

5th IFAC Workshop on

Advanced Maintenance Engineering, Services and Technology

CALL FOR PAPERS



amest2022.uniandes.edu.co



amest@uniandes.edu.co

Smart and Connected Maintenance: from Local Retrofitting to Global Services in Maintenance and Asset Care Management

Industry 4.0 technologies drive organizations to adopt innovative business and service models, tightly linked with data-driven value creation approaches, exploiting the use of descriptive, predictive, and prescriptive analytics to shield the resilience and integrity of industrial systems and maximize the value extracted from assets across their lifecycle. Thanks to the increasing availability and penetration of such technologies at ever-lowering costs, this value-enhancing activity is not only relevant to new smart assets, but it is also highly applicable to “smart retrofitted” assets during their lifecycle.

The 5th IFAC AMEST’22 will bring together international experts from academia and industry to present and debate the latest advances in the Engineering and Management of Maintenance Systems and Services, and their impact on reliability, maintenance and asset management. The workshop will cover a broad range of

research and application topics exploring the role of data-driven maintenance and asset management within the domains of manufacturing and infrastructure. One of the highlights of the 1st IFAC AMEST Workshop to be hosted in Latin America will be “Smart Retrofitting” since it addresses real needs expressed by organizations of all sizes - particularly SME managers - facing decisions on whether to acquire new smart assets or conduct a smart retrofit of their legacy equipment to take advantage of Smart Maintenance opportunities, within tight budgets.

This workshop is sponsored by IFAC TC 5.1 and is co-sponsored by TC 5.2, 5.3 and 6.4. The workshop is also supported by the International Federation for Information Processing (IFIP), the European Safety and Reliability Association (ESRA), Prognostics and Health Management Society (PHM Society) and the Sociedade Brasileira de Automatica (SBA).

Topics

- Artificial Intelligence in Maintenance
- Asset Lifecycle Management
- Asset Modernization
- Asset Upgrade
- Condition-based Maintenance
- Condition Monitoring
- Cyber-Physical Systems
- Deteriorating Modeling
- Data-Driven Decision-making
- Data and Knowledge-drive Maintenance
- Diagnostics and Prognostics
- Digital Twins for Assets Management
- Industrial Internet of Things
- Integrated Maintenance and Production Systems
- Intelligent Maintenance Systems
- Interoperability
- Logistics and Maintenance Systems
- Low-cost Monitoring Approaches
- Maintenance Strategies
- Maintenance Decision Support Systems
- New Business Models for Maintenance Services
- Predictive Maintenance
- Resilience based Maintenance
- Services for Maintenance and Asset Lifecycle Management
- Simulation and Optimization in Maintenance
- Smart Assets Lifecycle Management
- Smart Retrofitting
- Women in Maintenance and Asset Lifecycle Management
- Human-centered Smart Maintenance

- We also invite proposals for invited sessions aligned to the above topics. -

Important Dates

30th November 2021: Deadline for invited session proposal submission

31st January 2022: Draft paper submission

28th February 2022: Authors notification

28th March 2022: Final paper submission

24th April 2022: Early bird registration

26-29th July 2022: Workshop

IFAC WG AMEST

The IFAC Working Group (WG) on Advanced Maintenance Engineering, Services and Technologies (AMEST) promotes interdisciplinary approaches in maintenance development, leveraging on a blend of technology, engineering and management methodologies to provide decisive contribution to production enterprises' business goals. It focuses on the design, management and improvement of advanced maintenance systems considering different interconnected and emerging engineering methodologies and technologies. It fosters the

importance of maintenance services and new business models, capitalising on the integration and advancement of Industry 4.0 technologies adoption in production plants, together with the establishment of new management approaches. Overall, blending technology, engineering and management is a relevant means in order "to go beyond", by implementation of proactive strategies not only focused on maintenance objectives but also on the objectives of environmental protection, wealth and safety of people.

A separate registration (regular or student or industry) is required for each accepted paper to be included in the conference proceedings.

IN PERSON PARTICIPATION

	Early Bird (USD)	Regular (USD)	Without Contribution (USD)
Standard*	\$500	\$600	\$300
Student *	\$300	\$350	\$250
Industry*	\$350	\$400	\$300

- 25% discount on all registration fees for Latin America and third world countries. -

- 10% discount on the regular fee for IFAC, IFIP, SBA and ESRA members -

- Prices are relatives to a face-to-face workshop. In case of changes in the workshop modality due to the pandemic situation, prices will be adjusted. -

VIRTUAL PARTICIPATION

	Early Bird (USD)	Regular (USD)	Without Contribution (USD)
Standard-Industry	\$300	\$350	\$250
Student	\$250	\$300	\$200

