

2021 CATALOG



**DRIVING INNOVATION THROUGH
ENGINEERING KNOWLEDGE**

Journals • Conference Proceedings • eBooks

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2021 CATALOG



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DRIVING INNOVATION THROUGH ENGINEERING KNOWLEDGE

Dear Colleague,

We are pleased to present the **2021 American Society of Mechanical Engineers (ASME) Digital Collection catalog**. The ASME Digital Collection platform (asmedigitalcollection.asme.org) – recently upgraded to add more powerful search and filtering tools – provides online access to one of the world’s leading scientific and technical publishing portfolios. Our published content is closely aligned with ASME’s core mission: to serve as an **essential resource for scientists seeking engineering solutions to global challenges**.

Our much-valued authors, editors, and peer reviewers, originating from our membership as well as the broader global engineering community, contribute to some of the profession’s most prestigious publications, including ASME’s **journals, conference proceedings, and eBooks**. These publications promote **multidisciplinary collaboration and drive innovation**.

SERVING Our Engineering Community

ASME is PART of the engineering community. This close connection has enabled ASME to identify **five strategic technologies** that guide our content and product development strategy across the organization: **Bioengineering; Clean Energy; Manufacturing; Pressure Technology; and Robotics**.

ASME currently publishes more than 30 peer-reviewed international journals, with several new titles launched over the last five years. **The decision to launch a new journal is given careful consideration and the result of a rigorous process to identify specific needs and existing gaps in research coverage**. Two journals launched in 2018, the *Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems* and the *Journal of Engineering and Science in Medical Diagnostics and Therapy*, are experiencing strong paper submissions and wide readership. *ASME Journal of Engineering for Sustainable Buildings and Cities* commenced publication in 2020.

Following on from the success of *Journal of Mechanisms and Robotics* launched in 2009 – and robotics content which has been programmed into various ASME conferences as well as a book series – ASME is pleased to announce the publication in 2021 of *Journal of Autonomous Vehicles and Systems*. In addition, *ASME Letters in Dynamic Systems and Control* (our first Letters journal) will also publish in 2021. First articles for both new journals will be available online in 2020.

Looking retrospectively, we now have a collection of journal archives dating back to 1959 (with the exception of the *Journal of Applied Mechanics*).

The guiding principles of our publishing program include **striving for excellence and seeking the widest dissemination of our content**. Journal Impact Factors (JIFs)* are just one measure

of our success. The number of citations to articles published in ASME journals continues to grow significantly, which positively drives Impact Factor rankings. *Applied Mechanics Reviews* is the top-ranked ASME journal with an **impressive score of 6.138**. Several other journals experienced a **greater than 25 percent improvement** in their JIFs from 2017 to 2018.

SUPPORTING Our Author Community – Open for OPEN ACCESS!

Our aim is to ensure that our global engineering community has appropriate and timely access to critical engineering knowledge now and in the future. ASME closely follows Open Access (OA) developments, actively contributes to the community discussion, and factors OA into our developmental roadmap. ASME’s current hybrid publishing program spans all journals and gives authors the choice to pay an Article Processing Charge (APC) so that their peer-reviewed and accepted articles publish OA. Authors also have the option to request permission to archive their final post-refereed manuscripts in an approved repository to ensure compliance with funder mandates.

LISTENING to Our Library Community

ASME prides itself on being an information provider serving the needs of our library community. **As a not-for-profit publisher we are mindful of library budget constraints**.

ASME Publishing’s Library Advisory Board (LAB) was established for the mutual benefit of the library community and ASME. In October 2019, we hosted the second annual LAB Meeting. This successful gathering of academic, corporate, and government librarians continues to foster dialog on current and anticipated issues potentially impacting ASME’s publishing program and beyond.

DRIVING Engineering Innovation

At ASME we deliver high-quality, validated information that mechanical and other engineers seek daily to **drive innovation for the benefit of all people around the globe**.

We are proud of our partnership with the engineering community – and thank you for your ongoing support!



Kind regards,

Philip DiVietro

**Managing Director, Publishing
The American Society of Mechanical Engineers® (ASME®)**

* 2018 Journal Citation Reports® (Clarivate Analytics, 2019)

MORE THAN MECHANICAL ENGINEERING...

Founded in 1880 as The American Society of Mechanical Engineers, ASME is a not-for-profit professional organization that enables collaboration, knowledge sharing, and skills development across all engineering disciplines, while promoting the vital role of the engineer in society.

ASME publishes some of the **most prestigious engineering content in the world** as one way to fulfill its ongoing mission of being an essential resource for professionals seeking engineering solutions to global challenges.

The ASME Digital Collection provides unparalleled depth, breadth, and quality of peer-reviewed content:

- **ASME's Journals** from 1959 – present
- **ASME's Conference Proceedings** from 2000 – present, plus select proceedings back to 1955
- **ASME's eBooks** from 1993 – present, plus select titles back to 1944

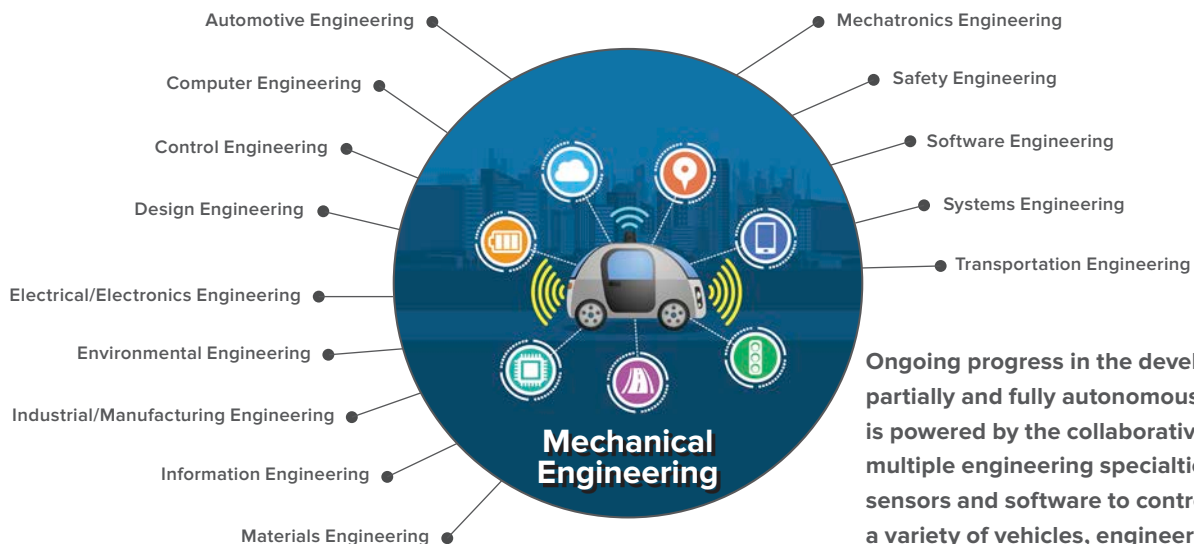
Fostering Interdisciplinary Engineering Collaboration

Beyond mechanical engineering, ASME's expanding publishing program embraces a broad range of engineering disciplines. By supplying high-quality, validated content, it drives innovation by supplying cutting-edge engineering knowledge that promotes interdisciplinary problem solving and collaboration. Autonomous vehicles are prime examples of the successful convergence of engineering principles across disciplines, where design and processes meet to create vehicles (land, water, and air) that are capable of sensing their environment and moving safely with little or no human intervention.

Readers can find many of the engineering principles contributing to the future of vehicle mobility within the pages of ASME publications.

Features of The ASME Digital Collection include:

- Powerful search tools that retrieve content simultaneously from journals, conference proceedings, and eBooks
- Advanced filtering tools to refine search results by keywords, topics, journal citations, image captions, and date range
- Topic Collections for specific subject areas
- Online eBooks in full HTML
- Enhanced user experience (UX), providing simplified navigation and inline figures & tables
- Responsive web pages for better desktop and mobile experience
- Links to CrossRef, Google Scholar, and Web of Science to discover citing articles
- Tools for citation export
- Ability to share links by social media and email
- Email alerts for saved searches and newly published content
- COUNTER 5/SUSHI compliant
- Shibboleth institutional login
- Indexed in leading abstracting and indexing (A&I) services

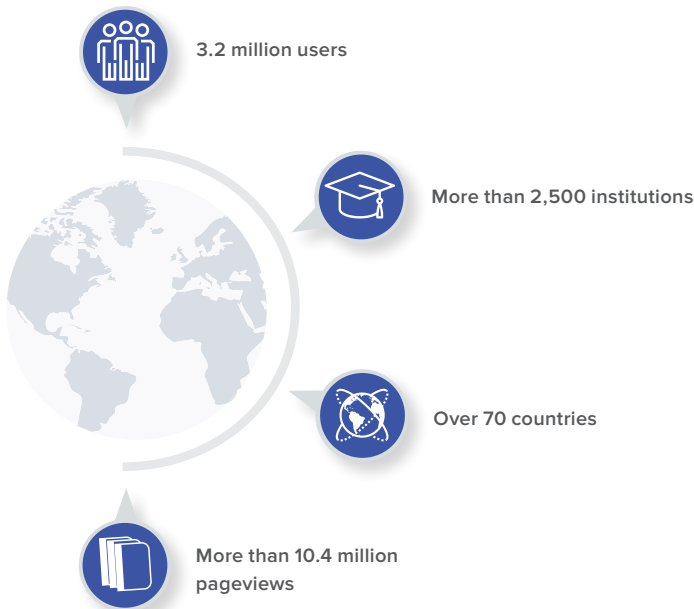


Ongoing progress in the development of partially and fully autonomous vehicles is powered by the collaborative efforts of multiple engineering specialties. Combining sensors and software to control and navigate a variety of vehicles, engineers are paving the way for a significant transformation of the transportation system with a focus on safety, accessibility, and the environment.

DRIVING INNOVATION THROUGH ENGINEERING KNOWLEDGE

Global Access

In 2019, **3.2 million users** at more than **2,500 institutions** in over **70 countries** accounted for more than **10.4 million pageviews** across journal articles, conference proceedings papers, and eBook chapters.



Speed to Publication

ASME is continuously striving to **improve the time to publication across the entire ASME Journal Program** while maintaining the integrity, thoroughness, and quality of the peer reviews that define the program.

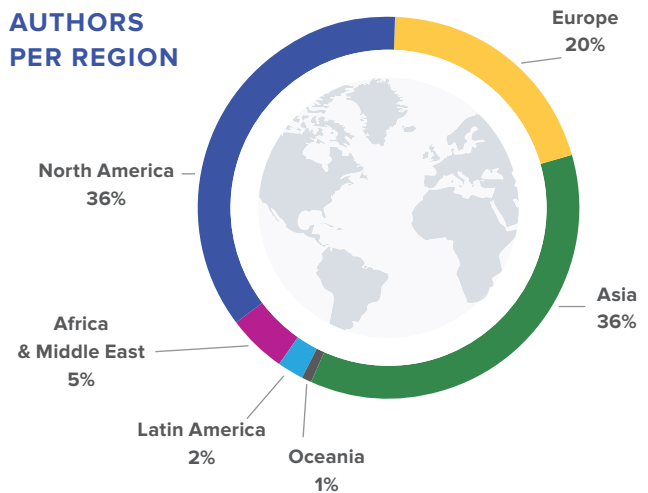


Authors can expect a speedy review of their papers. In 2019, the average time for the Editor's decision was **52 days** for the *ASME Journal of Applied Mechanics*.

International Authorship

In 2019, more than **3,400 articles** were published through the **ASME Journal Program** with a global footprint of authors that contributes to and supports the program.

AUTHORS PER REGION

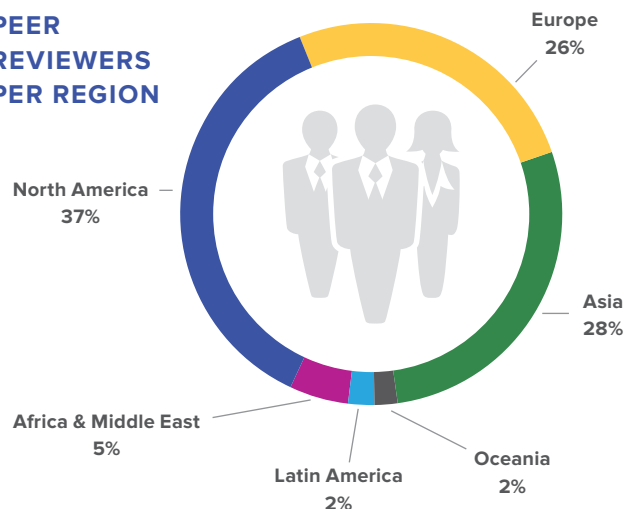


Expert and Fair Peer Review

At the heart of the program, over **9,400 individuals** served as peer reviewers for the **ASME Journal Program** in 2019.

Reviewers are invited to participate in the ASME Journal Program because of their expertise in their fields and their ability to offer thorough and accurate criticism of current research in order to move the knowledge of the world forward to benefit all people.

PEER REVIEWERS PER REGION



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All Current Conference Proceedings (2008-2021)

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ASME JOURNALS ONLINE AVAILABILITY

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| JOURNAL | YEAR | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 |
|--|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Applied Mechanics Reviews | | | | | | | | | | | | | | | | | |
| ASCE-ASME Journal of Risk and Uncertainty In Engineering Systems, Part B: Mechanical Engineering | | | | | | | | | | | | | | | | | |
| ASME Journal of Engineering for Sustainable Buildings and Cities | | | | | | | | | | | | | | | | | |
| ASME Letters in Dynamic Systems and Control - NEW IN 2021 | | | | | | | | | | | | | | | | | |
| Journal of Applied Mechanics | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Journal of Autonomous Vehicles and Systems - NEW IN 2021 | | | | | | | | | | | | | | | | | |
| Journal of Biomechanical Engineering | | | | | | | | | | | | | | | | | |
| Journal of Computational and Nonlinear Dynamics | | | | | | | | | | | | | | | | | |
| Journal of Computing and Information Science in Engineering | | | | | | | | | | | | | | | | | |
| Journal of Dynamic Systems, Measurement and Control | | | | | | | | | | | | | | | ● | ● | ● |
| Journal of Electrochemical Energy Conversion and Storage | | | | | | | | | | | | | | | | | |
| Journal of Electronic Packaging | | | | | | | | | | | | | | | | | |
| Journal of Energy Resources Technology | | | | | | | | | | | | | | | | | |
| Journal of Engineering and Science in Medical Diagnostics and Therapy | | | | | | | | | | | | | | | | | |
| Journal of Engineering for Gas Turbines and Power | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Journal of Engineering Materials and Technology | | | | | | | | | | | | | | | | ● | ● |
| Journal of Fluids Engineering | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Journal of Heat Transfer | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Journal of Manufacturing Science and Engineering | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Journal of Mechanical Design | | | | | | | | | | | | | | | | | |
| Journal of Mechanisms and Robotics | | | | | | | | | | | | | | | | | |
| Journal of Medical Devices | | | | | | | | | | | | | | | | | |
| Journal of Micro and Nano-Manufacturing | | | | | | | | | | | | | | | | | |
| Journal of Nanotechnology in Engineering and Medicine - SUSPENDED PUBLICATION | | | | | | | | | | | | | | | | | |
| Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems | | | | | | | | | | | | | | | | | |
| Journal of Nuclear Engineering and Radiation Science | | | | | | | | | | | | | | | | | |
| Journal of Offshore Mechanics and Arctic Engineering | | | | | | | | | | | | | | | | | |
| Journal of Pressure Vessel Technology | | | | | | | | | | | | | | | | | ● |
| Journal of Solar Energy Engineering | | | | | | | | | | | | | | | | | |
| Journal of Thermal Science and Engineering Applications | | | | | | | | | | | | | | | | | |
| Journal of Tribology | | | | | | | | | | | | | | | | ● | ● |
| Journal of Turbomachinery | | | | | | | | | | | | | | | | | |
| Journal of Verification, Validation and Uncertainty Quantification | | | | | | | | | | | | | | | | | |
| Journal of Vibration and Acoustics | | | | | | | | | | | | | | | | | |

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ASME CODES & STANDARDS FOR ACADEMIA


DELIVER **THE STANDARD** TO YOUR ENGINEERING COMMUNITY

*Did you know that almost 50 percent of early career engineers lack standards knowledge?**

The ASME Standards Collection is now available to all academic libraries through a new flexible subscription option. This enables access to the most up-to-date collection of Codes and Standards produced by ASME, one of the oldest and most highly regarded international standards developing organizations. Codes and Standards are associated with the art, science, and practice of mechanical engineering, starting in 1914 with the first edition of its legendary Boiler and Pressure Vessel Code.

Users at institutions subscribing to both The ASME Digital Collection and The ASME Standards Collection can now navigate between the two platforms with just a single click.


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construction, engineering
design, standardization, and
engineering drawing

Give your engineering community, particularly students, the tools needed to succeed in today’s increasingly competitive employment environment. Equip your users with an understanding of the use of Codes and Standards in different contexts, which will give them a greater and more authentic sense of the world of practice.

“The greatest weaknesses noted by employers of current mechanical engineering graduates, as well as by the early career engineers themselves, were a lack of practical experience in how devices are made or work, **lack of familiarity with Codes and Standards**, and a lack of a systems perspective.”*

*ASME Vision 2030 Survey Feedback

More than 735 of the most up-to-date Codes and Standards in the current collection, covering many technical areas.

3 packages available:

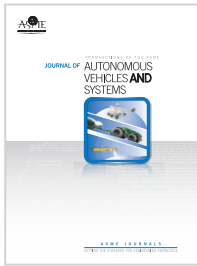
- 1. BPVC Boiler and Pressure Vessel Code Complete Set**
Pioneering modern standards development, these codes enhance public safety and technological advancement to meet the needs of a changing world.
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Including Elevators and Escalators (A17 Series); Piping and Pipelines (B31 Series); Bioprocessing Equipment (BPE); Valves, Flanges, Fittings, and Gaskets (B16); Nuclear Quality Assurance (NQA-1); and Performance Test Codes (PTC).
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BPVC Boiler and Pressure Vessel Code Complete Set and other Codes and Standards.

“Online access to Codes and Standards dramatically increases their use by students, faculty members, and other researchers. It ensures they have convenient and timely access to the Standards they need, without mediation, at the precise moment they need them.”

-Assistant Professor of Library Science and Engineering Information Specialist at a top-ranking US university (current subscriber)

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FOCUS ON...ROBOTICS JOURNALS



NEW IN 2021

Journal of Autonomous Vehicles and Systems

Editor: Vladimir V. Vantsevich,
The University of Alabama at Birmingham,
USA

The purpose of *Journal of Autonomous Vehicles and Systems* is to provide an international platform for the communication and discussion of technical knowledge and solutions in the transformative areas of the research and engineering design of autonomous vehicles and systems that operate in all media and inter-medium environments: ground, air, space, and water.

The focus of this journal is on an autonomous vehicle system-of-systems approach to modeling, simulation, design, and physical and virtual testing. The vehicle applications include, but are not limited to: personal and cargo transportation, construction and forestry, farming, scientific research, investigation of the underground, air and water, exploration of other planets, infrastructure monitoring, surveillance, and military, etc.

Topic areas include, but are not limited to: autonomous vehicle and multi-domain system dynamics in interaction with multi-physics environment in different media; transdisciplinary-inspired design concepts for safe and secure performance, energy efficiency, and survivability of autonomous vehicles and systems; intelligent morphing and dynamics of autonomous vehicles and systems; intelligent exteroceptive and proprioceptive sensing, actuation, decision-making, and controls for agile dynamics and mission/task fulfillment; localization problems, landscape, air and aquatic environment sampling; fault-tolerance in severe, uncertain, and adversarial environments; human-in-the-loop and autonomous intelligent decision-making related to dynamics and mission/task learning and fulfillment; integration of autonomous vehicles into the manned and unmanned traffic of their respective media; artificial intelligence and social behavior factors and challenges for communication, decision-making, and dynamic interaction between (i) autonomous vehicle systems, (ii) autonomous vehicles, and (iii) autonomous vehicles and infrastructure in a particular medium and inter-medium environments; integration of modeling and simulation with gaming technologies for autonomous vehicle design and training purposes; and transformative conceptual and engineering design for lifecycle management of autonomous vehicles and autonomous systems.

Scope: Artificial intelligence; Intelligent decision-making, controls and observation; System models; Modeling, simulation and designing autonomous vehicle systems for their autonomy; Payload models; Proprioceptive sensors in autonomous vehicle systems and exteroceptive sensors for autonomous vehicle and environment interactions; Outdoor and cyber-physical indoor proving grounds and research facilities; Inputs/outputs and environmental models in autonomous vehicle simulation and design; Gaming environments.

2021: Volume 1, 4 issues

ISSN: 2690-702X

eISSN: 2690-7038

asmedigitalcollection.asme.org/autonomousvehicles



Journal of Dynamic Systems, Measurement and Control

Editor: Ranjan Mukherjee, Michigan State University, USA

The *Journal of Dynamic Systems, Measurement and Control* publishes original papers, both theoretical and applied, focusing on modeling, sensing, identification, and control of dynamical systems in traditional mechanical engineering and associated interdisciplinary areas. Theoretical papers should present new theoretical developments and knowledge for control of dynamical systems together with clear engineering motivation for the new theory. New theory or results that are only of mathematical interest without a clear engineering motivation or have a cursory relevance only are discouraged. "Application" is understood to include simulation of realistic systems and corroboration of theory with emphasis on demonstrated practicality.

Scope: Adaptive control; Aerospace systems; Automotive systems; Biosystems; Computer control; Control based on data analytics and machine learning; Distributed parameter systems and control; Energy systems and control; Fluid control systems; Instrumentation and components; Manufacturing technology; Mechatronics; Modeling and identification; Nonlinear systems and control; Optimal control; Power systems; Production systems; Real-time control; Robotics; Robust control; Servomechanisms; Signal processing; Systems theory; Transportation systems; Uncertain systems.

2021: Volume 143, 12 issues

ISSN: 0022-0434

eISSN: 1528-9028

asmedigitalcollection.asme.org/dynamicsystems



Journal of Mechanisms and Robotics

Editor: Venkat N. Krovi, Clemson University, USA

The *Journal of Mechanisms and Robotics* publishes research contributions to the fundamental theory, algorithms, and applications for mechanisms, machine systems, and robotics.

Scope: Fundamental theory, algorithms, design, manufacture, and experimental validation for macro-, micro- and nano-scaled mechanical systems and robots; Theoretical and applied kinematics; Mechanism synthesis and design; Analysis and design of robot manipulators, mobile robots, hands and legs, soft robotics, compliant mechanisms, origami and folded robots, 3D printed robots, exoskeletons, and haptic devices; Novel fabrication; Actuation and control techniques for mechanisms and robotics; Bio-inspired approaches to mechanism and robot design; Mechanics and design of micro- and nano-scale devices.

2021: Volume 13, 6 issues

ISSN: 1942-4302

eISSN: 1942-4310

asmedigitalcollection.asme.org/mechanismsrobotics

ASME JOURNAL PROGRAM

Founded in 1880, ASME journals are one of the premier research resources for the global engineering community.

Through rigorous peer review, the ASME Journal Program publishes the highest quality research for engineers looking to keep abreast of current theory, practice, and application.

With the addition of more than 3,400 published papers each year and growing, this continually expanding resource serves as one of the ways that ASME fulfills its mission to advance engineering for the benefit of humanity.

Publishing in ASME journals is a direct contributor to career advancement and professional recognition.

ASME supports compliance with government and funder mandates for Open Access publication and offers authors the choice to publish their papers Open Access in all journals with payment of an Article Publishing Charge (APC). ASME also participates in the CHORUS initiative whereby research papers of participating U.S. funders are made available after a one-year embargo. Authors also have the option to archive their final post-refereed manuscripts in an approved repository with permission.

For more information about the ASME Journal Program on The ASME Digital Collection, visit asmedigitalcollection.asme.org/journals



Applied Mechanics Reviews

Editor: Harry Dankowicz, University of Illinois at Urbana-Champaign, USA

Applied Mechanics Reviews is an international review journal that serves as a premier venue for dissemination of material across all subdisciplines of applied mechanics and engineering science, including fluid and solid mechanics, heat transfer, dynamics and vibration, and applications. The journal provides an archival repository for state-of-the-art and retrospective survey articles and reviews of research areas and curricular developments. It invites commentary on research and education policy in different countries. The journal also invites original tutorial and educational material in applied mechanics targeting non-specialist audiences, including undergraduate and K-12 students.

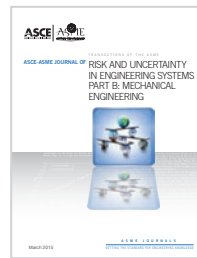
Scope: State-of-the-art surveys; Retrospective reviews; Curricular reviews; Research and education policy commentary; Tutorials; Experimental mechanics; Theoretical and applied mechanics; Computational mechanics; Engineering science.

2021: Volume 73, 6 issues

ISSN: 0003-6900

eISSN: 2379-0407

asmedigitalcollection.asme.org/appliedmechanicsreviews



ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering

Editor: Bilal M. Ayyub, University of Maryland, USA

The *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering* disseminates research findings, best practices and concerns, and discussion and debate on risk and uncertainty related issues. The journal reports on the full range of risk and uncertainty analysis state-of-art and state-of-practice relating to mechanical engineering, including but not limited to: risk quantification based on hazard identification, scenario development and rate quantification, consequence assessment, valuations, perception, communication, risk-informed decision making, uncertainty analysis and modeling, and other related areas.

Scope: Risk and reliability analysis methods; Uncertainty analysis and quantification; Optimization under uncertainty; Computational methods; Applications areas including every aspect of mechanical engineering systems, such as mechanical assets and infrastructure, materials and electromechanical systems, energy, manufacturing, automotive, aerospace, and marine systems, bioengineering, and nuclear engineering.

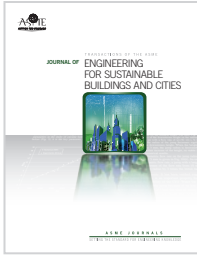
Part A: Civil Engineering of the *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems* is published by ASCE, ascelibrary.org/journal/ajrua6, with a scope similar to Part B focusing on civil engineering systems.

