

2019 CATALOG



ACCELERATING THE PACE OF ENGINEERING INNOVATION

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2019 CATALOG



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ACCELERATING THE PACE OF ENGINEERING INNOVATION

Dear Colleague,

We are pleased to present the **2019 American Society of Mechanical Engineers (ASME) Digital Collection catalog**. The ASME Digital Collection (asmedigitalcollection.asme.org) provides online access to one of the largest technical publishing operations in the world and supports the core mission of ASME itself: to serve as an **essential resource for professionals seeking engineering solutions to global challenges through innovation**.

Representing our membership as well as the broader engineering community, our valued authors, editors, and reviewers contribute to some of the profession's most prestigious publications, including **journals, conference proceedings, and eBooks**. These publications support our readers throughout the entire **innovation lifecycle** and promote **multidisciplinary collaboration**.

SERVING the Engineering Community

ASME has strong ties to the community because we are PART of that community. ASME publishes 30 peer-reviewed international journals, with FIVE new titles launched since 2015. Our close connection with the engineering communities that comprise the Society has enabled us to determine which key technologies should guide our content expansion strategy: Bioengineering; Clean Energy; Manufacturing; Pressure Technology; and Robotics.

Our decision to launch a new journal is always the result of a rigorous process to identify specific needs and existing gaps in research coverage. New journals launched in 2018 are the *Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems* and the *Journal of Engineering and Science in Medical Diagnostics and Therapy*. Early announcements in 2017 sparked an influx of article submissions that led to the publication of inaugural issues in advance of their February 2018 schedules.

Striving for excellence and the widest dissemination of content are guiding principles of our publishing philosophy. ASME journals' increasing Impact Factors* are a measure of our success.

Bylined articles from ASME's *Mechanical Engineering*® magazine are now available as part of The ASME Digital Collection. Searchable online for the first time, ***Mechanical Engineering Magazine Select Articles*** makes authors' work more discoverable.

SUPPORTING Our Author Community – Open for OPEN ACCESS!

As a service to our authors, in 2017 we introduced a new journal publishing program whereby authors may choose to pay an APC (Article Processing Charge) so that their **peer-reviewed and accepted articles are published Open Access** and free for everyone to read, share, and download, automatically in compliance with funder mandates, and available online immediately upon publication.

LISTENING to Our Library Community

We pride ourselves on being information providers, not profiteers. As a not-for-profit publisher mandated to serve the needs of our community, we are mindful of library budget constraints.

Additionally, we have established the **ASME Publishing Library Advisory Board (LAB)**. The LAB will help us develop new initiatives and enhance our content and information delivery, all to benefit libraries and their users worldwide. Plus, we will focus on library issues that are particularly relevant today – and tomorrow.

ADVANCING Engineering Innovation

At ASME, we are proud of our partnership with the engineering research community. Together we deliver the validated, high quality information that mechanical and other engineers need every day to drive innovation that benefits humanity.



Kind regards,

Philip DiVietro

Managing Director, Publishing

The American Society of Mechanical Engineers (ASME)

* 2016 Journal Citation Reports® (Clarivate Analytics, 2017)

MECHANICAL ENGINEERING CONTENT AND BEYOND...

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 is ASME's authoritative, online reference for the mechanical engineering and related research communities. It provides unparalleled depth, breadth, and quality of peer-reviewed content:

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- ASME eBooks selected from 1993 – present

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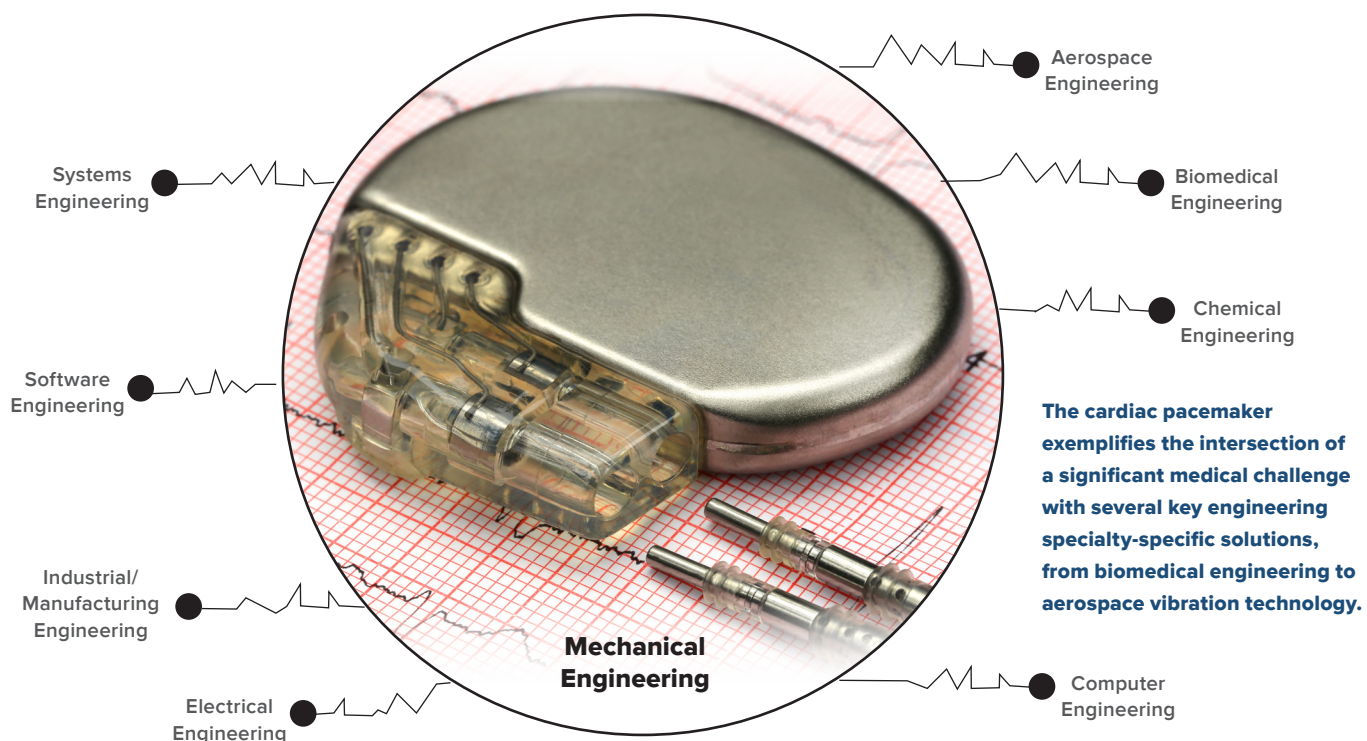
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Beyond mechanical engineering, ASME's expanding publishing program embodies a wide range of engineering disciplines. By supplying high quality, validated content, it helps accelerate the pace of engineering innovation through the promotion of interdisciplinary problem solving and collaboration and the advancement of knowledge. Prime examples in biomedical engineering are the ongoing enhancements in cardiac pacemaker technology – directly improving patients' longevity and quality of life.

