Call for Papers and Proposals

The 2020 IEEE 3rd 5G World Forum (5GWF’20) virtual event seeks contributions on how to nurture and cultivate 5G technologies and applications for the benefit of society.

5G systems should unveil a novel mobile network architecture that not only improves physical data rate, but also creates a new ecosystem allowing the deployment of novel services and applications. A key target is to build a novel network architecture that should support not only classical mobile broadband applications and services but also vertical industry (e.g. Intelligent Transport, Industrial IoTs, eHealth, etc.) and other 5G-based services.

This conference aims to bring experts from industry, academia and research to exchange their vision as well as their achieved advances towards 5G, and encourage innovative cross-domain studies, research, early deployment and large-scale pilot showcases that address the challenges of 5G.

The IEEE 5G World Forum has decided to make our 2020 event fully virtual to eliminate uncertainty in light of COVID-19 and to ensure the health, safety, and well-being of our global community. With plenty of time to prepare, the goal is to make our virtual event as rich and comprehensive as our in-person events, including multiple tracks and exhibition opportunities for industry. Registration fees will be reduced, and we remain committed to the publication and indexing of all accepted and registered papers in IEEE Xplore. Stay tuned for the precise details of the virtual IEEE 5G World Forum.

Call for Technical Papers
Call for Workshop and Special Session Papers
Call for Special Session Proposals
Call for Workshop Proposals
Call for Tutorial Proposals
Call for Vertical Areas Proposals
Call for Topical Areas Proposals
Call for Industry Forum & Panel Sessions Proposals
Call for Start-Ups
Call for Industry Demonstrations

Original, innovative and high quality papers are solicited in the following technical topics of interest, but are not limited to:

Technical Paper Submissions

Track 1: 5G Technologies: [EDAS link]
Track 2: 5G Application and Services: [EDAS link]
Track 3: 5G & IoT: [EDAS link]
Track 4: 5G Security and Privacy: [EDAS link]
Track 5: 5G Trials, Experimental Results and Deployment Scenarios: [EDAS link]
Proposals for sessions and events of general interest and relevance to 5G will be considered. These should address the Technical Community and/or provide educational or expository material or recognition of significant contributions to the advancement of 5G technologies.

Workshop and Special Session Proposal Submissions: EDAS link
Tutorial Proposal Submissions: EDAS link
Industry Forum Panel proposal submissions: EDAS link

Details of each submission are enumerated as follows:

A. Technical Paper Submissions

Track 1: 5G Technologies

- 5G New Radio (NR) specification
- Flexible and programmable RAN
- Cloud-RAN, functional split
- 5G Ultra large Cell technologies
- 5G Small Cell Technologies
- Network Slicing
- Multi-service architectures
- 5G wireless technologies
- Cloud-based 5G mobile architectures
- 5G Network Function Virtualization (NFV)
- Software Defined Networking (SDN) for 5G
- Spectrum utilization and sharing
- Massive MIMO Communications
- Dynamic Beamforming techniques
- Free Space Optical

- Multicast / Broadcast in 5G
- Convergence of RAN and Core Network
- Novel mobility management
- Mobile Edge Computing (MEC)
- Multi-Connectivity/RAT
- Resource (network, relay, cloud-computing, etc.) management
- Device-to-Device Communications and networking
- Cognitive spectrum access
- X-haul transport network
- Self-backhaul / integrated access networks
- Energy efficient network design and protocols for 5G

- QoE/QoS management over 5G
- Dynamic QoS framework as an enabler for disruptive use cases and services
- Network and protocol interoperability in 5G Wireless Networks
- Heterogeneous cells and communications
- Millimeter wave communications
- Coordinated and small-scale cell communications
- Machine learning and adaptive techniques for 5G
- Ultra-reliability and low-latency in 5G
- 5G and AI

Track 2: 5G Applications and Services

- Smart Cities, Smart Public Places
- Smart Home, and 5G-based Building Automation
- Smart Agriculture and Water Management
- Cyber-physical systems, Context Awareness, Situation Awareness, Ambient Intelligence
- Collaborative Applications and Systems
- Service Experiences and Analysis
- 5G and cloud services

- Consumer Electronics, Assisted Living, Rural Services and Production
- 5G Wireless Networks for body sensors
- Crowd-sensing, human centric sensing
- Big data and 5G Data Analytics
- Internet Applications Naming and Identifiers
- Social-aware 5G networks
- Industry of the future, e.g., Industry 4.0

- Aerospace and Defense
- Smart Grid, Energy Management
- Utilities Management and Operation
- Consumer Electronics, Assisted Living, Rural Services
- Mining, Oil & Gas, Digital Oilfield, Electronic Oilfield
- Agriculture, Industrial IoT, Manufacturing, Hospitality, Retailing

- Logistics, Entertainment
- Large Event Management
- Industrial Service Creation and Management
- Financial Services
- Health of Machinery
- Highway, Rail Systems
- Industry of the Future, e.g., Industry 4.0
- Media & Entertainment

Track 3: 5G and IoT

- Architecture of IoT in 5G networks
- Software defined solutions for IoT
- Energy efficiency and energy harvesting in IoT
- Cooperative and smart sensing techniques

- Data collection, processing, aggregation, and communication
- Efficient resource allocation schemes, QoS, and QoE in IoT
- Co-existence and device interoperability of sensors with 5G networks

- Relay, multi-hop, and cooperative communication in IoT
- Ubiquitous communication, routing protocols, and network selection in IoT
- Machine-type communications in 5G systems
Technical paper submissions can be up to 6 pages long and should be written either in a MS Word format or in a Latex format using the templates available at [https://www.ieee.org/conferences/publishing/templates.html](https://www.ieee.org/conferences/publishing/templates.html). All papers must be submitted electronically: [http://www.ieee-wf-5g.org/](http://www.ieee-wf-5g.org/).
Important Dates for Paper Submissions
Technical paper submission: **March 31, 2020** 30 May 2020 (final extension)
Acceptance Notification: **July 15, 2020**
Camera-ready submission: **July 31, 2020**
Papers must be submitted electronically - see above for EDAS links for each track

Contacts for Technical Papers
Antonio Skarmeta, TPC Chair, skarmeta@um.es, University of Murcia, Spain
Dilip Krishnaswamy, TPC Co-chair, dilip@ieee.org
Debabrata Das, TPC Co-chair, ddas@iiitb.ac.in

B. Special Sessions and Workshop Proposal Submissions

IEEE 5GWF'20 will be hosting a series of special sessions and workshop. Special sessions and workshop feature topics relevant to the 5G community on the latest research, engineering, standards and business issues. They provide a sample of the state-of-the-art research in both academia and industry in special, novel, challenging, and emerging topics. Special sessions and workshops typically include a mix of regular and invited presentations including regular papers, invited papers, as well as invited presentations and panels to facilitate highly interactive sessions. Special-session proposals should be submitted by the prospective organizer(s) who will commit to promoting and handling the review process of their special session or workshop as Chairs or Co-Chairs of the event. Proposals should include the following information (maximum five pages):

- Special session or Workshop title
- Length of the special session (half/full day)
- Name(s) of special session organizer(s)
- Email of main contact person
- A brief biography (no more than 200 words per person) of special session organizer(s)
- Brief description of the special session including abstract, scope, outline, importance, and timeliness
- Planned format of the special session including projected number of referred papers and hot topic sessions
- Potential participants including program committee members and invited speakers
- Related topics
- Prior history on past editions of the special session, if any, including the number of submitted and accepted papers, the number of attendees, etc.
- A draft of the call for papers

Accepted events must follow IEEE academic best practices regarding peer reviews and paper publication. Papers submitted to special sessions will have to be evaluated and peer-reviewed along the very same criteria of the regular sessions. Accepted papers will be submitted for inclusion into IEEE Xplore.

