

Call for Participation: Workshop on Next-Generation Wireless with ns-3

Friday June 21, 2019, University of Firenze, Florence, Italy

Organizers

Stefano Avallone (UNINA), Sebastien Deronne (Televic), Lorenza Giupponi (CTTC), Tom Henderson (UW), Tommaso Pecorella (UNIFI), Sumit Roy (UW), Michele Zorzi (UNIPD).

Dear Colleague:

In conjunction with the annual meeting of the ns-3 Consortium and the 11th annual Workshop on ns-3 (WNS3), you are invited to participate in a one-day **Workshop on Next-Generation Wireless with ns-3**, to be held immediately following WNS3.

Workshop goals

The pace of wireless standardization and product evolution is rapid, both on the IEEE 802.11 front (Wi-Fi 6, WiGig, and HaLow) and in the 3GPP realm (mmWave, New Radio, NB-IoT, ProSe). To remain relevant to emerging research community needs, ns-3 must incorporate new simulation models, and the changes involved compared with legacy ns-3 models of Wi-Fi and LTE are substantial. The goal of this workshop is to connect key ns-3 maintainers and developers with industrial and academic users of ns-3, so as to identify opportunities for collaborative development and peer review of ns-3 simulation models for advanced wireless technologies. There will be opportunities for discussions around lessons learned from public and private ongoing projects and on developing a future roadmap. Some invited presentations will inform attendees about recent projects related to ns-3, and involvement with different communities of interest will be discussed.

Accepted extended abstracts will be published as part of the Proceedings of the Workshop on ns-3 in the ACM Digital Library. In addition, a workshop report will be compiled by the organizers subsequently and submitted as an editorial to ACM Computer Communication Review or a similar publication. The workshop is planned to be video recorded and publicly archived on the web.

Organization

The day will be organized into sessions clustered around four topical thrust areas:

1) Advanced use cases

- Software and model abstractions for dense, high-throughput network simulations (scalability)
- Studying network heterogeneity – efficient simulations for coexistence
- Approaches for cross-layer (PHY/MAC) simulations

2) Models for new IEEE Technologies

- ns-3 support for 802.11 standards including 11ax, 11ad/ay, and 11ah
- Link-to-system mapping for Wi-Fi models

3) Models for new 3GPP technologies

- ns-3 support for public safety networks, New Radio, and mmWave
- Link-to-system mapping and PHY models for mmWave

4) Other Topics

- Towards 5G+ and 6G: THz radio models, support and integration with Machine Learning/Artificial Intelligence software tools
- ns-3 case studies for wireless simulations – lessons learned, identified limitations
- ns-3 alignment with hardware test-beds (e.g PhantomNet and Orbit) and experiences with hybrid HW/SW developments.
- ns-3 content for Education and Training

Call for Submission

We invite submissions by no later than **April 15, 2019** of a (minimum) two to (maximum) four page Extended Abstract aligned with one of the above thrust areas, using the same ACM template as used for WNS3 submissions. Abstracts should be submitted via Easy Chair; the submission link will be posted on ns-3's web site at <https://www.nsnam.org/research/wns3/wns3-2019/wngw/>. The abstract should be formatted as a research submission containing introduction, comparisons to related work, appropriately cited references, and details about how to access and reproduce the proposed work. A description of plans to interact with the open source project to disseminate ns-3 contributions will be considered a plus. Notification of abstract acceptance and a presentation slot will be provided by no later than May 1, 2019.

As appropriate, authors may consider a Regular or Demo/Work-in-Progress submission to WNS3 and a separate submission to this workshop, as well as a submission only to this workshop.

Workshop Registration

Attendance is open to all interested and registered attendees. Registration details will be published at a later date, once sponsorship funding is confirmed. Fees are expected to be low and used to offset the costs of holding the event. At least one author from each accepted submission is required to register and attend in person.

Remote participation

For those interested but unable to travel to the event, we are looking into arrangements to support some level of remote participation via teleconference.

Travel support

Some limited travel support may be available on a case-by-case basis; contact the organizers with any queries post-acceptance.