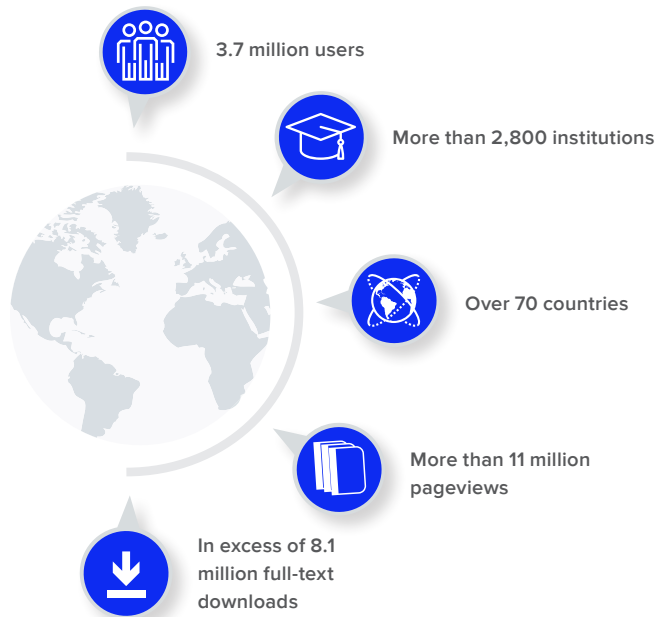
Readers can find many of the engineering principles introduced in next generation pacemakers within the pages of ASME publications.



ACCELERATING THE PACE OF ENGINEERING INNOVATION

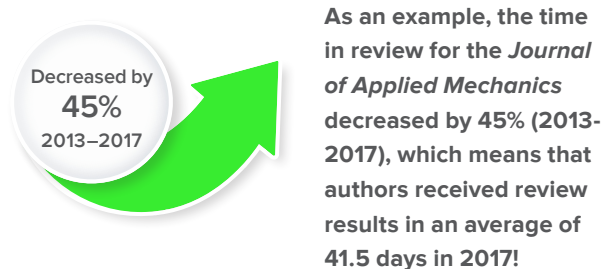
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Speed to Publication

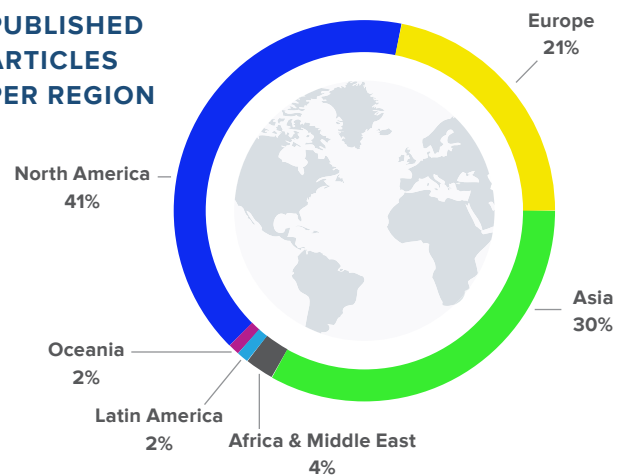
ASME is continuously striving to **improve the time to publication across the entire ASME Journal Program** while maintaining the integrity, thoroughness, and quality of the peer reviews that define the program.



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In 2017, more than **2,000 articles** were published through the **ASME Journal Program** with a global footprint of authors that contributes to and supports the ASME Journal Program.

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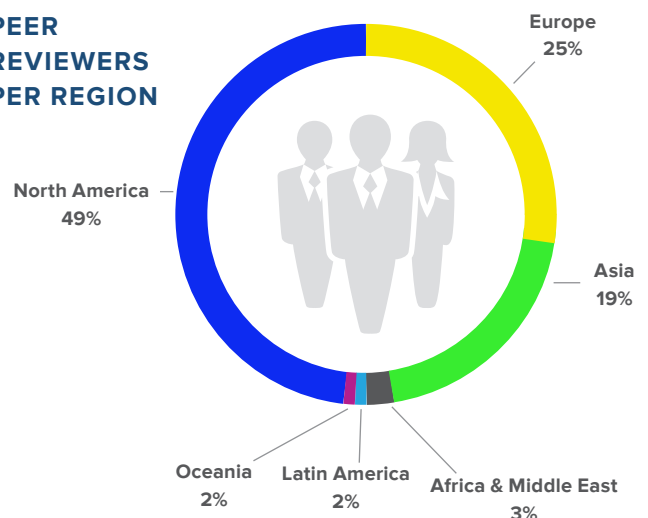