2021: Volume 7, 4 issues

ISSN: 2332-9017

eISSN: 2332-9025

asmedigitalcollection.asme.org/risk



ASME Journal of Engineering for Sustainable Buildings and Cities

Editors: Jorge E. Gonzalez, The City College of New York, USA

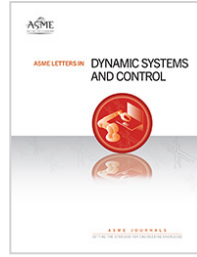
Moncef Krarti, University of Colorado Boulder, USA

ASME Journal of Engineering for Sustainable Buildings and Cities is the primary, high-quality resource for dissemination of research on integrated and sustainable building equipment and systems (ISBES) for individual buildings, as well as urban centers. The main topics of the journal are related to sustainable, resilient, and smart building energy systems including, but not limited to: innovative technologies to integrate various building components, accurate energy equipment and building energy modeling tools, efficient combined heat and power, cost-effective building-specific energy storage systems (i.e., passive and active technologies), advanced optimized control strategies for operating mechanical energy systems in buildings, and grid-interactive buildings. In addition, the journal considers new equipment, systems, and methods that can enhance the resiliency of buildings associated to climate change and recurrent extreme events.

In particular, the journal disseminates new developments of energy efficient heating and cooling systems that are able to adapt to large variations in weather conditions especially in urban areas.

Scope: Design, development, and research of sustainable and resilient mechanical systems and equipment for buildings; Building envelope technologies; Smart building structures; Power equipment and technologies for buildings; Equipment for heating, ventilation, and air conditioning; Control theory and practice for buildings equipment and systems; District cooling and heating for buildings; Energy engineering of high rise buildings; Management of building energy loads; Equipment and systems for indoor air quality; Sensor systems for building equipment and systems; Energy harvesting for buildings and cities; Smart energy systems for buildings, cities, and grids; Hydronics systems for buildings; Fire science and fire-protection systems for buildings; Simulation of building equipment and systems; Elevators and building mobility systems; Architecture of sustainable and resilient building equipment and systems; Renewable energy systems for buildings; Economics of buildings equipment and systems.

2021: Volume 2, 4 issues
ISSN: 2642-6641
eISSN: 2642-6625
asmedigitalcollection.asme.org/sustainablebuildings



NEW IN 2021 ASME Letters in Dynamic Systems and Control

Editor: Peter H. Meckl, Purdue University, USA

ASME Letters in Dynamic Systems and Control offers rapid dissemination of novel, high-quality, cutting-edge original findings on theoretical or applied topics from the dynamics and control community. Papers are subjected to ASME's standard high-quality peer review process.

Submissions are limited to 2500-5000 words (approximately 3-6 pages) with rapid online publication of accepted papers targeted within six weeks of submission. This new publication will publish the state of the art in dynamic systems and control research, with a focus on topics of interest to the dynamic systems and control community. *ASME Letters in Dynamic Systems and Control* will provide the global engineering community with a forum to communicate the emerging research ideas that will shape the future efforts in dynamic systems and control.

Scope: Topics include, but not limited to: Modeling; Identification; Diagnostics; Intelligent systems; Mechatronics; Automotive and transportation systems; Biosystems and health care; Energy systems; Robotics; Vibrations; Smart structures.

2021: Volume 1, 4 issues
ISSN: 2689-6117
eISSN: 2689-6125
asmedigitalcollection.asme.org/lettersdynamics



Journal of Applied Mechanics

Editor: Yonggang Huang, Northwestern University, USA

The *Journal of Applied Mechanics* serves as a vehicle for the communication of original research results of permanent interest in all branches of mechanics. The majority of the papers published in the journal are full-length articles of considerable depth. Comments on published papers may be submitted in the form of discussion, which is subject to a rebuttal by the author.

Scope: All areas of theoretical and applied mechanics including, but not limited to: Aerodynamics; Aeroelasticity; Biomechanics; Boundary layers; Composite materials; Computational mechanics; Constitutive modeling of materials; Dynamics; Elasticity; Experimental mechanics; Flow and fracture; Heat transport in fluid flows; Hydraulics; Impact; Internal flow; Mechanical properties of materials; Mechanics of shocks; Micromechanics; Nanomechanics; Plasticity; Stress analysis; Structures; Thermodynamics of materials and in flowing fluids; Thermo-mechanics; Turbulence; Vibration; Wave propagation.

2021: Volume 88, 12 issues
ISSN: 0021-8936
eISSN: 1528-9036
asmedigitalcollection.asme.org/appliedmechanics

NEW IN 2021 Journal of Autonomous Vehicles and Systems

Refer to page 9 for information



Journal of Biomechanical Engineering

Editors: Beth Winkelstein, University of Pennsylvania, USA

Victor Barocas, University of Minnesota, USA

The *Journal of Biomechanical Engineering* reports research results involving the application of mechanical engineering principles to the improvement of human health. The scope of relevant topics ranges from basic biology to biomedical applications and includes theoretical, computational, experimental, and clinical studies.

Scope: Artificial organs and prostheses; Biofluid mechanics, measurements; Bioheat transfer; Biomaterials; Cardiovascular biomechanics; Cell and tissue engineering; Gait and kinesiology; Injury biomechanics, orthopedic biomechanics, physiological systems.

2021: Volume 143, 12 issues

ISSN: 0148-0731

eISSN: 1528-8951

asmedigitalcollection.asme.org/biomechanical



Journal of Computational and Nonlinear Dynamics

Editor: Bala Balachandran, University of Maryland, USA

The *Journal of Computational and Nonlinear Dynamics* provides a medium for rapid dissemination of original research results in computational dynamics and nonlinear dynamics. The journal serves as a forum for the exchange of new ideas and applications in computational dynamics, multi-body system dynamics, and all aspects (analytical, numerical, and experimental) of dynamics associated with nonlinear systems. The broad scope of the journal encompasses all computational problems and nonlinear problems, which occur in aeronautical, biological, civil, electrical, marine, mechanical, physical, and structural systems.

Scope: Topics in the computational dynamics and multi-body system dynamics area are as follows: Theoretical, computational, and experimental methods; Novel formulations and algorithms for computation of kinematics and dynamics of rigid and flexible systems; Application of finite element and finite difference methods in dynamics; Numerical approaches in synthesis, optimization, and control; Parallel computations and software development, etc. Topics in the nonlinear dynamics area are as follows: New theories and principles related to dynamical systems; Computational techniques; Dynamic stability, bifurcation, and control; Chaos, fractals, and pattern formation in physical and biological systems; System modeling, identification, and experimental methods; Frictional and discontinuous dynamical processes, etc.

2021: Volume 16, 12 issues

ISSN: 1555-1415

eISSN: 1555-1423

asmedigitalcollection.asme.org/computationalnonlinear



Journal of Computing and Information Science in Engineering

Editor: Satyandra K. Gupta, University of Southern California, USA

The *Journal of Computing and Information Science in Engineering (JCISE)* publishes articles related to algorithms, computational methods, computing infrastructure, computer-interpretable representations, human-computer interfaces, information science, and/or system architectures that aim to improve some aspect of product and system lifecycle (e.g., design, manufacturing, operation, maintenance, disposal, recycling, etc.). Applications considered in JCISE manuscripts should be relevant to the mechanical engineering discipline. Papers can be focused on fundamental research leading to new methods or adaptation of existing methods for new applications.

Scope: Advanced computing infrastructure; Artificial intelligence; Big data and analytics; Collaborative design; Computer-aided design; Computer-aided engineering; Computer-aided manufacturing; Computational foundations for additive manufacturing; Computational foundations for engineering optimization; Computational geometry; Computational metrology; Computational synthesis; Conceptual design; Cybermanufacturing; Cyber-physical security for factories; Cyber-physical system design and operation; Data-driven engineering applications; Engineering informatics; Geometric reasoning; GPU computing for design and manufacturing; Human-computer interfaces/interactions; Industrial internet of things; Knowledge engineering; Information management; Inverse methods for engineering applications; Machine learning for engineering applications; Manufacturing planning; Manufacturing automation; Model-based systems engineering; Multiphysics modeling and simulation; Multiscale modeling and simulation; Multidisciplinary optimization; Physics-based simulations; Process modeling for engineering applications; Qualification, verification, and validation of computational models; Symbolic computing for engineering applications; Tolerance modeling; Topology and shape optimization; Virtual and augmented reality environments; Virtual prototyping.

2021: Volume 21, 6 issues

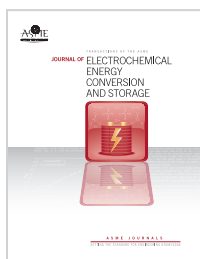
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eISSN: 1944-7078

asmedigitalcollection.asme.org/computingengineering

Journal of Dynamic Systems, Measurement and Control

Refer to page 9 for information



Journal of Electrochemical Energy Conversion and Storage

Editor: Wilson K. S. Chiu, University of Connecticut, USA

The *Journal of Electrochemical Energy Conversion and Storage* is a multidisciplinary journal publishing original research covering all engineering aspects of materials, chemistry, and physics related to electrochemical energy conversion and storage. The journal focuses on theoretical and applied processes, materials, components, devices, and systems that store and convert electrical and chemical energy. The journal publishes peer-reviewed, archival scholarly articles, research papers, technical briefs, review articles, and perspective articles.

Scope: Specific areas of interest including: Electrochemical engineering; Electrocatalysis; Novel materials; Analysis and design of components, devices, and systems; Balance of plant; Novel numerical and analytical simulations; Advanced materials characterization; Innovative material synthesis and manufacturing methods; Thermal management; Reliability, durability, and damage tolerance. Papers are solicited in, but not limited to, the following technological areas: Batteries; Flow batteries; Fuel cells; Electrolyzers; Electrochemical separation membranes; Electrochemical capacitors; Thermogalvanic cells; Photoelectrochemical cells.

2021: Volume 18, 4 issues
ISSN: 2381-6872
eISSN: 2381-6910
asmedigitalcollection.asme.org/electrochemical



Journal of Electronic Packaging

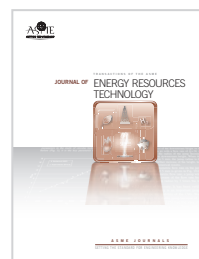
Editor: Shi-Wei Ricky Lee, The Hong Kong University of Science and Technology, Hong Kong

The *Journal of Electronic Packaging* publishes papers that use experimental and theoretical (analytical and computer-aided) methods, approaches, and techniques to address and solve various mechanical, materials, and reliability problems encountered in the analysis, design, manufacturing, testing, and operation of electronic and photonics components, devices, and systems.

The journal publishes papers that address 1) thermal management, applied mechanics and technologies for microsystems packaging; 2) critical issues in systems integration; 3) emerging packaging technologies and materials with micro/nano structures and general small-scale systems. The journal serves researchers and engineers working in academic and industrial settings. In addition, leaders in the field are invited to publish review articles on hot, emerging, and fundamental topics.

Scope: Electronic packaging; Thermal management; Applied mechanics; Microsystems packaging; Systems integration; Small scale systems in general.

2021: Volume 143, 4 issues
ISSN: 1043-7398
eISSN: 1528-9044
asmedigitalcollection.asme.org/electronicpackaging



Journal of Energy Resources Technology

Editor: Hameed Metghalchi, Northeastern University, USA

The *Journal of Energy Resources Technology* disseminates technical information – peer-reviewed scholarly work, research papers, technical briefs, feature articles, and authoritative review articles – of permanent interest to the journal’s readership. Emphasis is given to extraction and conversion of chemical, thermal, and renewable energies to mechanical and electrical forms of energy, including geothermal energy extraction technologies, gas hydrate extraction technology, carbon dioxide capture, utilization and storage, advanced power cycle, and the relationship between energy source and environment, including sustainability aspects and economic and policy assessment of energy issues.

A small number of published papers describe case histories, review recent advanced technologies, or describe a new methodology/ industrial process. Discussion papers addressing energy policy or regulatory issues that affect energy resources and energy demand and supply are also published. Papers that do not include original work, but nonetheless present quality analysis or increment improvement to past work, may be published as technical briefs.

Scope: Specific areas of importance including, but not limited to: Fundamentals of thermodynamics such as energy, entropy and exergy, and laws of thermodynamics; Thermoconomics; Alternative and renewable energy sources; Energy conversion processes such as chemical looping combustion, internal combustion engines, power plants, and refrigeration systems; Mechanical, thermal, and chemical energy storage systems; Fundamentals of fuel combustion including chemical kinetics; Energy resource recovery from biomass and solid waste; Onshore and offshore well drilling; Production and reservoir engineering.

2021: Volume 143, 12 issues
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Journal of Engineering and Science in Medical Diagnostics and Therapy

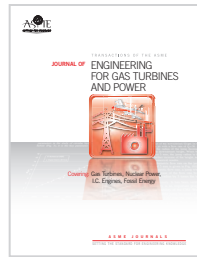
Editor: Ahmed Al-Jumaily, Auckland University of Technology, New Zealand

The *Journal of Engineering and Science in Medical Diagnostics and Therapy* is a unique publishing forum for the international community of engineers, scientists, and medical researchers with a shared vision to use knowledge from mechanical engineering as well as other engineering and scientific disciplines to accelerate biomedical innovation, trial, and commercialization.

The journal focuses not only on basic, theoretical, or experimental bioengineering research, but also on lab-proven biomedical and biotechnology applications that contribute to achieving T1 translational research objectives and moving research from bench to bedside (T1 transfers knowledge from basic research to clinical research).

Scope: Clinical diagnostics, imaging, and characterization; Therapeutic technologies, techniques, equipment, and procedures; Clinical applications of biomaterials, chemical processes, and pharmaceuticals; Micro- and nanotechnology in medicine; Cell physiology and applied mechanics; Computing in medicine and biotechnology; Drug and biological delivery science and biopharmaceuticals; Cancer diagnosis and treatments; Electromechanical and chemical sensors technology; Wave propagations in medical applications, including vibration, acoustics, ultrasound, and electrography; Rehabilitation robots, devices and methodologies; Sports medicine and prevention of impact injury; Mechanopharmacology, mechanopharmaceutics, and mechanobiochemistry; Clinical system dynamics and control; Engineering and science in clinical applications.

2021: Volume 4, 4 issues
ISSN: 2572-7958
eISSN: 2572-7966
asmedigitalcollection.asme.org/medicdiagnostics



Journal of Engineering for Gas Turbines and Power

Editor: Jerzy T. Sawicki, Cleveland State University, USA

The *Journal of Engineering for Gas Turbines and Power* publishes archival-quality papers in the broad technical areas of gas and steam turbines, internal combustion engines, and power generation. It covers the specific technical areas described in the Scope section below.

Archival papers for this journal must not only be clearly written and demonstrated to be technically correct, but must also present new, previously unknown findings that are interesting, have lasting value for referencing and educating future generations, and have a relevant engineering application for the technical areas of the journal. "Application" means demonstrating that the innovations or ideas, the computational and/or experimental results, the modeling and analyses of systems, components or processes are useful to improve understanding and advance the state of the art. Emphasis should be on demonstrated engineering relevance.

This can take the form of new technologies, processes, concepts, theories, ideas, analyses and experiments that improve engineering designs, clarify understanding of technical issues facing the community, explain previously unexplained phenomena, and/or change the way we think.

We also welcome interesting technology review papers and discussions of published papers. The submission of papers that are only of mathematical interest with just a cursory relevance to engineering are discouraged.

Scope: The technical areas covered are: Aircraft engines; Coal, biomass and alternative fuels; Combustion, fuels and emissions; Computational Fluid Dynamics (CFD) analyses; Controls, diagnostics, instrumentation, and measurement techniques; Cycle innovations; Heat transfer and thermal management; Internal combustion engines; New and emerging technologies; Oil and gas applications; Power generation plants; Steam turbines; Structures and dynamics; Turbomachinery.

2021: Volume 143, 12 issues
ISSN: 0742-4795
eISSN: 1528-8919
asmedigitalcollection.asme.org/gasturbinespower



Journal of Engineering Materials and Technology

Editor: Mohammed Zikry, North Carolina State University, USA

The *Journal of Engineering Materials and Technology* covers a broad spectrum of issues regarding experimental, computational, and theoretical studies of mechanical properties of materials, as well as mechanics of materials perspectives and fundamental understanding of the behavior of metals, polymers, ceramics, composites, biomaterials, and nanostructured materials at different physical scales.

Scope: Multiscale modeling and experiments; High-temperature creep, fatigue, and fracture; Elastic-plastic behavior; Dynamic behavior; Environmental effects on material response, constitutive relations, materials processing, and microstructural thermomechanical behavior.

2021: Volume 143, 4 issues
ISSN: 0094-4289
eISSN: 1528-8889
asmedigitalcollection.asme.org/materialstechnology



Journal of Fluids Engineering

Editor: Francine Battaglia, University at Buffalo, USA

The *Journal of Fluids Engineering* disseminates technical information in fluid mechanics of interest to researchers and designers in mechanical engineering and other engineering disciplines. The majority of papers present original analytical, numerical, or experimental results and physical interpretation of lasting scientific value. Other papers are devoted to the review of recent contributions to a topic, or the description of the methodology, and/or the physical significance of an area that has recently matured. In addition, contributions to the journal emphasize investigative techniques, analytical methods, computational fluid dynamics, and experimental methods such as laser Doppler velocimetry, hot film and hot wire anemometry, particle image velocimetry, and other innovative advances as they appear.

Scope: Aerodynamics; Boundary layers; Bubbly flows; Cavitation; Compressible flows; Convective heat/mass transfer as affected by fluid flow; Duct and pipe flows; Free shear layers; Flows in biological systems; Fluid-structure interaction; Fluid transients and wave motion; Jets; Microfluidics; Multiphase flows; Naval hydrodynamics; Pumps; Sprays; Stability and transition; Turbines; Turbulence; Wakes; Other fundamental/applied fluid mechanical phenomena and processes.

2021: Volume 143, 12 issues
 ISSN: 0098-2202
 eISSN: 1528-901X
asmedigitalcollection.asme.org/fluidsengineering



Journal of Heat Transfer

Editor: Portonovo S. Ayyaswamy, University of Pennsylvania, USA

The *Journal of Heat Transfer* disseminates information of permanent interest in the areas of heat and mass transfer. Contributions may consist of results from fundamental research that apply to thermal energy or mass transfer in all fields of mechanical engineering and related disciplines. Also, archival results of research that focus on the evaluation of thermophysical properties associated with heat and mass transfer, as well as on the theory of heat and mass transfer, are published. The journal publishes papers contributing to the advancement of our fundamental knowledge of the fields of heat and mass transfer and related novel applications in technologies.

The *Journal of Heat Transfer* is complementary to the *Journal of Thermal Science and Engineering Applications*, which focuses on applications.

Scope: Topical areas including, but not limited to: Biological heat and mass transfer; Combustion and reactive flows; Conduction; Electronic and photonic cooling; Evaporation, boiling, and condensation; Experimental techniques; Forced convection; Heat exchanger fundamentals; Heat transfer enhancement; Combined heat and mass transfer; Heat transfer in manufacturing; Jets, wakes, and impingement cooling; Melting and solidification; Microscale and nanoscale heat and mass transfer; Natural and mixed convection; Porous media; Radiative heat transfer; Thermal systems; Two-phase flow and heat transfer. Such topical areas may be seen in: Aerospace; The environment; Gas turbines; Biotechnology; Electronic and photonic processes and equipment; Energy systems; Fire and combustion, heat pipes, manufacturing and materials processing, low temperature and arctic region heat transfer; Refrigeration and air conditioning; Homeland security systems; Multiphase processes; Microscale and nanoscale devices and processes.

2021: Volume 143, 12 issues
 ISSN: 0022-1481
 eISSN: 1528-8943
asmedigitalcollection.asme.org/heattransfer



Journal of Manufacturing Science and Engineering

Editor: Y. Lawrence Yao, Columbia University, USA

The *Journal of Manufacturing Science and Engineering* disseminates original, theoretical, and applied research results of permanent interest in all branches of manufacturing including emerging areas. Research papers are peer-reviewed full-length articles of considerable depth. The journal also publishes technical briefs, design innovation papers, reviews, discussions of published papers with rebuttal, book reviews, and editorials. The Editorial Board consists of a team of international experts who provide expertise and conduct the peer-review process for the different topical areas covered by the journal.

Scope: Areas of interest including, but not limited to: Additive manufacturing; Advanced materials and processing; Assembly; Biomedical manufacturing; Bulk deformation processes (e.g., extrusion, forging, wire drawing, etc.); CAD/CAM/CAE; Computer-integrated manufacturing; Control and automation; Cyber-physical systems in manufacturing; Data science-enhanced manufacturing; Design for manufacturing; Electrical and electrochemical machining; Grinding and abrasive processes; Injection molding and other polymer fabrication processes; Inspection and quality control; Laser processes; Machine tool dynamics; Machining processes; Materials handling; Metrology; Micro- and nano-machining and processing; Modeling and simulation; Nontraditional manufacturing processes; Plant engineering and maintenance; Powder processing; Precision and ultra-precision machining; Process engineering; Process planning; Production systems optimization; Rapid prototyping and solid freeform fabrication; Robotics and flexible tooling; Sensing, monitoring, and diagnostics; Sheet and tube metal forming; Sustainable manufacturing; Tribology in manufacturing; Welding and joining.

2021: Volume 143, 12 issues
 ISSN: 1087-1357
 eISSN: 1528-8935
asmedigitalcollection.asme.org/manufacturingscience



Journal of Mechanical Design

Editor: Wei Chen, Northwestern University, USA

The *Journal of Mechanical Design* serves the broad design community as the venue for scholarly, archival research in all aspects of the engineering design activity and welcomes contributions from all areas of design with an emphasis on design synthesis. While the journal has traditionally served the ASME Design Engineering Division, it embraces interdisciplinary design research topics and encourages submissions from teams of interdisciplinary researchers who work on theories and methods to support the design of emerging engineered products and systems. The journal communicates original contributions, primarily in the form of research articles of considerable depth, but also technical briefs, design innovation papers, book reviews, review articles on research topics or history of engineering design, and editorials. For more information, visit the companion website: www.asmejmd.org

Scope: Design automation, including design representation, virtual reality, geometric design, design evaluation, design optimization, data-driven design, artificial intelligence in design, simulation-based design under uncertainty, design of complex systems, design of engineered materials systems, shape and topology optimization, engineering for global development, ergonomic and aesthetic considerations, and design for market systems; Design of direct contact systems, including cams, gears, and power transmission systems; Design education; Design of energy, fluid, and power handling systems; Design innovation and devices, including design of smart products and materials; Design for manufacturing and the lifecycle, including design for the environment, DFX, and sustainable design; Design of mechanisms and robotic systems, including design of macro-, micro- and nano-scaled mechanical systems, machine component, and machine system design; Design theory and methodology, including creativity in design, decision analysis, preference modeling, user-centered design, design cognition, entrepreneurship and teams in design, design prototyping, and design synthesis.

2021: Volume 143, 12 issues
ISSN: 1050-0472
eISSN: 1528-9001
asmedigitalcollection.asme.org/mechanicaldesign



Journal of Medical Devices

Editors: Rupak K. Banerjee, University of Cincinnati, USA

William K. Durfee, University of Minnesota, USA

The *Journal of Medical Devices* presents publications on applied research and development of new medical devices, including their instrumentation and testing methodologies. Improvement on diagnostic procedures, interventional methods, and therapeutic treatments are emphasized. Special coverage of novel and futuristic devices that allow innovative surgical strategies, methods of drug delivery, or possible reductions in the complexity, cost, or adverse results of health care is encouraged. Engineering content linked to medical devices across all dimensional scales, ranging from cells, tissues, organs to whole body, coupled with preclinical and clinical is reported. The Design Innovation Paper category is focused on reporting newer devices for which there may be less extensive clinical or engineering results.

Scope: Orthopedic, cardiovascular, rehabilitation, neurological, urologic, and other medical devices; Bioheat transfer devices; Medical sensors and actuators; Medical instrumentation; Image-guided interventions and treatments; Endoscopic, laparoscopic, and catheter devices; Minimally invasive devices; Diagnostic devices; Tissue-engineered devices; Drug delivery systems; Medical robotics; Medical device design processes; Medical device manufacturing processes; Human factors as related to medical devices; Computational methods for validating and analyzing the performance of medical devices; Virtual prototyping of medical devices; Microscale and nanoscale medical devices.

2021: Volume 15, 4 issues
ISSN: 1932-6181
eISSN: 1932-619X
asmedigitalcollection.asme.org/medicdevices



Journal of Micro- and Nano-Manufacturing

Editor: Nicholas X. Fang, Massachusetts Institute of Technology, USA

The *Journal of Micro- and Nano-Manufacturing* provides a forum for the rapid dissemination of original theoretical and applied research in the areas of micro- and nano-manufacturing that are related to process innovation, accuracy and precision, throughput enhancement, material utilization, compact equipment development, environmental and lifecycle analysis, and predictive modeling of manufacturing processes with feature sizes less than one hundred micrometers. Papers addressing special needs in emerging areas, such as biomedical devices, drug manufacturing, water and energy, are also included.

Scope: Areas of interest including, but not limited to: Unit micro- and nano-manufacturing processes; Hybrid manufacturing processes combining bottom-up and top-down processes; Hybrid manufacturing processes utilizing various energy sources (optical, mechanical, electrical, solar, etc.) to achieve multi-scale features and resolution; High-throughput micro- and nano-manufacturing processes; Equipment development; Predictive modeling and simulation of materials and/or systems enabling point-of-need or scaled-up micro- and nano-manufacturing; Metrology at the micro- and nano-scales over large areas; Sensors and sensor integration; Design algorithms for multi-scale manufacturing; Lifecycle analysis; Logistics and material handling related to micro- and nano-manufacturing.

2021: Volume 9, 4 issues
ISSN: 2166-0468
eISSN: 2166-0476
asmedigitalcollection.asme.org/micronanomanufacturing

Journal of Mechanisms and Robotics

Refer to page 9 for information

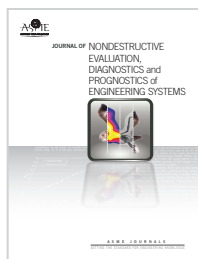


Journal of Nanotechnology in Engineering and Medicine

As of January 1, 2016, the *Journal of Nanotechnology in Engineering and Medicine* has suspended publication.

The *Journal of Nanotechnology in Engineering and Medicine* covered advancements in nanoscience and applications of nanostructures and nanomaterials to the creative conception, design, development, analysis, control, and operation of devices and technologies in engineering, medical, and life science systems. High-quality contributions of three types were sought: original research reports addressing nanoscale phenomena, synthesis and analysis of nanomaterials and devices, and applications of these; reviews of emerging nanotechnology topics and research needs to impact engineering and medicine; and opinions/views on the developments and potential applications of nanoscience, engineering, and technology.

ISSN: 1949-2944
 eISSN: 1949-2952
asmedigitalcollection.asme.org/nanoengineeringmedical



Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems

Editor: Tribikram Kundu, The University of Arizona, Tucson, USA

The *Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems* provides a venue for communication, discussion, and dissemination of advanced research related to ideas, opinions, and solutions on a variety of subjects related to NDE (Nondestructive Evaluation), SHM (Structural Health Monitoring), and prognosis. The journal addresses the need for an archival international journal and covers many aspects of interdisciplinary work in the fields of NDE and SHM and reports use of NDE and SHM in a wide range of applications in industry, government sector, and academia. The goal of the journal is to inform readers with state-of-the-art developments in NDE, SHM, and prognosis, disseminate new ideas on these subjects, and report related valuable applications. It is envisioned that the journal brings under one umbrella engineering and science disciplines contributing to NDE, SHM, and prognosis and features practical applications of NDE and SHM in many technical fields.

Scope: Applications across all engineering systems and processes; Fault and damage identification; Networked systems; On-line and off-line diagnostic approaches; Physics of failure in engineering systems; Product quality control; Real-time data processing, storage, and reduction; Sensors and other electronic hardware; System and structural diagnostics in harsh or extreme environments; Theoretical developments, numerical analysis (i.e., finite element, boundary element, peridynamics, and peri-ultrasound-based modeling techniques), and hardware-in-the-loop simulations supporting NDE and SHM methodologies; Traditional and emerging technologies (ultrasonics, radiography, etc.).

2021: Volume 4, 4 issues
 ISSN: 2572-3901
 eISSN: 2572-3898
asmedigitalcollection.asme.org/nondestructive



Journal of Nuclear Engineering and Radiation Science

Editor: Igor Pioro, University of Ontario Institute of Technology, Canada

The *Journal of Nuclear Engineering and Radiation Science* is ASME's latest title within the energy sector. The publication is for specialists in the nuclear/power engineering areas of industry, academia, and government.

Scope: Areas of interest including, but not limited to: Plant operations, maintenance, engineering, modifications, and lifecycle; Nuclear fuel and materials; Plant systems, construction, structures, and components; Radiation protection and nuclear technology applications; Next generation reactors and advanced reactors; Nuclear safety and security; Codes, standards, licensing, and regulatory issues; Fuel cycle, radioactive waste management, and decommissioning; Thermal hydraulics; Computational fluid dynamics (CFD) and coupled codes; Reactor physics and transport theory; Nuclear education, public acceptance, and related issues; Instrumentation & controls (I&C); Fusion engineering; Beyond design basis events; Panel discussion.

2021: Volume 7, 4 issues
 ISSN: 2332-8983
 eISSN: 2332-8975
asmedigitalcollection.asme.org/nuclearengineering



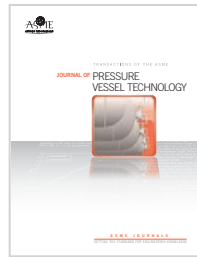
Journal of Offshore Mechanics and Arctic Engineering

Editor: Lance Manuel, The University of Texas at Austin, USA

The *Journal of Offshore Mechanics and Arctic Engineering* is an international resource for original peer-reviewed research that advances the state of knowledge on all aspects of analysis, design, and technology development in ocean, offshore, arctic, and related fields. Its main goals are to provide a forum for timely and in-depth exchanges of scientific and technical information among researchers and engineers. The journal emphasizes fundamental research and development studies as well as review articles that offer retrospective perspectives on well-established topics or exposures to innovative and novel developments. The journal also documents significant developments in related fields and major accomplishments of renowned scientists by programming themed issues that record such events

Scope: Offshore mechanics, fixed and floating production systems; Ocean engineering, hydrodynamics, and ship motions; Ocean climate statistics, storms, extremes, and hurricanes; Structural mechanics; Integrity management, data analytics, health monitoring; Safety, reliability, risk assessment, and uncertainty quantification; Riser mechanics, cable and mooring dynamics, and pipeline and subsea technology; Materials engineering, fatigue, fracture, non-destructive testing, inspection technologies, and corrosion protection and control; Fluid-structure interaction, computational fluid dynamics, and flow- and vortex-induced vibrations; Marine and offshore geotechnics, soil mechanics, and soil-pipeline interaction; Ocean renewable energy; Ocean space utilization, the blue economy, aquaculture engineering, marine litter/debris solutions; Petroleum technology; Polar and arctic science and technology, ice mechanics, arctic drilling and exploration, arctic structures, ice-structure and ship interaction, permafrost engineering, and arctic and thermal design.

2021: Volume 143, 6 issues
ISSN: 0892-7219
eISSN: 1528-896X
asmedigitalcollection.asme.org/offshoremechanics



Journal of Pressure Vessel Technology

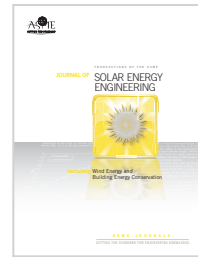
Editor: Young W. Kwon, Naval Postgraduate School, USA

The *Journal of Pressure Vessel Technology* is the premier publication for the highest quality research and interpretive reports on the design, analysis, materials, fabrication, construction, inspection, operation, and failure prevention of pressure vessels, piping, pipelines, power and heating boilers, heat exchangers, reaction vessels, pumps, valves, and other pressure and temperature-bearing components, as well as the nondestructive evaluation of critical components in mechanical engineering applications. It publishes analytical, experimental, and numerical studies.

Not only does the journal cover all topics dealing with the design and analysis of pressure vessels, piping, and components, but it also contains discussions of their related Codes and Standards.

Scope: Applicable pressure technology areas of interest include: Dynamic and seismic analysis; Equipment qualification; Fabrication; Welding processes and integrity; Joining and fastening; Operation of vessels and piping; Fatigue and fracture prediction; Fluid-structure interaction; High pressure engineering; Elevated temperature analysis and design; Inelastic analysis; Life extension; Lifeline earthquake engineering; PVP materials and their property databases; NDE; Safety and reliability; Verification and qualification of software.

2021: Volume 143, 6 issues
ISSN: 0094-9930
eISSN: 1528-8978
asmedigitalcollection.asme.org/pressurevesseltech



Journal of Solar Energy Engineering

Editor: S.A. Sherif, University of Florida, USA

The *Journal of Solar Energy Engineering* — Including Wind Energy and Building Energy Conservation — publishes research papers that contain original work of permanent interest in all areas of solar energy, wind energy, and energy conservation, as well as discussions of policy and regulatory issues that affect renewable energy technologies and their implementation. Papers that do not include original work, but nonetheless present quality analysis or incremental improvements to past work may be published as Technical Briefs. Review papers are accepted but should be discussed with the Editor prior to submission. The journal also publishes a section called Solar Scenery that features photographs or graphical displays of significant new installations or research facilities.

Scope: Fundamentals; Solar optics; Solar collectors; Solar thermal power; Photovoltaic applications; Solar chemistry and bioconversion; Solar space applications; Wind energy; Heating and cooling; Energy storage; Testing and measurement; Conservation and solar buildings; Emerging technologies; Energy policy.

2021: Volume 143, 6 issues
ISSN: 0199-6231
eISSN: 1528-8986
asmedigitalcollection.asme.org/solarenergyengineering



Journal of Thermal Science and Engineering Applications

Editor: Srinath Ekkad, North Carolina State University, USA

The *Journal of Thermal Science and Engineering Applications* focuses on the dissemination of information of permanent interest in applied thermal sciences and engineering emphasizing new and emerging technologies, significant questions, pressing problems and concerns, and new methods and approaches that can be applied to industrial problems.

Contributions must have clear relevancy to an industry, an industrial process, or a device. Subject areas could be as narrow as a particular phenomenon or device or as broad as a system. The journal publishes original research of an applied nature; application of thermal sciences to processes or systems; technology reviews; and identification of research needs to solve industrial problems at all time and length scales. Contributions should describe research in applied areas pertaining to thermal energy transport in equipment and devices, thermal and chemical systems, and thermodynamic processes.

The *Journal of Thermal Science and Engineering Applications* complements the *Journal of Heat Transfer*, which focuses on fundamental research.

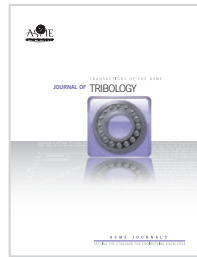
Scope: Applications in: Aerospace systems; Gas turbines; Biotechnology; Defense systems; Electronic and photonic equipment; Energy systems; Manufacturing; Refrigeration and air conditioning; Homeland security systems; Micro- and nanoscale devices; Petrochemical processing; Medical systems; Energy efficiency; Sustainability; Solar systems; Combustion systems.

2021: Volume 13, 6 issues

ISSN: 1948-5085

eISSN: 1948-5093

asmedigitalcollection.asme.org/thermalscienceapplication



Journal of Tribology

Editor: Michael M. Khonsari, Louisiana State University, USA

The *Journal of Tribology* publishes outstanding peer-reviewed technical articles of permanent interest to the tribology community annually. Known as a premier journal in the field, it attracts articles by tribologists from around the world. The journal features a mix of experimental, numerical, and theoretical articles dealing with all aspects of the field. In addition to being of interest to engineers and other scientists doing research in the field, the journal is also of great importance to engineers who design or use mechanical components such as bearings, gears, seals, magnetic recording heads and disks, or prosthetic joints, or who are involved with manufacturing processes.

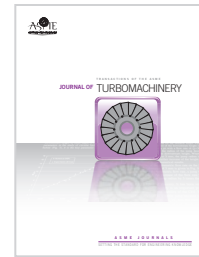
Scope: Friction and wear; Fluid film lubrication; Elastohydrodynamic lubrication; Surface properties and characterization; Contact mechanics; Magnetic recordings; Tribological systems; Seals; Bearing design and technology; Gears; Metalworking; Lubricants; Artificial joints.

2021: Volume 143, 12 issues

ISSN: 0742-4787

eISSN: 1528-8897

asmedigitalcollection.asme.org/tribology



Journal of Turbomachinery

Editor: David G. Bogard, The University of Texas at Austin, USA

The *Journal of Turbomachinery* publishes technical studies that advance the state of the art of turbomachinery technology related to gas turbine engines. These studies include theoretical, analytical, computational, and experimental techniques to provide insight into improved performance or prediction of performance for various components of gas turbine engines. Basic engineering sciences in these studies include fluid dynamics, heat transfer, and aeromechanics technology. Emphasis is placed on gas-path flows associated compressors and turbines, and with associated cooling technologies.

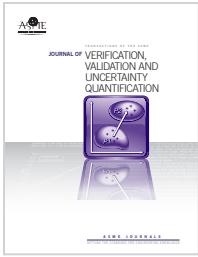
Scope: Aerodynamic design, analysis, and testing of compressor and turbine airfoils; Compressor stall, surge, and operability issues; Turbine cooling including internal and film cooling design, analysis, and testing; Cavity and leakage flows; Aeromechanical instabilities; Computational fluid dynamics (CFD) applied to turbomachinery; and Turbine testing with associated measurement techniques.

2021: Volume 143, 12 issues

ISSN: 0889-504X

eISSN: 1528-8900

asmedigitalcollection.asme.org/turbomachinery



Journal of Verification, Validation and Uncertainty Quantification

Editor: Christopher J. Freitas, Southwest Research Institute, USA

The *Journal of Verification, Validation and Uncertainty Quantification (VVUQ)* disseminates original research in the development and application of methods for performing code and solution (calculation) verification, simulation validation, and simulation and experimental uncertainty quantification. The application of verification, validation, and uncertainty quantification to discipline-specific examples are considered important contributions to this journal. Validation experiments and data uncertainty, simulation challenge problems, new approaches to VVUQ, discipline-specific examples and methods, and developments in and demonstration of standards of practice for verification and validation are examples of relevant topics to this journal.

The journal is cross cutting and serves a broad audience of engineers and scientists in many disciplines for which modeling and simulation and the methods to assess accuracy of their results are important.

Scope: Areas of interest including, but not limited to: Code verification; Solution verification; Validation; Uncertainty quantification; Model prediction; Model adequacy; Model accuracy; Predictive capacity; Model maturity; Phenomena identification and ranking table (PIRT); Design of experiments; Experimental uncertainty; Uncertainty in measurement; Model uncertainty; Model discrepancy; Sensitivity analysis; Model fidelity; Intended use; Context of use; Regulatory science; Aleatoric uncertainty; Epistemic uncertainty; Comparator; Quantification of margins and uncertainties (QMU); Fundamentals of probability; Applications of probability; Bayesian inference; V&V standards development; Challenge problems; Model calibration methods; Uncertainty propagation; Application examples of VVUQ.

2021: Volume 6, 4 issues

ISSN: 2377-2158

eISSN: 2377-2166

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Journal of Vibration and Acoustics

Editor: Christopher D. Rahn, The Pennsylvania State University, USA

The *Journal of Vibration and Acoustics* is sponsored jointly by the Design Engineering and the Noise Control and Acoustics Divisions of ASME. The journal is the premier international venue for publication of original research concerning mechanical vibration and sound. Our mission is to serve researchers and practitioners who seek cutting-edge theories and computational and experimental methods that advance these fields. Published studies reveal how mechanical vibration and sound impact the design and performance of engineered devices and structures and how to control their negative influences.

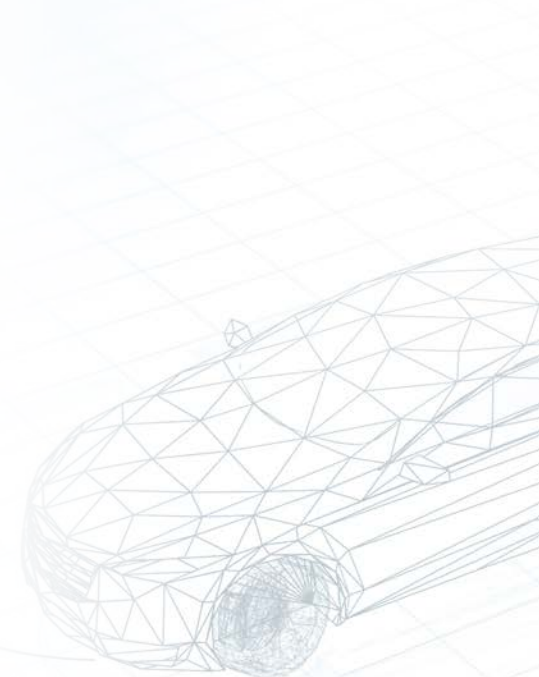
Scope: Vibration of continuous and discrete dynamical systems; Linear and nonlinear vibrations; Random vibrations; Wave propagation; Modal analysis; Mechanical signature analysis; Structural dynamics and control; Vibration energy harvesting; Vibration suppression; Vibration isolation; Passive and active damping; Machinery dynamics; Rotor dynamics; Dynamics of MEMS/NEMS; Dynamics and acoustics of metamaterials; Bio-inspired dynamical and acoustical systems; Vehicle dynamics; Smart structures and materials; Acoustic emission; Noise control; Machinery noise; Structural acoustics; Fluid-structure interaction; Aeroelasticity; Flow-induced vibration and noise; Underwater acoustics.

2021: Volume 143, 6 issues

ISSN: 1048-9002

eISSN: 1528-8927

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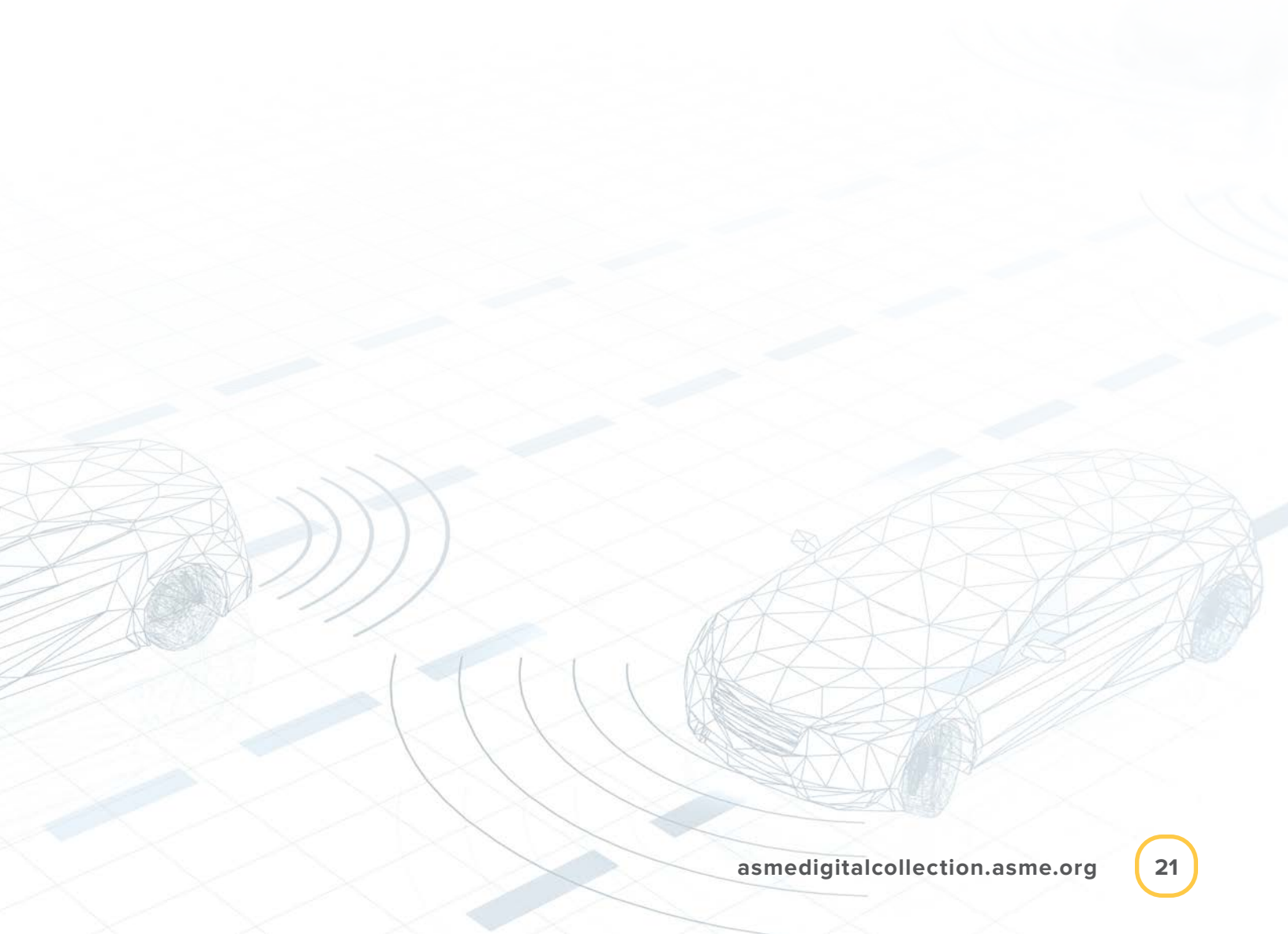
Mechanical Engineering Magazine Select Articles

Editor: John G. Falcioni, ASME, USA

Mechanical Engineering® magazine is the award-winning flagship publication of ASME. Published since 1880, the magazine delivers an interdisciplinary view into engineering trends and breakthroughs, giving readers a roadmap to better understand today's technology and tomorrow's innovations. Feature articles published in the magazine are available on The ASME Digital Collection as *Mechanical Engineering Magazine Select Articles*.

eISSN: 1943-5649

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ASME CONFERENCE PROCEEDINGS

Every year, more than 20,000 authors from across all continents share their research with colleagues throughout the world by presenting papers at ASME conferences. The demand to publish new research is such that it has raised the status of conferences as the first venue for presentation and subsequent publication.

Taking this into account, ASME's primary commitment is to maintain the *integrity* and *quality* of conference proceedings publishing for which it has become known.

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The ASME Conference Proceedings are also available in print.

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MULTIDISCIPLINARY



International Mechanical Engineering Congress and Exposition (IMECE)

Proceedings of IMECE cover cutting-edge engineering research and applications in all mechanical engineering disciplines including aerospace, manufacturing, biomedical and biotechnology, dynamics and control, energy, fluids engineering, heat

transfer, mechanics of solids, structures, fluids, acoustics, micro- and nanosystems, transportation, and emerging technologies.

(Content from 2002 to current year as becomes available)

AJK Joint Fluids Engineering (AJKFLUIDS)

Proceedings of this global collaboration in advanced fluids engineering address areas of convergence of fluid dynamics and mechanical engineering including the scientific method of exploration and generation of petroleum and natural gas, innovative mechanical and chemical processes for production of non-organic fluid material in production units, and comprehensive evaluation of diverse aspects of fluid mechanics such as multiphase fluid flows, liquid-solid flows, measurement methods of fluids, and instruments and tools used for analysis of fluid behavior.

(Content for 2011, 2015, and 2019)

ASME/JSME Thermal Engineering Joint Conference (AJTEC)

Content of this AJTEC Conference focuses on efforts to integrate thermal engineering with other disciplines and to broaden perspective to include a broad range of time scales (from ultra-rapid to long term) and length scales (from nanoscale to global).

(Content for 2011)

Fluids Engineering Division Summer Meeting (FEDSM)

Proceedings of the FEDSM Conferences feature technical papers on topics in fluid mechanics including pumping machinery, liquid-solid flows, and environmental applications.

(Content from 2002 to current year as becomes available)

Heat Transfer Summer Conference (HT)

Proceedings cover cutting-edge research in thermal science and engineering and related areas such as heat transfer in energy systems, aerospace heat transfer, gas turbine heat transfer, and others.

(Content from 2003-2005, 2007-2009, 2012-2013, 2016-2017, and 2019)

International Heat Transfer (IHTC)

Proceedings content ranges from fundamentals of thermal phenomena and traditional thermal applications to the emerging domains of thermal transport in nanomaterials, biosystems, power generation, MEMS, microsystems, information systems, energy conversion devices, aerospace, and hostile environment systems.

(Content for 2010)

International Joint Tribology Conference (IJTC)

Proceedings of the IJTC Conferences cover topics such as nanotribology, biotribology, engineered surfaces, boundary lubrication, fluid film lubrication, machine components tribology, and contact mechanics.

(Content from 2002-2012/excludes 2005)

Water Quality, Drought, Human Health and Engineering Conference (WATER)

Proceedings from this WATER Conference cover the latest information regarding plans for improving the quantity and quality of water, the impact on human health and engineering, and current regulation and policies.

(Content for 2006)

World Tribology Congress (WTC)

Focused on nanotribology and its role in the fast-growing area of nanotechnology, papers from the WTC Conference cover related technologies such as tribochemistry, additives, materials, surface engineering, and aerospace.

(Content for 2005)

BIOMEDICAL AND BIOTECHNOLOGY

ASME Conference on Frontiers in Medical Devices: Applications of Computer Modeling and Simulation (FMD)

Proceedings cover computational modeling, imaging and simulation, novel computational methods, and patient-specific modeling.

(Content for 2013)

Design of Medical Devices Conference (DMD)

The DMD Conference brings together medical device designers, manufacturers, researchers, and representatives from academia and the public sector.

(Content from 2017 to current year as becomes available)

Frontiers in Biomedical Devices (BIOMED)

Proceedings of the BIOMED Conferences cover the latest developments in biomedical devices and clinical practices in the areas of cardiovascular, orthopedics, and advanced technology.

(Content from 2006-2011)

Global Congress on NanoEngineering for Medicine and Biology (NEMB)

NEMB Proceedings focus on the integration of engineering sciences, mechanical engineering, and nanotechnology to address problems in biology and medicine in order to develop devices for the early detection and cure of diseases.

(Content for 2010 and 2013)

Summer Bioengineering Conference (SBC)

Focused on cutting-edge research in the fields of biomechanics, design, and rehabilitation, the proceedings feature papers on biotransport, human dynamics, fluids, tissue engineering, and other solid mechanics topics.

(Content from 2007-2013)

DESIGN

ASME Citrus Engineering Symposium (CES) ***

This symposium focuses on current-day technical issues that strengthen the industry and promote the continuing improvement of citrus products.

(Content from 1955-2010, 2012, and 2014)

ASME/IEEE Joint Rail Conference (JRC)

Encompassing all aspects of rail transportation and engineering research, proceedings of the JRC cover topics that include railroad infrastructure engineering, rail equipment engineering, and planning and development.

(Content from 2006 to current year as becomes available)

Dynamic Systems and Control Conference (DSCC)

Conference Proceedings of the DSCC concentrate on control methods and devices – from servomechanisms and regulators to automatic controls – for dynamic systems involving forces, motion, and/or the flow of energy or materials.

(Content from 2008 to current year as becomes available)

Engineering Systems Design and Analysis (ESDA)

Focused on engineering and related disciplines, ESDA Conference Proceedings feature technical papers ranging from theoretical developments through to industrial applications and case studies.

(Content from 2004-2014/biennial)

Fluid Power and Motion Control (FPMC)

Proceedings from the FPMC Conferences focus on advances in the design and analysis of fluid power components, such as hydraulic and pneumatic actuators, pumps, motors, and modulating components, in various systems and applications.

(Content from 2013 to current year as becomes available)

Fluid Power Net International Symposium (FPNI)

The FPNI Symposium provides a forum for scientists from all over the world, from both academia and industry, to exchange ideas and opinions on current research and future developments in fluid power technology.

(Content for 2014 and 2016)

Information Storage and Processing Systems (ISPS)

Papers presented cover interdisciplinary research and application topics related to information storage and processing systems.

(Content from 2013-2014 and 2016-2019)



International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE)

Proceedings of the IDETC/CIE Conferences feature cutting-edge research and accomplishments related to design concepts of machining, reliability, and manufacturability, and

the application of computer simulation to the engineering process.

(Content from 2002 to current year as becomes available)

Noise Control and Acoustics Division Conference (NCAD)

These proceedings highlight the latest research in this emerging field.

(Content for 2008, 2012, 2015, and 2018)

Rail Transportation Division Conference (RTD)

Focused on the current state and challenges of the rail transportation industry, papers from this conference cover topics such as track and equipment health monitoring, advanced risk reduction data analysis, and more.

(Content from 2003 and 2007-2013)

Verification and Validation Symposium (VVS)

This unique event brings together engineers and scientists from a wide array of disciplines that practice verification, validation, and uncertainty quantification (VVUQ) in their computational modeling and simulation. Papers discuss ideas and methods from leading experts for verification of codes and solutions, simulation validation, and assessment of uncertainties in mathematical models, computational solutions, and experimental data.

(Content from 2018 to current year as becomes available)

World Conference on Innovative Virtual Reality (WINVR)

Proceedings of the WINVR Conferences focus on the current challenges in the use of VR to solve industrial problems, barriers to developing VR, cost-benefit analysis, and future trends.

(Content from 2009-2011)

MANUFACTURING AND MATERIALS

International Manufacturing Science and Engineering Conference (MSEC)

Proceedings of the MSEC Conferences highlight cutting-edge manufacturing research in materials, processing, properties, applications and systems, and micro- and nanotechnologies.

(Content from 2006 to current year as becomes available)

International Symposium on Flexible Automation (ISFA)

Proceedings cover topics in advanced manufacturing automation technologies essential to meeting industry's needs in flexibility, intelligence, lead-time reduction, lean manufacturing in emerging areas such as nanomanufacturing, biomanufacturing, energy manufacturing, sustainable design and manufacturing, automotive and consumer electronics, information technology, biomedical technology, aerospace and transportation systems, and renewable energy systems, etc.

(Content for 2012)

Multifunctional Nanocomposites and Nanomaterials International Conference (MN)

Focused on highlighting the importance of nanotechnology applications in mechanical engineering, the proceedings from this conference cover topics such as fabrication, design, and modeling of nanocomposites and nanomaterials.

(Content for 2006 and 2008)

Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS)

Proceedings of the SMASIS Conferences highlight the latest in smart materials, the cutting edge in adaptive structure applications, and the recent advances in device technologies.

(Content from 2008 to current year as becomes available)

MICROTECHNOLOGY AND NANOTECHNOLOGY

CANEUS: MNT for Aerospace Applications (CANEUS)

Focused on micro-nanotechnology (MNT) development for aerospace applications, the proceedings feature emerging MNT concepts, MNT system development, and end user needs and perspectives.

[\(Content for 2006\)](#)

Energy Nanotechnology International Conference (ENIC)

Papers from the ENIC Conferences cover state-of-the-art research and development in energy-related materials, nanoscale phenomena, devices, systems, manufacturing, and commercialization.

[\(Content for 2007 and 2008\)](#)

Integrated Nanosystems: Design, Synthesis, and Applications (NANO)

Aimed at furthering the development of nanotechnology, proceedings of the NANO Conference focus on the state of the art in devices and systems, nanoscale phenomena, and nanomanufacturing.

[\(Content for 2004 and 2005\)](#)

International Conference on Integration and Commercialization of Micro- and Nanosystems (MNC)

Papers from the MNC Conferences focus on state-of-the-art R&D in micro- and nanoscale phenomena, devices, systems, manufacturing, as well as on the commercialization of micro- and nanotechnologies.

[\(Content for 2007 and 2008\)](#)

International Conference on Micro/Nanoscale Heat Transfer (MNHT)

Focused on state-of-the-art R&D in micro/nanoscale heat transfer, proceedings of MNHT cover topics such as micro/nanofluidics, nanofluids, biomicrofluidics, boiling, and evaporation heat transfer.

[\(Content from 2008-2009, 2012-2013, 2016, and 2019\)](#)

International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM)

Technical papers presented at the ICNMM Conferences are focused on identifying research needs in nanochannels encompassing engineering, MEMS, microfluidics, biomedicine, and many other frontier research disciplines.

[\(Content from 2003 to current year as becomes available\)](#)

International Electronic Packaging Technical Conference and Exhibition (InterPACK)

Focused on R&D, manufacturing, and application for packaging and integration of electronic and photonic systems, MEMS, and NEMS, the proceedings cover the latest research and emerging technologies.

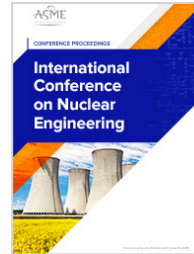
[\(Content from 2003 to current year as becomes available/biennial\)](#)

NUCLEAR

High Temperature Reactor Technology (HTR)

Proceedings of the HTR Conference are focused on identifying essential requirements needed to manage the implementation of HTR technology and discover uses of HTR beyond nuclear power.

[\(Content for 2008\)](#)



International Conference on Nuclear Engineering (ICONE)

Proceedings of this global conference address the needs of the nuclear industry and cover the latest nuclear technology applications and innovations.

[\(Content for 2002, 2004, 2006, 2008-2010, 2012-2014, and 2016-2018\)](#)

International Conference on Radioactive Waste Management and Environmental Remediation (ICEM)

Papers from the ICEM Conferences focus on technologies, operations, management approaches, economics, and public policies in the areas of environmental remediation and radioactive waste management.

[\(Content for 2003, 2007, 2009-2011, and 2013\)](#)

Nuclear Forum (NUCLRF)

Nuclear Forum technical papers cover the most recent developments in the nuclear power industry comprising plants, operations, safety and security, materials and structures, modeling and simulations, advanced reactor concepts, thermal hydraulics and computational fluid dynamics, materials, structures, and components.

[\(Content for 2015, 2017, and 2018\)](#)

Small Modular Reactors Symposium (SMR)

Proceedings topics address the technical, business, and regulatory issues for the deployment of small modular reactors, including technical details for bringing SMRs from design concept into fabrication and building.

[\(Content for 2011 and 2014\)](#)

POWER AND ENERGY

ANES/ASME Joint National Solar Energy Week (ANES/ASME)

Compilation of papers reflecting work in renewable technologies in 2006.

[\(Content for 2006\)](#)

ASME-USCG Workshop on Marine Technology and Standards (MTS)***

Topics range from technological impact on the marine industry to corresponding coverage in related Codes and Standards and government regulations.

[\(Content for 2010, 2013, and 2017\)](#)

Energy Sustainability (ES)

Proceedings of the Energy Sustainability Conferences cover cutting-edge research in solar and other renewable energy, energy efficiency, fuel cells, and advanced energy technologies.

[\(Content from 2007 to current year as becomes available\)](#)

Engineering Technology Conference on Energy (ETCE)

Broad coverage of energy engineering technologies encompassing alternative energy, composite materials, offshore technology, plant engineering, structural dynamics, and more is featured.

[\(Content for 2002\)](#)

Gas Turbine India Conference (GTINDIA)

Authors and presenters participate in this event to exchange ideas on research, development, and best practices on gas turbines and allied areas. Authors and presenters include the industry's leading professionals and key decision makers, whose innovation and expertise are shaping the future of turbomachinery.

[\(Content from 2012-2015, 2017/biennial as becomes available\)](#)

Internal Combustion Engine Division Fall Technical Conference (ICEF)

Covering topics related to internal combustion engines such as engine design and lubrication, ICEF brings together members of industry, government, and academia to discuss the latest in the field.

[\(Content from 2002-2007 and 2009 to current year as becomes available\)](#)

Internal Combustion Engine Division Spring Technical Conference (ICES)

Proceedings of the ICES Conferences feature technical papers focused on the design, development, and application of compression-ignition, spark ignition, rotary, and reciprocating engines.

[\(Content from 2002-2003, 2005-2009, and 2012\)](#)

International Conference on Fluidized Bed Combustion (FBC)

Proceedings papers feature cutting-edge research in fluidized bed combustion technology developments and their applications and cover topics such as sustainable fuels, operations, and the environment.

[\(Content for 2003 and 2005\)](#)

International Conference on Fuel Cell Science, Engineering and Technology (FUELCELL)

Technical papers presented at the FUELCELL Conferences cover topics in solar and other renewable energy, fuel cells, and advanced energy technologies.

[\(Content from 2003 to 2017; topic now incorporated into Energy Sustainability\)](#)



International Conference on Offshore Mechanics and Arctic Engineering (OMAE)

Proceedings of the OMAE Conferences feature topics in offshore technology, structures, safety and reliability, materials technology, pipeline and riser technology, and ocean space utilization.

[\(Content from 2002 to current year as becomes available\)](#)

International Joint Power Generation Conference (IJPGC)

Proceedings topics include components, plants and design engineering, operations, maintenance and reliability, combined cycles, turbines and generators, fuels, combustion and emissions, and advanced energy systems.

[\(Content for 2002 and 2003\)](#)

International Offshore Wind Technical Conference (IOWTC)

Papers presented at this conference draw from members of the scientific community, researchers, academia, and the offshore wind engineering industry from around the world. Organized around scientific and project development tracks, topics cover fixed and floating offshore concepts, mooring and foundations, turbines modeling, and more.

[\(Content from 2018 to current year as becomes available\)](#)

International Solar Energy Conference (ISEC)

Technical papers from the ISEC Conferences cover research results, new developments, and novel thermal and mechanical concepts in the area of solar and renewable energy technologies.

[\(Content from 2002-2006\)](#)

North American Waste-to-Energy Conference (NAWTEC)

Papers from the NAWTEC Conferences cover topics related to municipal waste-to-energy, combustion engineering science, and emerging waste conversion and processing technologies.

[\(Content from 2002-2013\)](#)

Power Conference (POWER)

Focused on latest technologies to improve how power plants operate, the proceedings cover topics including fuels, steam generators, heat exchangers, turbines, and plant operations and maintenance.

[\(Content from 2004 to current year as becomes available\)](#)

Turbine Blade Tip Symposium (TBTS)

Multidisciplinary content from this conference addresses the current state of the art in the design, analysis, and improvement of turbine blade tips. A major area of focus is the issue of blade tip burnout. Current proposals on enacted solutions are presented along with studies and industry input that provide insight into physics challenges.

[\(Content for 2013\)](#)

Turbo Expo (GT)

Turbo Expo Proceedings papers cover the latest in the design, manufacture, and operation of gas turbine and aeroengine machinery in various applications in aircraft, marine, and electric power generation.

[\(Content from 1956 to current year as becomes available\)](#)

Wind Energy Symposium (WIND)

These proceedings focus on wind turbine aerodynamics, materials and manufacturing, load and fatigue analysis, controls and structural analysis, and inflow, acoustic noise, and power.

[\(Content for 2002 and 2003\)](#)

PRESSURE TECHNOLOGY

ASME Asia Pacific Pipeline Conference (APPC)

Proceedings of this conference, organized by ASME and the China University of Petroleum, focus on the development of the pipeline industry around the world and highlight technological innovation in the design, safety, maintenance, and management of oil and gas pipelines. [\(Content for 2019\)](#)

ASME India Oil and Gas Pipeline Conference (IOGPC)

IOGPC Proceedings present research results, new developments, and encourage new initiatives in the oil and gas industry in India. Areas of impact include design and construction, pipeline materials, integrity management, health, safety, and environment. [\(Content from 2013 to current year as becomes available/biennial\)](#)

ASME International Pipeline Geotechnical Conference (IPG)

The IPG Conference is an international event to promote knowledge sharing, technological progress, and international cooperation for advancing the management of natural forces impacting pipelines with the intent of protecting the public, environment, energy infrastructure assets and ensure safe and reliable operations. [\(Content for 2013, 2015, 2017, and 2019/biennial\)](#)

ASME/NRC Pump and Valve Symposium (PVS)***

PVS presents comprehensive coverage of the latest issues, technology developments, and research in the preservice and in-service testing of nuclear power plants and components and how these developments are being considered by the ASME/NRC O&M Code Committees. [\(Content for 2017\)](#)

ASME Symposium on Elevated Temperature Application of Materials for Fossil, Nuclear, and Petrochemical Industries (ETAM)***

Presentations focus on the design, fabrication, and construction practices of pressure equipment such as boilers, pressure vessels, and piping components that will operate at elevated temperatures where materials are subject to creep, creep-fatigue, embrittlement, and environmental effects. [\(Content for 2014 and 2018\)](#)

International Pipeline Conference (IPC)

Papers from the IPC Conferences cover topics in production pipelines, design and construction, database development, facilities integrity management, operations, and maintenance. [\(Content from 1996 to current year as becomes available/biennial\)](#)



Pressure Vessels and Piping Conference (PVP)

Proceedings of the PVP Conferences cover topics such as Codes and Standards and design and analysis related to pressure vessel and piping technologies for the power and process industries. [\(Content from 2002 to current year as becomes available\)](#)

*****PUBLIC ACCESS CONFERENCE PROCEEDINGS**

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ASME publishes high-quality professional and reference works, handbooks, as well as advanced monographs in established and emerging areas of interest to mechanical engineers and allied disciplines.

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- Robotics
- Tribology

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Mechanics of Accuracy in Engineering Design of Machines and Robots, Volume 1: Nominal Functioning and Geometric Accuracy

Accuracy is one of the fundamental characteristics and one of the most important indexes of the quality of machines and robots. It significantly defines their structure and applications and, in turn,

depends on their structure and applications. Accuracy provision, maintenance, and enhancement are permanently hot problems in modern manufacturing and manufacturing science.

ISBN: 9780791861615 (2018)

Mechanics of Accuracy in Engineering Design of Machines and Robots, Volume 2: Stiffness and Metrology

Volume 2 of the book continues consideration of the accuracy-related problem as applied to machines and robots started in Volume 1. Two themes are developed in Volume 2: stiffness-compliance directly associated with the machine and robot accuracy through static deformations (Part 1) and computer-aided metrology aimed at final assessments of the accuracy-associated performance indexes (Part 2).

ISBN: 9780791861691 (2019)



Precision Programming of Roving Robots: Project-Based Fundamentals of Wheeled, Legged and Hybrid Mobile Robots

This book is designed primarily as a laboratory operations manual for fundamental mechatronics and robotics experiential and project-based learning.

The book is aimed at university and college

students; however, with robotics curricula extending down into lower grades this book can also be very useful for teachers at any school level.

ISBN: 9780791861912 (2019)

Robot Manipulator Redundancy Resolution

This book describes a novel quadratic programming approach to solving redundancy resolutions problems with redundant manipulators. Known as “QP-unified motion planning and control of redundant manipulators” theory, it systematically solves difficult optimization problems of inequality-constrained motion planning and control of redundant manipulators that have plagued robotics engineers and systems designers for more than a quarter century.

ISBN: 9781119381235 (2017)

MORE ASME EBOOKS

2020

Computer Aided Design and Manufacturing

This book addresses the need to provide up-to-date coverage of current CAD/CAM usage and implementation. It covers, in one source, the entire design-to-manufacture process, reflecting the industry trend to further integrate CAD and CAM into a single, unified process. It also updates the computer aided design theory and methods in modern manufacturing systems and examines the most advanced computer aided tools used in digital manufacturing.

ISBN: 9781119534211

Design and Analysis of Centrifugal Compressors

Design and Analysis of Centrifugal Compressors is a comprehensive overview of the theoretical fluid dynamic models describing the flow in centrifugal compressors and the modern techniques for the design of more efficient centrifugal compressors. The author — a noted expert in the field, with over 40 years of experience — evaluates relevant numerical and analytical prediction models for centrifugal compressors with special attention to their accuracy and limitations. Relevant knowledge from the last century is linked with new insights obtained from modern CFD.

ISBN: 9781119424093

Fundamentals of Heat Engines: Reciprocating and Gas Turbine Internal Combustion Engines

This book offers readers comprehensive coverage of heat engine cycles. From ideal (theoretical) cycles to practical cycles and real cycles, it gradually increases in degree of complexity so that newcomers can learn and advance at a logical pace, and so instructors can tailor their courses toward each class level. To facilitate the transition from one type of cycle to another, it offers readers additional material covering fundamental engineering science principles in mechanics, fluid mechanics, thermodynamics, and thermochemistry.

ISBN: 9781119548768

Non-Proliferation Nuclear Forensics: Canadian Perspective

The authors provide an overview of Canada's NF capability in addition to general aspects of the nuclear forensics that are useful for both nuclear forensic practitioners and countries that are signatories to the Nuclear Non-Proliferation Treaty in establishing their NF capability. The authors summarize challenges that first responders face at crime scenes involving RN materials. Next, they describe the RN materials from the uranium fuel cycle in Canada that are most relevant to NF and a summary of their use and construction, possible NF signatures, and how those signatures were used in the Canadian exercise.

ISBN: 9780791862032

Offshore Compliant Platforms: Analysis, Design, and Experimental Studies

Offshore Compliant Platforms provides an authoritative guide to the analysis and design of compliant offshore structures and puts the focus on a new generation of platforms such as: triceratops, buoyant leg storage, and regasification platforms. The authors — noted experts on the topic — include basic information on the conceptual development of conventional platforms, as well as detailed descriptions of the design and development of new deep-water platforms. The book describes the preliminary design of triceratops in ultra-deep waters and presents a detailed analysis of environmental loads that are inherent in offshore locations such as wave, wind, and current.

ISBN: 9781119669777

Online Companion Guide to ASME BPVC

This new online eBook edition of the *Companion Guide to the ASME Boiler and Pressure Vessel Code* is available only by subscription and will provide continuously updated chapters as available for the latest release of the ASME BPV Standard. Ten to 20 updated chapters (out of 40 total chapters) are expected each year, which will be available to online subscribers only. Printed copies of the *Companion Guide, Fifth Edition, Volumes 1 and 2*, published in 2018, are available for purchase on ASME.org.

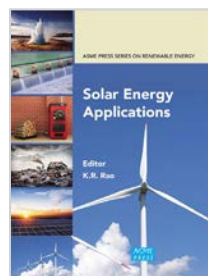
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e-ISBN: 9780791861981

Pipeline Integrity Management Under Geohazard Conditions

Pipeline Integrity Management Under Geohazard Conditions includes 42 peer-refereed papers prepared by key industry subject matter experts. The papers compile the results of extensive research as well as assemble pipeline operators' experiences in tackling geohazard challenges for both new and vintage pipelines. In addition to the experts' papers, the editors of the book prepared an introduction to each section that includes summary review of the different papers in the section. The papers are presented in 10 sections addressing all aspects of geohazard integrity management.

ISBN: 9780791861998



Solar Energy Applications

This first volume in the new ASME Press Book Series on Renewable Energy is based on updated chapters from the classic 2011 *Handbook of Energy and Power Generation*, also edited by Dr. Rao and published by ASME Press. The discussions in this book cover varied aspects of solar energy in use around the globe. Chapters 1 through 6 deal with solar energy in over 200 pages

addressed by 15 experts from academia, NASA, and practicing professionals from the U.S., Europe, China, and India. Global interest in solar energy is apparent not only from the current usage, but also from the untapped resources and its potential for greater usage.

ISBN: 9780791862001

2019

Case Studies in Fluid Mechanics with Sensitivities to Governing Variables

This book covers the many issues that occur in practical fluid mechanics, heat transfer, and mass transfer and examines the basic laws (the conservation of matter, conservation of momentum, conservation of energy, and the second law of thermodynamics) of these areas. It offers problem solutions that start with simplifying engineering assumptions and then identifies the governing equations and dependent and independent variables. When solutions to basic equations are not possible, the book utilizes historical experimental studies.

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Corrosion and Materials in Hydrocarbon Production: A Compendium of Operational and Engineering Aspects

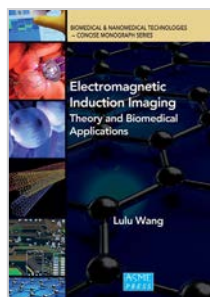
This book captures the current understanding of corrosion processes in upstream operations and provides a brief overview of parameters and measures needed for optimum design of facilities. It focuses on internal corrosion occurring in hydrocarbon production environments and the key issues affecting its occurrence, including: the types and morphology of corrosion damage; principal metallic materials deployed; and mitigating measures to optimize its occurrence. The book also highlights important areas of progress and challenges and looks toward the future of research and development to enable improved and economical design of facilities for oil and a gas production.

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Dynamics of Particles and Rigid Bodies: A Self-Learning Approach

This unique approach to teaching particle and rigid body dynamics uses solved illustrative examples and exercises to encourage self-learning. The study of particle and rigid body dynamics is a fundamental part of curricula for students pursuing graduate degrees in areas involving dynamics and control of systems.

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This 20th volume in our BioNano Monographs series offers comprehensive descriptions of recent investigations on the development and biomedical applications of electromagnetic (EM) induction imaging, which enables scientists and engineers to use EM imaging techniques to develop medical diagnostic and radiotherapy instruments.

ISBN: 9780791860465

Marketing of Engineering Consultancy Services: A Global Perspective

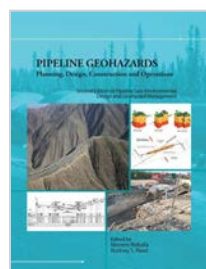
This is the latest volume in our Technical Manager's Survival Guides book series. As the global economy and society undergo a tectonic shift to a post-industrial information society with knowledge capital as its new resource, marketing of services is concurrently experiencing a paradigm shift. This book is a unique blend of the authors' decades of experience in the engineering consultancy service industry, combined with scholarly and academic excellence.

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Fundamental elements of drilling provide the foundation for more detailed analyses throughout the book. Special features include comprehensive presentation of: 1) Drilling hydraulics; 2) Drillstring mechanics including vibration control; 3) Drilling economics; 4) Maintenance and reliability; and 5) Directional drilling including bit navigation, well path monitoring, and directional control. May be used as a university textbook or an industry reference.

ISBN: 9780791861875

**Pipeline Geohazards: Planning, Design, Construction and Operations**

This second edition of the 2008 ASME publication on the same topic is an expanded and updated treatment of a broader range of pipeline geohazard management aspects to serve the global community of pipeliners – both those

with a geotechnical background as well as their colleagues in the multidisciplinary teams that deal practically with these issues.

ISBN: 9780791861790

Proceedings of the 2018 EEC/WTERT Conference

These published proceedings are based on presentations from the EEC/WTERT 2018 Conference hosted by The Earth Engineering Center at The City College of New York in October 2018. The conference included speakers from around the world collectively representing the global perspective on best waste management practices.

ISBN: 9780791861950

Pumps and Compressors

Pumps and compressors are ubiquitous in industry, used in manufacturing, processing, and chemical plants, HVAC installations, aerospace propulsion systems, medical applications, and everywhere else where there is a need to pump liquids or circulate or compress gasses. This well-illustrated handbook covers the basic function, performance, and applications for the most widely used pump and compressor types available on the market today.

ISBN: 9781119534143

The Monte Carlo Ray-Trace Method in Radiation Heat Transfer and Allied Optics

This book offers the most modern and up-to-date approach to radiation heat transfer modelling and performance evaluation of optical instruments. The Monte Carlo ray-trace (MCRT) method is based on the statistically predictable behavior of entities, called rays, which describe the paths followed by energy bundles as they are emitted, reflected, scattered, refracted, diffracted, and ultimately absorbed.

ISBN: 9781119518518

Thermal Design of Liquid Cooled Microelectronic Equipment

This book places a great deal of emphasis on providing practical solutions to thermal issues related to high power systems where liquid cooling is required. The book serves as a general thermal design guide for any liquid cooled systems with the main focus on microelectronic equipment that includes digital and/or analog devices.

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The Unwritten Laws of Engineering, Second Edition

On the 75th anniversary of its original publication, this new, second edition of the 1944 classic serves as a crucial compilation of "house rules," or a professional code. It addresses three areas: what the beginner needs to learn at once; "laws" relating chiefly to engineering executives; and purely personal considerations for engineers.

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2018

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This comprehensive professional reference has been substantially revised and updated for the third edition. It is both a training tool and reference text covering all aspects of pipeline pumping and compression system design, configuration, and operation, in addition to the dynamic behavior of all the elements in each system.

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Proceedings of the 10th International Symposium on Cavitation (CAV2018)

CAV2018 was the 10th International Symposium on Cavitation. It is the world's leading event committed to cavitation where leading scientists and industry experts converge and discuss all phases of cavitation, both fundamental and applied.

ISBN: 9780791861851

Proceedings of the International Conference on Control Engineering and Mechanical Design (CEMD 2017)

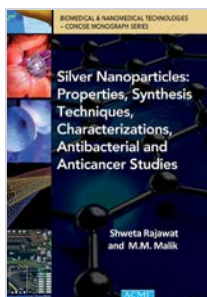
The International Conference on Control Engineering and Mechanical Design (CEMD2017) is a leading annual conference for all researchers in China and abroad. CEMD2017 was held in Xiamen, China, October 20-22, 2017. Control engineering or control systems engineering is the engineering discipline that applies control theory to design systems with desired behaviors.

ISBN: 9780791861677

Robust Adaptive Control for Fractional-Order Systems with Disturbance and Saturation

This book provides the reader with a good understanding on how to achieve tracking control and synchronization control of fractional-order nonlinear systems with system uncertainties, external disturbance, and input saturation. Although some texts have touched upon control of fractional-order systems, the issues of input saturation and disturbances have rarely been considered together.

ISBN: 9781119393276



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This monograph introduces an historical background of silver and narrates an exhaustive literature review conducted during the research. It gives details about the existing physical, chemical, and biological approaches.

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2017

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Handbook of Integrated and Sustainable Buildings Equipment and Systems, Volume 1: Energy Systems

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In this monograph the authors report the current advancement in high frequency piezoelectric crystal micromachined ultrasound transducers and arrays and their biomedical applications.

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International Hydrogen Conference (IHC 2016): Materials Performance in Hydrogen Environments

These proceedings of the conference that took place September 11-14, 2016 in Jackson Lake Lodge, Wyoming, USA, include hydrogen-assisted fracture in steels and other structural metals; hydrogen-assisted fatigue; advanced methods for characterizing hydrogen-materials interactions; hydrogen dissolution, transport, and trapping; and modeling and simulation.

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Ultrasonic Welding of Lithium-Ion Batteries

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ISBN: 9780791861257

2016

Advances in Multidisciplinary Engineering

This proceedings publication includes papers and abstracts from a dedicated track focused on Multidisciplinary Engineering at the November 2015 International Mechanical Engineering Conference and Exposition (IMECE 2015).

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Basic Principles and Potential Applications of Holographic Microwave Imaging

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This commentary discusses some of the considerations of the joint ACI-ASME Committee in developing the provisions of ACI Standard 359 and ASME B&PVC Section III, Division 2, Subsection CC, Article CC-3000 on nuclear construction in the 2013 version of the code.

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