

WoSAR: The 12th International Workshop on Software Aging and Rejuvenation

October 12-15, 2020, Coimbra, Portugal, co-located with [ISSRE 2020](#)

<http://wosar2020.buaa.edu.cn>

Software aging is a problem of progressive degradation of performance and dependability in computer programs, especially those executing for long period of time. This phenomenon has been extensively studied since more than 20 years, as it affects many systems, from embedded devices to server software to critical systems.

Software rejuvenation, i.e. restart of application (components/threads/task), VMs or machines, is the most prominent approach to combat software aging. A variety of reactive and proactive rejuvenation techniques, scheduling plans, scope and granularity, have been proposed for different application categories and platforms.

WoSAR is the premier international venue to discuss the recent advances and discoveries in theoretical and practical aspects of software aging and rejuvenation research. In this year, we encourage submissions targeting interdisciplinary research, in particular those listed in the topics of interest.

TOPICS OF INTEREST

This call for papers addresses all researchers and practitioners with an interest about performance and dependability degradation of software systems. Topics addressed in the workshop include but are not limited to:

- Progressive degradation of performability / availability / reliability / scalability / “-ilities” in software systems.
- Modeling and characterization of the software aging phenomenon.
- Design and evaluation of rejuvenation techniques.
- Analysis of aging-related faults/bugs, errors, and failures.
- Software test strategies for detecting aging-related bugs.
- Monitoring and detection of software aging effects (e.g., memory leaks, database index fragmentation, unterminated processes/threads, accrual of round-off errors, ...).
- New classes of software aging effects.
- Software aging and rejuvenation applied to anomaly detection and security intrusions.
- Software aging and rejuvenation in Big Data and IoT Apps.
- Prognostics and Health Management (PHM).
- Environment dependent bugs and their mitigation techniques.
- Metrics for software performance and degradation.
- Fault localization and testing for aging-related bugs.
- Machine learning techniques for aging-related bugs.

- Tools for detection and repair of memory leaks.
- Analytical, empirical, and experimental studies of any of the above topics.

For all the above topics, WoSAR is a unique forum to discuss the software aging and rejuvenation impacts on systems from different domains of applicability such as:

Cloud computing, Mobile, Embedded, Medical, Cyber-physical, SCADA, Smart Cities, Transportation, Telecommunication, Military, System of systems, Databases, High Performance Computing, Software Defined Networks, and others.

IMPORTANT DATES

Abstract registration deadline: July 21, 2020

Paper submission deadline: August 3rd, 2020

Paper notification: August 21st, 2020

Camera ready papers: August 28th, 2020

RESEARCH PAPER SUBMISSION

Authors are invited to submit high quality unpublished research work describing the results of theoretical and experimental software aging and rejuvenation research. All the accepted papers will be included in the IEEE Xplore Digital Library.

Papers must be written in English and be formatted according to the IEEE authoring guidelines¹. Full papers should not exceed seven pages in IEEE style. Paper submission will be done electronically through EasyChair².

SPECIAL SESSION ON INVITED JOURNAL PAPERS

There will be a special session titled “Invited Journal Papers” at WoSAR 2020. During this session, researchers will have the opportunity to present any of their recently published peer-reviewed journal articles. For an article to be considered in this session, it must have been published between January 1, 2017 and August 15, 2020.

Researchers interested in presenting their work in this session, must send email to beto at esulabsolutions dot com with the following information, by 11:59 pm Pacific Time on July 21, 2020.

- 1) A copy of the refereed journal article
- 2) One paragraph description of the technical significance of this article in the fields related to SAR
- 3) A short biography of the presenting author

Authors, whose papers are selected, must be registered for the conference in order to present their paper. Note that the

¹ www.ieee.org/conferences_events/conferences/publishing/templates.html

² <https://easychair.org/conferences/?conf=wosar2020>

selected papers will **NOT** be reprinted nor archived by WoSAR 2020.

Paper notification: August 1st, 2019

Hiroshi Yamada, Tokyo University of Agriculture, Japan
Junjun Zheng, Ritsumeikan University, China
Zheng Zheng, Beijing University of Aeronautics and Astronautics, China

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