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JOURNAL	YEAR	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
Applied Mechanics Reviews																
ASCE-ASME Journal of Risk and Uncertainty In Engineering Systems, Part B: Mechanical Eng																
Journal of Applied Mechanics		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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 (formerly Jml of Fuel Cell Science and Tech)																
Journal of Electronic Packaging																
Journal of Energy Resources Technology																
Journal of Engineering and Science in Medical Diagnostics and Therapy - NEW																
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																
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Journal of Medical Devices																
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Journal of Nanotechnology in Engineering and Medicine - SUSPENDED PUBLICATION																
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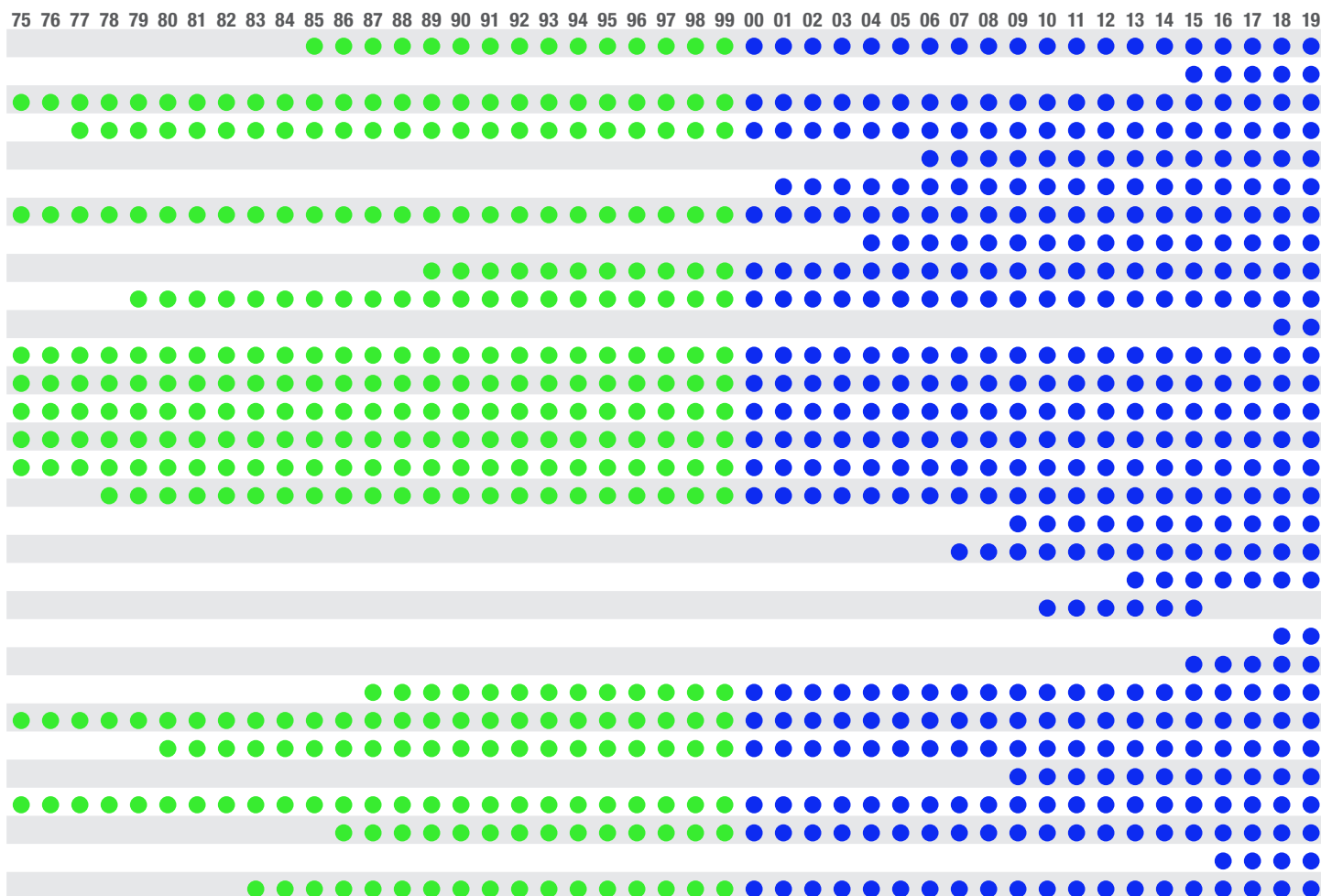
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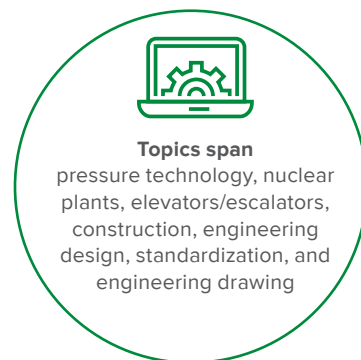
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FOCUS ON...BIOMEDICAL ENGINEERING JOURNALS



NEW IN 2018

Journal of Engineering and Science in Medical Diagnostics and Therapy

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

"Increasingly, engineering skills, knowledge, and perspective are required to solve clinical healthcare challenges. To achieve

this aim, the journal publishes high quality, peer-reviewed, and advanced engineering research on materials, therapies, technology, systems, methods, and processes that stand to transform the dynamics of disease prevention, diagnosis, and treatment."

-Ahmed Al-Jumaily, PhD, Editor

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; Sports medicine and prevention of impact injury; Mechanopharmacology, mechanopharmaceutics, and mechanobiochemistry; Clinical system dynamics and control; Engineering and science in clinical applications.

2019: Volume 2, 4 issues

ISSN: 2572-7958

eISSN: 2572-7966

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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.

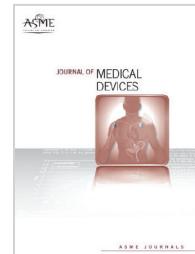
2019: Volume 141, 12 issues

ISSN: 0148-0731

eISSN: 1528-8951

biomechanical.asmedigitalcollection.asme.org

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 are encouraged. Engineering content linked to medical devices across all dimensional scales, ranging from cells, tissues, organs to whole body, coupled with preclinical and clinical are 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; Bio heat 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.

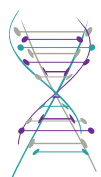
2019: Volume 13, 4 issues

ISSN: 1932-6181

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Applied Mechanics Reviews

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

Applied Mechanics Reviews (AMR) 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. AMR provides an archival repository for state-of-the-art and retrospective survey articles and reviews of research areas and curricular developments. The journal 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.

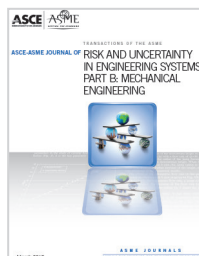
Scope: State-of-the-art surveys; Retrospective reviews; Curricular reviews; Research and education policy commentary; Tutorials; Experimental mechanics; Theoretical and applied mechanics; Computational mechanics; Engineering science.

2019: Volume 71, 6 issues

ISSN: 0003-6900

eISSN: 2379-0407

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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.

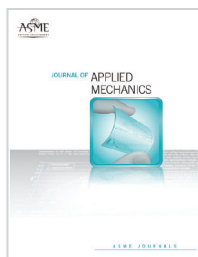
Scope: Risk and reliability analysis methods; Uncertainty analysis and quantification; Optimization under uncertainty; Computational methods; Applications areas including every aspect of mechanical engineering systems such as mechanical assets and infrastructure, materials and electromechanical systems,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

2019: Volume 5, 4 issues

ISSN: 2332-9017

eISSN: 2332-9025

risk.asmedigitalcollection.asme.org



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.

2019: Volume 86, 12 issues

ISSN: 0021-8936

eISSN: 1528-9036

appliedmechanics.asmedigitalcollection.asme.org



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, rigid, and flexible 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 and nonlinear problems occurring in aeronautical, biological, civil, electrical, marine, mechanical, physical, and structural systems.

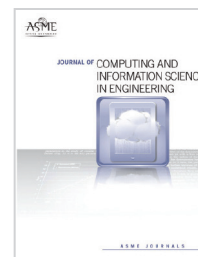
Scope: In the computational dynamics and multi-body system dynamics area, topics are as follow: Theoretical, computational, and experimental methods; Novel formulations and algorithms for computation of kinematics and dynamics of rigid and flexible systems; Application of finite element and finite difference methods in dynamics; Numerical approaches in synthesis, optimization, and control; Parallel computations and software development, etc. Topics in the nonlinear dynamics area are as follow: 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.

2019: Volume 14, 12 issues

ISSN: 1555-1415

eISSN: 1555-1423

computationalnonlinear.asmedigitalcollection.asme.org



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* 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.

2019: Volume 19, 4 issues

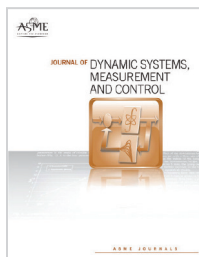
ISSN: 1530-9827

eISSN: 1944-7078

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Journal of Biomechanical Engineering

Refer to page 9 for information



Journal of Dynamic Systems, Measurement, and Control

Editor: Joseph Beaman, University of Texas at Austin, USA

The *Journal of Dynamic Systems, Measurement, and Control* publishes theoretical and applied original papers in the traditional areas implied by its name, as well as papers in interdisciplinary areas. Theoretical papers should present new theoretical developments and knowledge for controls 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 modeling, simulation of realistic systems, and corroboration of theory with emphasis on demonstrated practicality.

Scope: Adaptive and optimal control; Aerospace systems; Computer control; Distributed parameter systems and control; Energy systems and control; Expert systems and artificial intelligence; Fluid control systems; Instrumentation and components; Manufacturing technology; Mechatronics; Modeling and identification; Nonlinear systems and control; Power systems; Production systems; Real time control; Robotics; Servomechanics; Signal processing; Systems theory; Automotive and transportation systems; Uncertain systems; Robust control and biosystems.

2019: Volume 141, 12 issues

ISSN: 0022-0434

eISSN: 1528-9028

dynamicsystems.asmedigitalcollection.asme.org



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.

2019: Volume 16, 4 issues

ISSN: 2381-6872

eISSN: 2381-6910

electrochemical.asmedigitalcollection.asme.org



Journal of Electronic Packaging

Editor: Y. C. Lee, University of Colorado, Boulder, USA

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 4) 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.

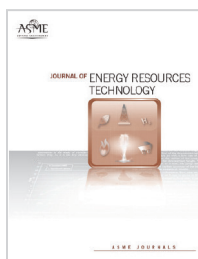
Scope: Electronic packaging; Thermal management; Applied mechanics; Microsystems packaging; Systems integration; Small scale systems in general.

2019: Volume 141, 4 issues

ISSN: 1043-7398

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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.

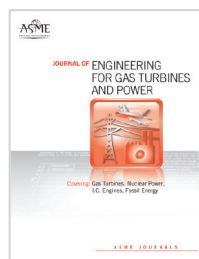
Scope: Specific areas of importance including, but not limited to: Fundamentals of thermodynamics such as energy, entropy and exergy, and laws of thermodynamics; Thermoeconomics; Alternative and renewable energy sources; Energy conversion processes such as chemical looping combustion, internal combustion 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.

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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 areas of gas and steam turbine technology, internal combustion engines, and fossil power generation. It covers a broad spectrum of topics that are of interest to both academia and industry.

Scope: Subject areas covered include: Propulsion and power generation components and systems; Gas and steam turbines; Energy conversion, thermodynamic cycles, and power plants; Internal combustion engines for automobiles, marine, rail, and power generation; Structures and dynamics; Bearings and seals; Oil and gas applications; Combustion, fuels, and emissions; Coal, biomass, and alternative fuels; CFD analyses; Product safety and life management; Controls, diagnostics, and instrumentation; Select heat transfer and thermal management topics; Thermodynamics; Fluid mechanics; Product life cycle and safety; Select nuclear reactor systems and components; Thermal hydraulics; Heat exchangers; Steam and hydro power generation; Advanced cycles for fossil energy generation; Pollution control and environmental effects.

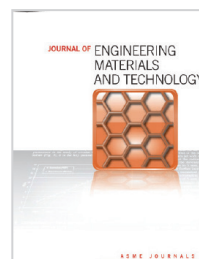
Specific topic areas include: Design, analysis, and operation of gas and steam turbines and their components; Aerodynamic and thermodynamic flow analyses of internal combustion engines; Fossil energy; High-temperature materials, coal, biomass, and alternative fuels; Cogeneration and combined cycles; Micro-turbines; Wind turbines; Oil and gas applications; Rotor balancing and vibration; Bearings and seals; Friction and wear; Fuel injection and sprays; Combustion and emissions technologies; HCCI engine combustion; Hybrid vehicle control; Advanced steam cycles; Thermal hydraulics CFD; Heat exchangers and cooling systems; Structural integrity and life cycle of power generation and aircraft engine systems; Controls, diagnostics, and advanced instrumentation; Steam generators and condensers.

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gasturbinespower.asmedigitalcollection.asme.org



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 for metals, polymers, ceramics, composites, biomaterials, and nanostructured materials.

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

2019: Volume 141, 4 issues

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materialstechnology.asmedigitalcollection.asme.org

NEW IN 2018

Journal of Engineering and Science in Medical Diagnostics and Therapy

Refer to page 9 for information



Journal of Fluids Engineering

Editors: Malcolm Andrews, Los Alamos National Laboratory, USA

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.

2019: Volume 141, 12 issues

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eISSN: 1528-901X

fluidsengineering.asmedigitalcollection.asme.org



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 focuses 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.

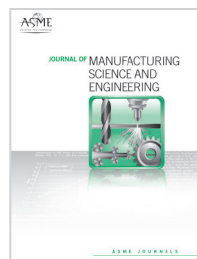
Scope: Topical areas including, but not limited to: Biological heat and mass transfer; Combustion and reactive flows; Conduction; Electronic and photonic cooling; Evaporation, boiling, and condensation; Experimental techniques; Forced convection; Heat exchanger fundamentals; Heat transfer enhancement; 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; Multi-phase processes; Microscale and nanoscale devices and processes.

2019: Volume 141, 12 issues

ISSN: 0022-1481

eISSN: 1528-8943

heattransfer.asmedigitalcollection.asme.org



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.