Organizing Committee

Chair: Giacomo Barbieri, *Universidad de los Andes*

Co-Chair: David Romero, *Tecnológico de Monterrey*

Vice-Chair: Carlos Mortera, *Association for Manufacturing Technology*

Editor: Sepideh Abolghasem, *Universidad de los Andes*

International Program Committee

Chair: Christos Emmanouilidis, *University of Groningen*

Co-Chair: Ajith Kumar Parlikad, *University of Cambridge*

Vice-Chair: Larissa Nunes, *Siemens Digital Industries Software*

- D. Acuña, *Chile*
- B. Al-Najjar, *Sweden*
- A. Arata, *Chile*
- O. Aviles, *Colombia*
- G. Barbieri, *Colombia*
- L. Benoît, *France*
- C. Bérenguer, *France*
- C. Carnero, *Spain*
- S. Cavaliere, *Italy*
- M. Cerrada, *Ecuador*
- A. Chelbi, *Tunisia*
- Y. Cohen, *Israel*
- A. Crespo, *Spain*

- L. A. Cruz, *Colombia*
- P. Dehombreux, *Belgium*
- A. Dolgui, *France*
- O. Duran, *Chile*
- P. Eigi, *Brazil*
- Å. Fast-Berglund, *Sweden*
- L. Fumagalli, *Italy*
- K. Garces, *Colombia*
- F. Kristjanpoller, *Chile*
- A. Kusiak, *USA*
- O. Lanes, *Cuba*

- J. Lee, *USA*
- P. Leitao, *Portugal*
- Li Li, *China*
- F. Longo, *Italy*
- M. Macchi, *Italy*
- S. Makris, *Greece*
- K. Medjaher, *France*
- C. Mortera, *Mexico*
- E. Negri, *Italy*
- S. Nof, *USA*
- M. L. Pan, *Argentina*
- C. Parra, *Panama*

- F. Pellati, *Italy*
- C. Pereira, *Brazil*
- F. Pérès, *France*
- H. Pham, *USA*
- L. Quintero, *Colombia*
- R. Quiza, *Cuba*
- R. Rabelo, *Brazil*
- I. Roda, *Italy*
- D. Romero, *Mexico*
- L. Ruiz-Huerta, *Mexico*
- R. Sanchez, *Ecuador*
- J. Sierra, *Colombia*

- S. Silva, *Brazil*
- A. Silvestri, *Argentina*
- J. Szpytko, *Poland*
- R. Tarantino, *Colombia*
- A. Tchangani, *France*
- F. Torres, *Spain*
- N. Trapani, *Italy*
- D. Trentesaux, *France*
- R. Vazquez, *Colombia*
- C. Verde, *Mexico*
- G. Weichhart, *Austria*
- F. Yalaoui, *France*

Paper Submission

The working language of IFAC AMEST'22 is English. The material submitted must be original, not published or being considered elsewhere. The papers are limited to 6 pages formatted in the standard two-column IFAC proceedings format. All articles undergo a rigorous reviewing process by anonymous and independent reviewers.

[SUBMIT A PAPER](#)

[AUTHOR GUIDE](#)

Invited Sessions

Invited sessions consist of papers focusing on targeted subjects and presenting a unifying theme. Invited session organizers should submit an abstract that summarizes the aim and the content of the invited session. Furthermore, 5 papers (title and at least one author) that will be submitted in the invited session must be listed.

Journals

The presented papers will be further screened for possible publication in the following journals: Annual Reviews in Control, Computers in Industry, Sustainability, Journal of Risk and Reliability. All papers presented by registered authors will be recorded as an IFAC Publication (IFAC-PapersOnLine).

Industry Abstract

We are seeking abstracts (up to 2 pages) from industry practitioners that illustrate innovative digital and retrofitted solutions, their implementation, the journey towards digitalization, as well as challenges and opportunities in the area of maintenance and asset management.

IFAC Copyright Policy

All publication material submitted for presentation at an IFAC-sponsored meeting (Congress, Symposium, Conference, Workshop) must be original and hence cannot be already published, nor can it be under review elsewhere. The authors take responsibility for the material that has been submitted. IFAC-sponsored conferences will abide by the highest standard of ethical behavior in the review process as explained on the Elsevier webpage (<https://www.elsevier.com/athors/-journal-authors/policies-and-ethics>), and the authors will abide by the IFAC publication ethics guidelines (<https://www.ifac-control.org/events/organizers-guide/PublicationEthicsGuidelines.pdf/view>)

Accepted papers that have been presented at an IFAC meeting will be published in the proceedings of the event using the open-access IFAC-PapersOnLine series hosted on ScienceDirect (<https://sciencedirect.com/>). To this end, the author(s) must confer the copyright to IFAC when they submit the final version of the paper through the paper submission process. The author(s) retain the right to use a copy of the paper for personal use, internal institutional use at the author(s) institution, or scholarly posting at an open website operated by the author(s) or their institution, limited to noncommercial use. Any other use of the paper requires approval by IFAC.

Organized by:



Supported by:



Media Partner:

