RAMS 2022

The Annual Reliability and Maintainability Symposium
January 24-27, 2022
Hilton El Conquistador Resort, Tucson, Arizona

RAMS® 2022 CALL FOR PAPERS & TUTORIALS

Theme: *"Opportunities for Machine Learning in R&M"*

ABSTRACT SUBMISSION DEADLINE — Friday, April 16, 2021

The 68th Annual Reliability & Maintainability Symposium (RAMS®) will be held at the Hilton El Conquistador Resort, Tucson, Arizona during the week of January 24–27, 2022. The theme for RAMS® 2022 is "Opportunities for Machine Learning in R&M". With the advent and emergence of significant data availability for fielded equipment. Reliability assessment can now be accomplished through the collection and timely analysis of equipment-specific field data and health monitoring systems. Engaging advanced techniques, such as machine learning and other advanced analytics, with these data sets enable the state-of-the-art to evolve to a much more proactive, effective, and cost-efficient reliability management approach.

With this in mind, we invite you to share your theoretical or practical findings of your research, engineering case studies, success stories, lessons learned, R&M based analyses and simulations, or R&M discoveries at RAMS® 2022 Tucson. Tell us how you are designing, optimizing, and supporting systems (both hardware and software) through the execution of RAMS® disciplines. RAMS® is the premier forum for sharing your experience, knowledge, and road maps to success. Make your contribution to the advancement of the RAMS disciplines and enjoy participating in the rich exchange of ideas and solutions. We want you to contribute your unique experience to our synergistic symposium sponsored by eight professional societies. Start planning to submit your paper or tutorial now.

RAMS® seeks to provide a mix of papers and tutorials. Papers are the best medium to document advancements in the state-of-the-art research, and those accepted after being properly peer reviewed will be published. A short technical presentation with discussion period (approximately half an hour) will be given for each paper. It is the policy of RAMS® to publish all papers presented at RAMS® in IEEE Xplore. Tutorials provide exposure to more fundamental topics. Their technical depth ranges from introductory to advanced. Tutorials are presented in two-hour in-depth sessions. Examples of the most recent written papers and tutorials are available in the 2021 Proceedings and the 2021 Tutorial Notes. The process for presenting a paper or tutorial at RAMS® 2022 begins with your submission of an abstract. Your submittal should address topics pertinent to Reliability and Maintainability and that are relevant to our theme. Abstract topics are:

- Accelerated Life Testing
- Autonomous Systems and AI Availability
- Big Data and IoT Applications in R&M
- Business Process Improvement
- Design Optimization Using R&M Techniques
- Discrete Event Modeling & Simulation
- Economic Models for R&M Equipment
- Diagnostics and Prognostics
- FMEA
- Fault Tolerance and Safety Critical Systems
- Fault Tree Analysis

- Human Reliability
- Knowledge Based Training
- Life Data Analysis
- Maintenance Models and Methodologies
- Physical Reliability Models
- Prognostics and Health Management
- Quality Appl. in Electronics Design & Mfg.
- R&M Applications in Aerospace
- R&M Applications in Health Care
- R&M Applications in Infrastructure Management
- R&M Applications in Manufacturing
- R&M Applications in Service

- R&M Applications in Supportability
- R&M and Quality Appl. in Communications Design & Mfg.
- R&M Management
- Reliability Modeling
- Reliability Growth Analysis
- Repairable Systems
- Risk Analysis and Management
- Security and Dependability Analysis
- Software Reliability and Testing
- Software Safety
- System Safety Analysis
- Warranty Data Analysis and Management

If you wish to present a paper or tutorial at RAMS® 2022, now is the time to begin your preparation. To have your paper or tutorial considered, you must first submit an abstract describing the paper or tutorial. The paper must represent your original work and should not be published or presented in any other journals or conferences. Tutorials must address key areas of broad interest in reliability and maintainability engineering.

Abstracts must be submitted via rams.org and the abstract submission process will be available from March 1, 2021, until April 16, 2021.

To submit an abstract for a paper or tutorial, an author must provide the following:
- A title of no more than 80 characters
- An abstract (all text—no equations, figures, or tables) of no more than 1000 words
- Names and contact information for all authors
- An indication of which author will present the paper (if it is accepted for the Symposium)
- Relevant topic areas for their abstract (from the list on the previous page of this Call for Papers)

The name(s) of the author(s) should not be included in either the title or in the abstract.

Authors will also be asked to indicate if any authors are full-time students (to assess qualification for the RAMS® student paper award), and to which (if any) of the nine RAMS® sponsoring societies each author belongs. Membership in a RAMS® sponsoring society is not required for acceptance. Each author can submit no more than four paper abstracts and no more than four tutorial abstracts for consideration. Authors cannot be added to a paper or tutorial after the abstract submission deadline.

The abstract submission procedure for papers and tutorials is the same with the following exceptions: they both use different links to upload the abstracts, each paper can have no more than four authors and each tutorial can have no more than two authors. Upon receipt of your abstract, you will receive a confirmation e-mail from RAMS® that your abstract was received. Therefore, it is critical that all authors provide and maintain a valid e-mail address that can accept e-mails. If an author moves or changes addresses, the author must provide their new contact information to the RAMS® Program Committee.

Note that all correspondence regarding papers and tutorials will be sent to the e-mail address of the author who submits the abstract.

Review Procedure for Abstracts and Associated Papers

In May 2021, the RAMS® Program Committee selects abstracts that will proceed to develop draft/candidate papers and tutorials. Selections are based on innovativeness, technical merit, clarity, and relevance to the Symposium theme and topics listed previously. Authors will be notified of abstract approval in June 2021. Authors are required to submit complete drafts of both the paper and presentation slides by the end of July 2021. Draft or candidate papers shall be submitted without author identification on the paper in order to accommodate a blind peer review. The specific requirements for papers and presentation slides will be communicated to authors in a timely fashion. Submitted draft papers will be subjected to review by the Program Committee and RAMS® Editorial Board. The draft papers will also be submitted to IEEE CrossCheck plagiarism detection tool. Authors will be given feedback on their draft papers and presentation slides by the end of August 2020 with follow on additional editorial changes as necessary.

Final paper and presentation slides are due by the end of September 2021. Final papers will be reviewed by both the Program Committee and the RAMS® Proceedings Editor. At this time, authors must also complete a RAMS® Copyright Form, and at least one author of papers must register (at a reduced fee) for the Symposium.

By submitting an abstract for a paper, the author is accepting the condition that a paper may be rejected at any time if the Program Committee determines that the author is failing to comply with RAMS® deadlines or policies, or if the Program Committee determines that the content of the paper is not of sufficient quality to merit publication in the Proceedings. For more information contact the Program Chair at programs@rams.org. The author is accepting the condition that if their paper is ultimately accepted into the Proceedings, at least one author on the paper will attend the Symposium, and present the paper at the Symposium in reasonably fluent English.

Review Procedure for Tutorials

The review procedure for tutorials is identical to the review procedure for papers except that they are reviewed by a Tutorial Committee and are not subjected to a blind review. Authors of accepted tutorials receive gratis registration for Symposium. For more information, contact the Tutorials Chair, at tutorials@rams.org.

By *submitting an abstract for a tutorial*, the author is accepting the condition that if their tutorial is ultimately accepted for the Symposium, the author and/or co-author will attend the Symposium and deliver the tutorial at the Symposium in reasonably fluent English.