2019: Volume 141, 12 issues

ISSN: 1087-1357

eISSN: 1528-8935

manufacturingscience.asmedigitalcollection.asme.org



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 life cycle, 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.

2019: Volume 141, 12 issues

ISSN: 1050-0472

eISSN: 1528-9001

mechanicaldesign.asmedigitalcollection.asme.org



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.

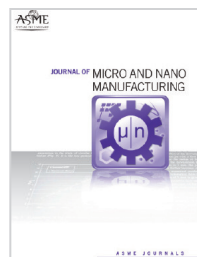
Scope: Fundamental theory, algorithms, design, manufacture, and experimental validation for macro-, micro- and nano-scaled mechanical systems and robots; Theoretical and applied kinematics; Mechanism synthesis and design; Analysis and design of robot manipulators, mobile robots, hands and legs, soft 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.

2019: Volume 11, 6 issues

ISSN: 1942-4302

eISSN: 1942-4310

mechanismsrobotics.asmedigitalcollection.asme.org



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 life-cycle 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 encouraged.

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; Life cycle analysis; Logistics and material handling related to micro- and nano-manufacturing.

2019: Volume 7, 4 issues

ISSN: 2166-0468

eISSN: 2166-0476

micronanomanufacturing.asmedigitalcollection.asme.org

Journal of Medical Devices

Refer to page 9 for information

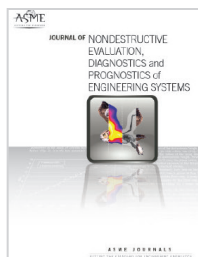


Journal of Nanotechnology in Engineering and Medicine

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
nanoengineeringmedical.asmedigitalcollection.asme.org



NEW IN 2018

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 will bring under one umbrella engineering and science disciplines contributing to NDE, SHM, and prognosis and feature 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 diagnostic 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.).

2019: Volume 2, 4 issues
ISSN: 2572-3901
eISSN: 2572-3898
nondestructive.asmedigitalcollection.asme.org



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 life cycle; 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.

2019: Volume 5, 4 issues
ISSN: 2332-8983
eISSN: 2332-8975
nuclearengineering.asmedigitalcollection.asme.org



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. It emphasizes fundamental research and development studies as well as review articles that offer either retrospective perspectives on well-established topics or exposures to innovative or novel developments. Case histories are not encouraged. The journal also documents significant developments in related fields and major accomplishments of renowned scientists by programming themed issues to record such events.

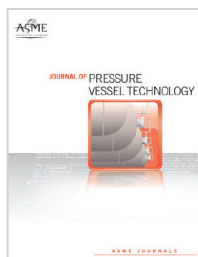
Scope: Offshore mechanics, drilling technology, and fixed and floating production systems; Ocean engineering, hydrodynamics, and ship motions; Ocean climate statistics, storms, extremes, and hurricanes; Structural mechanics; Safety, reliability, risk assessment, and uncertainty quantification; Riser mechanics, cable and mooring dynamics, and pipeline and subsea technology; Materials engineering, fatigue, fracture, welding technology, 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 and aquaculture engineering; Petroleum technology; Polar and arctic science and technology, ice mechanics, arctic drilling and exploration, arctic structures, ice-structure and ship interaction, permafrost engineering, arctic and thermal design.

2019: Volume 141, 6 issues

ISSN: 0892-7219

eISSN: 1528-896X

offshoremechanics.asmedigitalcollection.asme.org



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.*

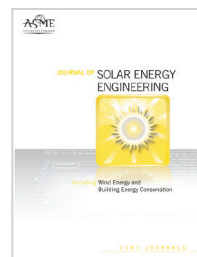
Scope: Applicable pressure technology areas of interest include: Dynamic and seismic analysis; Equipment qualification; Fabrication; Welding processes and integrity; Joining and fastening; Operation of vessels and piping; Fatigue and fracture prediction; Fluid-structure interaction; High pressure engineering; 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.

2019: Volume 141, 6 issues

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Journal of Solar Energy Engineering

Editor: Robert F. Boehm, University of Nevada, Las Vegas, 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.

2019: Volume 141, 6 issues

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solarenergyengineering.asmedigitalcollection.asme.org



Journal of Thermal Science and Engineering Applications

Editor: S.A. Sherif, University of Florida, 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. It complements the *Journal of Heat Transfer*, which focuses on fundamental research. 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.

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.

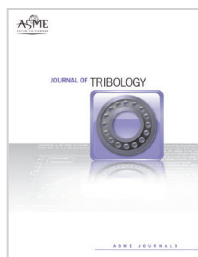
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Journal of Tribology

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.

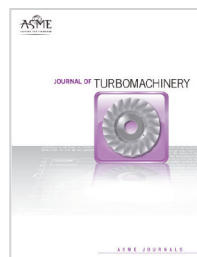
INCREASED FREQUENCY IN 2019

2019: Volume 141, 12 issues

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Journal of Turbomachinery

Editor: Kenneth C. Hall, Duke University, USA

The *Journal of Turbomachinery* publishes archival quality, peer-reviewed technical papers that advance the state of the art of turbomachinery technology related to gas turbine engines. The broad scope of the subject matter includes fluid dynamics, heat transfer, and aeromechanics technology associated with the design, analysis, modeling, testing, and performance of turbomachinery. Emphasis is placed on gas-path technologies associated with axial compressors, centrifugal compressors, and turbines.

Scope: Aerodynamic design, analysis, and testing of compressor and turbine blading; Compressor stall, surge, and operability issues; Heat transfer phenomena and film cooling design, analysis, and testing in turbines; Aeromechanical instabilities; Computational fluid dynamics (CFD) applied to turbomachinery, boundary layer development, measurement techniques, and cavity and leaking flows.

2019: Volume 141, 12 issues

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turbomachinery.asmedigitalcollection.asme.org



Journal of Verification, Validation and Uncertainty Quantification

Editor: Ashley F. Emery, University of Washington, USA

The *Journal of Verification, Validation and Uncertainty Quantification* (JVUQ) disseminates original and applied research, illustrative examples, and high quality validation experimental data as applied to: design of experiments; computational models; and analysis of experimental results. The journal is cross cutting and serves an audience of engineers and scientists. It provides special issues featuring challenge problems and discipline-specific applications.

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.

2019: Volume 4, 4 issues

ISSN: 2377-2158

eISSN: 2377-2166

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Journal of Vibration and Acoustics

Editor: I.Y. (Steve) Shen, University of Washington, 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.

