent a sabbatical year at Caltech where he was the Clarke Millikan visiting Professor. He has held part-time teaching positions at Ecole Polytechnique (Paris) from 1986 to 2008. His research interests are in the field of theoretical solid mechanics where he is interested in the formulation of constitutive relations for solid materials when several scales interact, especially in composite materials and polycrystals. His work covers mathematical analyses of elastoplasticity, homogenization and computational (spectral) methods for nonlinear composites, micromechanical problems and ductile failure of materials.

Pierre Suquet was awarded the Mandel Prize by the Ecole des Mines and Ecole Polytechnique (France) in 1988, the Ampère Prize by the French Academy of Sciences in 2000, the Koiter medal by the ASME in 2006 and the Prager medal by the Society for Engineering Science in 2024. He has given several prestigious lectures in Mechanics, including the Midwest Mechanics lectures and a sectional lecture at the ICTAM 2012. He has chaired the French National Committee for Mechanics from 2010 to 2022, has served as the Secretary General of the European Society for Mechanics (EUROMECH) and is an Honorary member of this Society. He is a member of the French Academy of Sciences and an international member of the National Academy of Engineering (USA).

The Timoshenko Medal was established in 1957 and is conferred in recognition of distinguished contributions to the field of applied mechanics. Instituted by the Applied Mechanics Division, it honors Stephen P. Timoshenko, world-renowned authority in the field, and it commemorates his contributions as author and teacher.

Past Honorees

Thomas J.R. Hughes Young Investigator Award

2024	Diego Misseroni
2023	Cunjiang Yu
2022	Nanshu Lu Shawn A. Chester
2021	Sinan Keten
2020	Xuanhe Zhao
2019	Yihui Zhang
2018	Liping Liu Dennis Kochmann
2017	Josè E. Andrade
2016	Pedro Reis
2015	Vicky (Thao) Nguyen
2014	Katia Bertoldi Ryan Eliott
2013	Wei Cai
2012	Yuri Bazilevs Xi Chen Kenji Takizawa
2011	Marcus Buehler Ioannis Chasiotis
2010	Harley T. Johnson
2009	Pradeep Sharma
2008	Chad M. Landis
2007	Assad Oberai
2006	Jian Ciao
2005	L. Mahadevan G. Haller
2004	Kaushik Bhattacharya
2003	L. Cate Brinson
2002	None Presented
2001	Zhigang Suo
2000	Pedro Ponte-Castaneda
1999	Huajian Gao
1998	Mary C. Boyce

Ted Belytschko Applied Mechanics Division Award

2024	Xue Feng
2023	Jian Cao
2022	Arif Masud
2021	Ellen Kuhl
2020	Narayana R. Aluru
2019	Somnath Ghosh
2018	Tayfun Tezduyar
2017	Jiun-Shyan (J.S.) Chen
2016	Andrea Prosperetti
2015	James Barber
2014	Glaucio H.Paulino
2013	Gui-Rong Lui
2012	Jiun-Shyan (J.S.) Chen
2011	David K. Gartling Ken P. Chong
2010	Yoichiro Matsumoto
2009	Eugenio Oñate
2008	Choon Fong Shih
2007	Oscar Dillon
2006	Lewis T. Wheeler
2005	Carl T. Herakovich
2004	Arthur W. Leissa
2003	John O. Hallquist
2002	David E. Newland
2001	Dan Mote
2000	Dick MacNeal
1999	Karl Pister
1998	John Swanson
1997	Richard Skalak
1996	Sheila Widnall
1995	Harry Armen
1994	Siegfried S. Hecker
1993	David Hibbit
1992	William G. Gottenberg
1991	George Abrahamson
1990	Owen Richmond
1989	Sam Levy
1988	H. Norman Abramson

Thomas K. Caughey Dynamics Medal

2024 Friedrich Pfeiffer
2023 Haiyan Hu
2022 Earl Dowell
2021 Michael P. Paidoussis

Thomas K. Caughey Dynamics Award

2020 Pol D. Spanos
2019 Anil K. Bajaj
Steven W. Shaw
2018 Firdaus Udwadia
2017 Richard H. Rand
2015 Gabor Stepan
2014 Alexander F. Vakakis
2013 Lothar Gaul
2012 Francis C. Moon
2011 Philip Holmes
2010 Jerrold E. Marsden
2009 Stephen H. Crandall
2008 Ali H. Nayfeh

Daniel C. Drucker Medal

2024 Pradeep Sharma
2023 Arun Shukla
2022 Horacio D. Espinosa
2021 Markus J. Buehler
2020 Glaucio H. Paulino
2019 John Bassani
2018 David M. Barnett
2017 David Parks
2016 Kyung-Suk Kim
2015 Krishnaswamy Ravi-chandar
2014 Lallit Anand
2013 Yonggang Huang
2012 James W. Dally
2011 John W. Rudnicki
2010 Rohan Abeyaratne
2009 James R. Barber
2008 Thomas C.T. Ting
2007 Albert S. Kobayashi
2006 Alan Needleman
2005 Robert L. Taylor
2004 Frank A. McClintock
2003 Leon M. Keer
2002 George J. Dvorak
2001 Bruno A. Boley
2000 Philip G. Hodge, Jr.
1999 Ascher H. Shapiro
1998 Daniel C. Drucker