2019: Volume 141, 6 issues

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eISSN: 1528-8927

vibrationacoustics.asmedigitalcollection.asme.org

NEW TO THE ASME DIGITAL COLLECTION



Mechanical Engineering Magazine Select Articles

Editor: John G. Falcioni, ASME, USA

Mechanical Engineering® magazine is the award-winning monthly 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 now available on The ASME Digital Collection as *Mechanical Engineering Magazine Select Articles*.

eISSN: 1943-5649

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ASME CONFERENCE PROCEEDINGS

ASME sponsors between 20-30 conferences per year and publishes approximately 100 peer-reviewed proceedings volumes annually. Conference topics encompass the entire spectrum of subject areas of interest to mechanical engineers and associated disciplines.

The ASME Digital Collection offers the complete compendium of available Conference Proceedings published from 2000 – to present, plus select proceedings back to 1955. All Conference Proceedings papers are organized into topic collections, listed here on the following pages. The ASME Conference Proceedings are also available in print.

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- More than **1,500** volumes
- Over **132,000** papers
- More than **1 million** pages

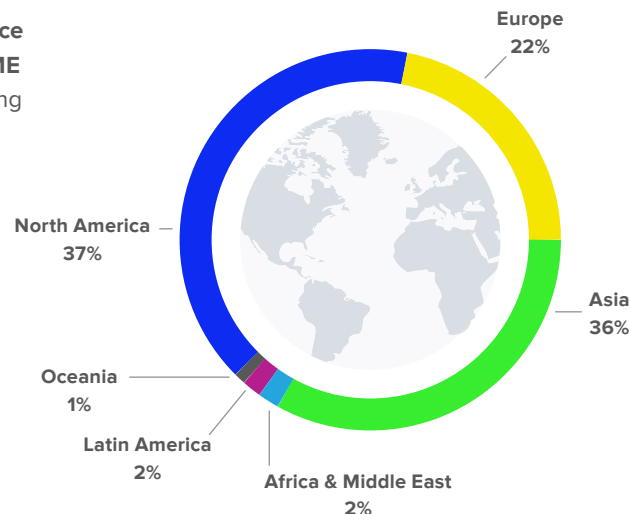
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In 2017, close to 20,500 conference authors presented papers at ASME conferences reflecting the following geographic distribution:



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INTERDISCIPLINARY



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, and fluids, acoustics, micro- and nanosystems, transportation, and emerging technologies.

(Content from 2002 to current year as becomes available)

AEROSPACE

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)

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)

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

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)



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)

DYNAMIC SYSTEMS AND CONTROL

Dynamic Systems and Control Conference (DSCC)

Conference Proceedings of 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)

FLEXIBLE AUTOMATION

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, renewable energy systems, etc.

(Content for 2012)

FLUID POWER SYSTEMS AND TECHNOLOGY

Fluid Power and Motion Control (FPMC)

Proceedings from this FPMC Conference 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)

This 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. [\(Content for 2014 and 2016\)](#)

FLUIDS ENGINEERING

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. [\(Content for 2011 and 2015\)](#)

Fluids Engineering Division Summer Meeting (FEDSM)

Proceedings of the FEDSM Conference 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

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 perspectives to include a broad range of time scales (from ultra-rapid to long term) and length scales (from nanoscale to global). [\(Content for 2011\)](#)

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. [\(Content from 2003-2005, 2007-2009, 2012-2013, and 2016-2017\)](#)

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. [\(Content for 2010\)](#)

INFORMATION STORAGE AND PROCESSING SYSTEMS

Information Storage and Processing Systems (ISPS)

Papers presented cover interdisciplinary research and application topics related to information storage and processing systems. [\(Content from 2013-2014 and 2016-2017\)](#)

INTERNAL COMBUSTION ENGINE

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 Conference feature technical papers focused on the design, development, and application of compression-ignition, spark ignition, rotary, and reciprocating engines. [\(Content from 2002-2003, 2005-2009, and 2012\)](#)

MANUFACTURING

International Manufacturing Science and Engineering Conference (MSEC)

Proceedings of the MSEC Conference highlight cutting-edge manufacturing research in materials, processing, properties, applications and systems, and micro- and nanotechnologies. [\(Content from 2006 to current year as becomes available\)](#)

MATERIALS SYSTEMS AND ADAPTIVE STRUCTURES

Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS)

Proceedings of the SMASIS Conference 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

Energy Nanotechnology International Conference (ENIC)

Papers from this ENIC Conference cover state-of-the-art research and development in energy-related materials, nanoscale phenomena, devices, systems, manufacturing, and commercialization. [\(Content for 2007 and 2008\)](#)

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)

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 Conference 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, and 2016)

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

Technical papers presented at this ICNMM Conference 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)

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)

NOISE CONTROL AND ACOUSTICS

Noise Control and Acoustics Division Conference (NCAD)

Devoted solely to noise control and acoustics, proceedings of the NCAD Conference highlight the latest research in this emerging field.

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

NUCLEAR ENERGY AND TECHNOLOGY

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 Conference 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)

OCEAN, OFFSHORE, AND ARCTIC ENGINEERING



International Conference on Ocean, Offshore, and Arctic Engineering (OMAE)

Proceedings of the OMAE Conference 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)

PIPELINE ENGINEERING

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)

International Pipeline Conference (IPG)

Papers from the IPC Conference 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)

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, and 2017/biennial)

POWER AND ENERGY

Energy Sustainability (ES)

Proceedings of the Energy Sustainability Conference 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 are featured. (Content for 2002)

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 Conference cover topics in solar and other renewable energy, fuel cells, and advanced energy technologies. (Content from 2003 to current year as becomes available/excludes 2007)

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 Solar Energy Conference (ISEC)

Technical papers from the ISEC Conference 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 Conference cover topics related to municipal waste-to-energy, combustion engineering science, and emerging waste conversion and processing technologies. (Content from 2002-2013)

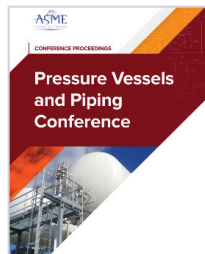
Power Conference (POWER)

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)

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 VESSELS AND PIPING



Pressure Vessels and Piping Conference (PVP)

Proceedings of the PVP Conference 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)

RAIL TRANSPORTATION

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 2002 to current year as becomes available)

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)

TRIBOLOGY

International Joint Tribology Conference (IJTC)

Proceedings of the IJTC Conference 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)

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)

TURBOMACHINERY

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)

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: Turbomachinery Technical Conference and Exposition (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)

VIRTUAL REALITY

World Conference on Innovative Virtual Reality (WINVR)

Proceedings of the WINVR Conference 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)

WATER

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)

NEW CONTENT

PUBLIC ACCESS CONFERENCE PROCEEDINGS

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/biennial as becomes available)

ASME/NRC Pump and Valve Symposium (PVS)

PVS presents comprehensive coverage of the latest issues, technology developments, and research in the preservice and inservice testing of nuclear power plants and components and how these developments are being considered by the ASME/NRC O&M Code Committees.

(Content from 2000-2008/biennial; 2011-2017/triennial as becomes available)

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)

ASME-USCG Workshop on Marine Technology and Standards (USCGMT)

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)

ASME EBOOKS

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.

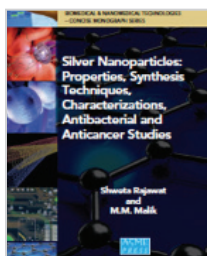
The **ASME eBook collection** offers **over 200 recent and classic ASME eBooks**, with selected titles going back to the 1990s.

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- Pressure Vessels and Piping
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FOCUS ON...BIOMEDICAL ENGINEERING EBOOKS



Silver Nanoparticles: Properties, Synthesis Techniques, Characterizations, Antibacterial and Anticancer Studies

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.

ISBN: 9780791860458 (2018)

Applications of Mathematical Heat Transfer and Fluid Flow Models in Engineering and Medicine

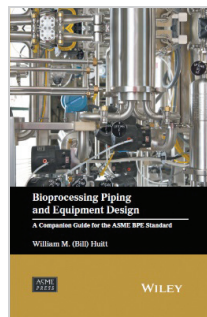
This book presents innovative efficient methods in fluid flow and heat transfer developed and widely used over the last fifty years. The analysis is focused on mathematical models that are an essential part of any research effort as they demonstrate the validity of the results obtained.

ISBN: 9781119320562 (2017)

High Frequency Piezo-Composite Micromachined Ultrasound Transducer Array Technology for Biomedical Imaging

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

ISBN: 9780791860441 (2017)



Bioprocessing Piping and Equipment Design: A Companion Guide for the ASME BPE Standard

This is a companion guide to the ASME Bioprocessing Piping and Equipment (BPE) Standard and explains what lies behind many of the requirements and recommendations within that industry standard.

ISBN: 9781119284239 (2016)

MORE ASME EBOOKS

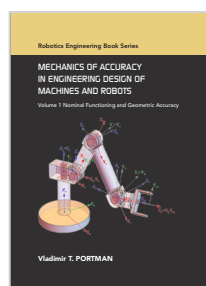
2018



Companion Guide to the ASME Boiler & Pressure Vessel and Piping Codes, Fifth Edition, Two-Volume Set

This fully updated and revised fifth edition of this classic reference work is current to the latest ASME BPV Code release. It is available in a convenient two-volume format that focuses on all twelve sections of the ASME Code, as well as relevant piping codes.

ISBN: 9780791861295



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

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

2017

Advanced Energy Efficient Building Envelope Systems

This monograph presents the latest research developments in innovative building envelope systems. These systems have the ability to allow building structures to be responsive to changes in outdoor conditions to ensure a comfortable indoor environment at higher energy efficiency compared to conventional systems.

ISBN: 9780791861370

Combined Cooling, Heating, and Power Systems: Modelling Optimization, and Operation

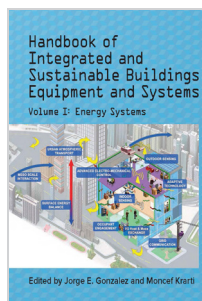
This book is a comprehensive review of state-of-the-art CCHP modeling, optimization, and operation theory and practice. It was written by an international author team at the forefront of combined cooling, heating, and power (CCHP) systems R&D.

ISBN: 9781119283355

Consensus on Pre-Commissioning Stages for Cogeneration and Combined Cycle Power Plants

This publication is an important adjunct to several previously published documents prepared to inform, educate, and assist the reader in adequately considering and planning for the many major activities involved in the design, construction, and start-up of cogeneration and combined cycle power plants.

ISBN: 9780791861264



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

This handbook is a direct result of an ASME initiative on Integrated/Sustainable Building Equipment and Systems (ISBES), with the objective of filling voids in the literature and motivating advances on integrated mechanical systems for sustainable buildings.

ISBN: 9780791861271

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, includes 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.

ISBN: 9780791861387

Nuclear Reactor Thermal-Hydraulics: Past, Present and Future

This monograph summarizes the major developments on nuclear reactor thermal-hydraulics over the last fifty years, primarily for the water-cooled reactors, and provides a direction for the future thermal-hydraulic developments for water-cooled, including small modular reactors or SMR, and Generation IV reactors.

ISBN: 9780791861288

Risk Importance Measures in the Design and Operation of Nuclear Power Plants

In using risk-informed approaches for ensuring safety of operating nuclear power plants (NPPs), risk importance measures obtained from probabilistic risk assessments (PRAs) of the plants are integral elements of consideration in many cases. Obtaining these measures in appropriate forms is helpful for decision makers and can facilitate the use of risk information.

ISBN: 9780791861394

Robot Manipulator Redundancy Resolution

This book describes a novel quadratic programming approach to solving redundancy resolution 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

Stress in ASME Pressure Vessels, Boilers, and Nuclear Components

A revised and updated edition of the classic text, *Design of Plate and Shell Structures*. This important resource offers engineers and students a text that covers the complexities involved in stress loads and design of plates and shell components in compliance with pressure vessel, boiler, and nuclear standards.

ISBN: 9781119259282

Ultrasonic Welding of Lithium-Ion Batteries

This book contributes to the knowledge base underpinning ultrasonic metal welding (USMW), particularly for the manufacturing of lithium-ion (li-ion) battery cells, modules, and packs as used in electric vehicles. The contributors represent a team of leading experts in the field.

ISBN: 9780791861257

2016

MOST ACCESSED!

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).

ISBN: 9780791861080

Basic Principles and Potential Applications of Holographic Microwave Imaging

This monograph offers comprehensive descriptions of the most important principles so far proposed for far-field holographic microwave imaging – including reconstruction procedures and imaging systems and apparatus – enabling the reader to use microwaves for diagnostic purposes in a wide range of applications.

ISBN: 9780791860434

Commentary on Article CC-3000 Design

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.

ISBN: 9780791861066

Design of Human Powered Vehicles

Human-Powered Vehicles can provide affordable, sustainable, and healthy transportation to people around the globe.

ISBN: 9780791861103

Design of Mechanical Bearings in Cardiac Assist Devices

This monograph provides an overview of basic principles that are important for design and evaluation of mechanical bearings used in blood pumps, with a primary focus on mechanical bearings used in the second and third generation ventricular assist devices (VADs). The book begins with a general introduction of some basic principles that are important for the design of mechanical bearings.

ISBN: 9780791860427

Foreign Corrupt Practices Act: Fundamentals and Practices

This expert guide to the Foreign Corrupt Practices Act (FCPA) provides a brief overview and history of the FCPA, while also describing the fundamental purpose and requirements of the law.

ISBN: 9780791861233

Fundamentals of Mechanical Vibrations

This introductory book covers the most fundamental aspects of linear vibration analysis for mechanical engineering students and engineers.

ISBN: 97811119050124

Geothermal Heat Pump and Heat Engine Systems: Theory and Practice

This book takes a unique, holistic approach to the interdisciplinary study of geothermal energy systems, combining low, medium, and high temperature applications into a logical order. The emphasis is on the concept that all geothermal projects contain common elements of a “thermal energy reservoir” that must be properly designed and managed.

ISBN: 9781118961940

Global Applications of the ASME Boiler & Pressure Vessel Code

This book addresses Global Applications of the ASME B&PV Code. It not only updates information presented in 16 chapters of the third volume of the third edition of the Companion Guide, but also has five additional chapters selected for their unique features of ASME Boiler and Pressure Vessel Codes used internationally. Five sections address Global Applications of ASME B&PV Codes and Standards.

ISBN: 9780791861073

Integration of Renewable Energy Systems

Renewable energy technologies used on buildings include daylighting; solar photovoltaics; solar water heating; solar ventilation air preheating; passive solar heating and cooling load avoidance; wind power; biomass heat (or cogeneration) anaerobic digestion of waste; and geothermal heat. Ground source heat pumps are also often considered, in-part, as RE systems.

ISBN: 9780791861240

Introduction to Dynamics and Control in Mechanical Engineering Systems

An introductory textbook covers dynamics and controls of engineering systems, with particular focus on mechanical engineering systems.

ISBN: 9781118934920

Nonlinear Regression Modeling for Engineering Applications: Modeling, Model Validation, and Enabling Design of Experiments

This book details methods of nonlinear regression, computational algorithms, model validation, interpretation of residuals, and useful experimental design. The focus is on practical applications, with relevant methods supported by fundamental analysis.

ISBN: 9781118597965

Pipeline Integrity Management Systems: A Practical Approach

The key for success of Pipeline Integrity Management resides in the dynamic linkage and interaction between a management system (MS) and an Integrity Management Program (IMP), known as a Pipeline Integrity Management System (PIMS), for continuously improving pipeline integrity and sustaining risk reduction.

ISBN: 9780791861110

Thermal Management of Microelectronic Equipment, Second Edition

This Second Edition of this classic text is fully updated and greatly expanded, with in-depth revisions that include advancements in the component technology of microelectronics. The most noticeable update is the addition of an entirely new chapter on microwave modules and gallium arsenide (GaAs) chips, which have seldom been discussed in textbooks or publications in the area of thermal management of electronic equipment. The book provides the fundamentals along with a step-by-step analysis approach to engineering, making it an indispensable reference volume.

ISBN: 9780791861097

2015

Biopolymers Based Micro- and Nano-Materials

This monograph addresses the source and production methods of biopolymers, properties of biopolymers, preparation of micro- and nanomaterials using biopolymers, characterization of micro- and nano-biomaterials, and application of micro- and nano-biomaterials.

ISBN: 9780791860403

MOST ACCESSED!

Designs and Prototypes of Mobile Robots

For several decades now, mobile robots have been integral to the development of new robotic systems for new applications, even in non-technical areas. The companion volume for this book, *Mobile Robots for Dynamic Environments*, is available separately.

ISBN: 9780791860472

Engineering the Everyday and the Extraordinary: Milestones in Innovation

Engineering the Everyday and the Extraordinary celebrates engineering achievements and their impact on everyday life.

ISBN: 9780791860489

Lean Engineering Education: Driving Content and Competency Mastery

This book presents, for the first time, an outside-in lean engineering perspective of how this commonly accepted and widely practiced and adapted engineering perspective can shape the direction in which the engineers of the future are trained and educated.

ISBN: 9780791860502

Magnetic Bearings for Mechanical Cardiac Assist Devices

In this book, magnetic bearings and their application in ventricular assist devices (VADs) are introduced. First, the operating principles of magnetic bearings are introduced. Typical structures of passive bearings, which are comprised solely of permanent magnets, and active magnetic bearings (AMB), which make use of electromagnets and position sensors to control the position of the rotor, are described.

ISBN: 9780791860410

Mechanical Blood Trauma in Circulatory-Assist Devices

Mechanical cardiovascular assist devices must be properly designed to avoid damage to the blood with which they come in contact. The various preclinical designs and testing, surgical considerations, available surveillance techniques, and clinical consequences are discussed using recent and historical case reports to highlight key points.

ISBN: 9780791860397

Mobile Robots for Dynamic Environments

For several decades now, mobile robots have been integral to the development of new robotic systems for new applications, even in non-technical areas. The companion volume for this book, *Designs and Prototypes of Mobile Robots*, is available separately.

ISBN: 9780791860526

Modified Detrended Fluctuation Analysis (mDFA)

The ultimate aim of this study is to make detrended fluctuation analysis (DFA) useful for everyone. It introduces a practical method for making a device that can check cyclic rhythm in nature, such as the heartbeat. This book presents empirical evidence revealed by a modified DFA (mDFA).

ISBN: 9780791860380

Policy Instruments and Co-Regulation for the Sustainability of Value Chains

This publication describes several examples of policy instruments that improve the sustainability of value chains. The main part of this publication discusses the potential of co-regulation (combination of public policy instruments with private control mechanisms such as sustainability certification) for global value chains such as food, forestry, and bioenergy.

ISBN: 9780791860519

Supplement to Fluid Mechanics, Water Hammer, Dynamic Stresses, and Piping Design

This Addendum includes recommended additions and corrections to the original text, which was published by ASME Press in 2013. The original text was extensively reviewed and revised and prior to publication the Addendum was used to teach four classes of engineers at SRS.

ISBN: 9780791860496

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