Warner T. Koiter Medal

2024 H. Jerry Qi
2023 Yiu-Wing Mai
2022 Vikram Deshpande
2021 Gerhard A. Holzapfel
2020 Anthony M. Waas
2019 K. T. Ramesh
2018 M. Taher A. Saif
2017 Wei Yang
2016 Pedro Ponte Castañeda
2015 Kaushik Bhattacharya
2014 Guruswami Ravichandran
2013 Norman A. Fleck
2012 Erik Van der Giessen
2011 James G. Simmonds
2010 Nicolas Triantafyllidis
2009 Stelios Kyriakides
2008 Richard D. James
2007 C.T. Sun
2006 Pierre Suquet
2005 Raymond W. Ogden
2004 Zenon Mróz
2003 David R.J. Owen
2002 James K. Knowles
2001 Wolfgang G. Knauss
2000 Giulio Maier
1999 Charles R. Steele
1998 Viggo Tvergaard
1997 Warner T. Koiter

Zdeněk P. Bažant Medal

2024 Yong Zhu

Timoshenko Medal

2024 Pierre M. Suquet
2023 Guruswami Ravichandran
2022 Michael A. Sutton
2021 Huajian Gao
2020 Mary C. Boyce
2019 J. N. Reddy
2018 Ares J. Rosakis
2017 Viggo Overgaard
2016 Raymon W. Ogden
2015 Michael Ortiz
2014 Robert M. McMeeking
2013 Richard M. Christensen
2012 Subra Suresh
2011 Alan Needleman
2010 Wolfgang G. Knauss
2009 Zdenek P. Bazant
2008 Sia Nemat-Nasser
2007 Thomas J.R. Hughes
2006 Ken L. Johnson
2005 Grigory I. Barenblatt
2004 Morton E. Gurtin
2003 Lambert B. Freund
2002 John W. Hutchinson
2001 Ted Belytschko
2000 Rodney J. Clifton
1999 Anatol Roshko
1998 Olgierd C. Zienkiewicz
1997 John R. Willis
1996 J. Tinsley Oden
1995 Daniel D. Joseph
1994 James R. Rice
1993 John L. Lumley
1992 Jan D. Achenbach
1991 Yuan-Cheng B. Fung
1990 Stephen H. Crandall
1989 Bernard Budiansky
1988 George K. Batchelor
1987 Ronald S. Rivlin
1986 George R. Irwin
1985 Eli Sternberg
1984 Joseph B. Keller
1983 Daniel C. Drucker
1982 John W. Miles
1981 John H. Argyris
1980 Paul M. Naghdi
1979 Jerald L. Ericksen
1978 George F. Carrier
1977 John D. Eshelby
1976 Erastus H. Lee
1975 Chia-Chiao Lin
1974 Albert E. Green
1973 Eric Reissner
1972 Jacob P. Den Hartog
1971 Howard W. Emmons
1970 James J. Stoker
1969 Jakob Ackeret
1968 Warner T. Koiter
1967 Hillel Poritsky
1966 William Prager
1965 Sydney Goldstein
1964 Raymond D. Mindlin
1963 Michael James Lighthill
1962 Maurice A. Biot
1961 James N. Goodier
1960 Richard Grammel
1959 Sir Richard Southwell
1958 Theodore von Karman
1958 Sir Geoffrey Taylor
1958 Arpad L. Nadai
1957 Stephen P. Timoshenko

Past Division Chair

2025 G. H. Paulino

2024 M. Amabili

2023 M. Saif

2022 P. Guduru

2021 Y. Bazilevs

2018 P. Sharma

2017 A. Shukla

2016 P. Wriggers

2015 H. Gao

2014 L. A. Bergman

2013 K. M. Liechti

2012 A.J. Rosakis

2011 T.E. Tezduyar

2010 Z. Suo

2009 D.J. Inman

2008 K. Ravi-Chandar

2007 T.N. Farris

2006 W.K. Liu

2005 M.C. Boyce

2004 P. Spanos

2003 S. Kyriakides

2002 D. Krajcinovic

2001 T.J.R. Hughes

2000 A. Needleman

1999 L. Anand

1998 S.A. Berger

1997 C.T. Herakovich

1996 T.A. Cruse

1995 J.W. Hutchinson

1994 L.B. Freund

1993 D.B. Bogy

1992 W.S. Saric

1991 T. Belytschko

1990 M.J. Forrestal

1989 S. Leibovich

1988 T.L. Geers

1987 J.R. Rice

1986 M.M. Carroll

1985 J.D. Achenbach

1984 C.R. Steele

1983 W.G. Gottenberg

1982 R.C. Diprima

1981 R.M. Christensen

1980 R.S. Rivlin

1979 R. Skalak

1978 F. Essenburg

1977 Y.C. Fung

1976 J. Miklowitz

1975 B.A. Boley

1974 G. Herrmann

1973 J. Kestin

1972 P.M. Naghdi

1971 S. Levy

1970 H.N. Abramson

1969 S.H. Crandall

1968 P.G. Hodge, Jr.

1967 R. Plunkett

1966 M.V. Barton

1965 G.F. Carrier

1964 D.C. Drucker

1963 E. Reissner

1962 A.M. Wahl

1961 A.M. Wahl

1960 S.B. Batdorf

1959 W. Prager

1958 W. Ramberg

1957 H. Hetenyi

1956 R.D. Mindlin

1955 N.J. Hoff

1953 D. Young

1952 R.E. Peterson

1951 L.H. Donnell

1950 R.P. Kroon

1949 M. Goland

1948 W.W. Murray

1947 H.W. Emmons

1946 J. Poritsky

1945 J.N. Goodier

1944 J.H. Keenan

1943 J.H. Keenan

1942 H.L. Dryden

1941 J.P. Den Hartog

1940 J.P. Den Hartog

1939 R. Eksergian

1938 C.R. Soderberg

1937 C.R. Soderberg

1936 E.O. Waters

1935 J.A. Goff

1934 F.M. Lewis

1933 J.M. Lessells

1932 G.B. Pegram

1931 A.I. Kimball

1930 S.P. Timoshenko

1929 G.M. Eaton

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1927 S.P. Timoshenko


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