Important dates for Special Session and Workshop proposal submissions

Proposals due: **January 6, 2020** January 24, 2020
Notification of selection: January 30, 2020
Website for special session and workshop: February 5, 2020
Deadline for paper submission: **May 1, 2020** June 17, 2020
Acceptance Notification: **June 30, 2020** July 15, 2020
Camera-Ready Submission: July 31, 2020

Submission Guidelines
Please provide all the information requested above when preparing your special session proposal before electronically submitting it in PDF format to [EDAS link](#).

Contact for Special and Workshop Sessions
Subhas Mondal, subhasmondal2007@gmail.com
Yoshihiro Oba, yoshihiro.obba@kioxia.com
Venkatesha Prasad, rvprasad@gmail.com
Sunil Maharaja, sunil.maharaj@up.ac.za

C. Workshop and Special Session Papers

- SS1: New IP and Future Internet data Planes (NIPFIP)
- WS1: Workshop on 5G Security: Current Trends, Challenges and New Enablers
- WS2: Workshop/Industry Panel: 5G Validation Trials Across Multiple Vertical Industries
- WS3: Blockchain based Secure Trust Environment Model for 5G (B-STEM-5G: 2020)
- WS4: 5G from Theory to Practice (5GToP) Workshop
- WS5: 3rd Workshop on Blockchain for 5G/6G, IoT, and CPS
• **WS6: Workshop Evolution of Connected Vehicles: The Role of AI/Machine Learning, Emerging Standards, and 5G and Beyond**
• **WS7: Workshop on Satellite and Non-Terrestrial Networks for 5G**
• **WS8: Workshop on Optical Wireless Communication for 5G and Beyond**
• **WS9: Workshop on Large Scale Experimentation**
• **WS10 – IMT 2020 Radio Interface Technologies**

Contact for Special and Workshop Sessions
Subhas Mondal, subhasmondal2007@gmail.com
Yoshihiro Ohba, yoshihiro.ohba@kioxia.com
Venkatesha Prasad, rvprasad@gmail.com
Sunil Maharaja, sunil.maharaj@up.ac.za

**Important Dates for Special Session and Workshop Papers**
Paper Submission Due: **May 1, 2020**  **June 17, 2020**
Acceptance Notification: **July 15, 2020**
Camera-Ready Submission: **July 31, 2020**

**D. Tutorial Proposal Submissions**

IEEE WF-5G 2020 solicits proposals for 1.5 hour Tutorials that complement the regular program with clear and focused coverage in new and emerging topics within the scope of conference. Tutorials are an opportunity for researchers, developers, and practitioners from academia and industry to learn about the state-of-the-art research. Proposals should concisely describe the motivation, the content, and the structure of the tutorial.

**Tutorial Proposal Format**
Tutorial proposals (4 pages maximum) in PDF format (Column: Single, Font: Times Roman, Size: 11 pt) should be submitted by the prospective Tutorial Speaker(s). Tutorial proposal submission must include the following:

- Title of Tutorial
- Name, Affiliation and E-mail of Tutorial Speaker
- Abstract (200 words)
- Description of the Tutorial Proposal
  - Objectives and motivation
  - Novelty, highlighting the technical innovations presented in this tutorial
  - Tutorial content, indicating the topics that the tutorial will cover in detail
  - Tentative timeline schedule
- Tutorial Length: Maximum length of 1.5 hours
- Intended audience
- Prior history of the tutorial presentations and number of past attendees, if applicable
- Short biography (half page) of Tutorial Speaker

**How to submit**

Tutorials should complement the regular program with new and emerging topics of interest. Tutorial Proposals must be in single PDF file not exceeding Four Pages and submitted electronically to IEEE WF-5G 2020 Tutorial Track using the **EDAS Link**.

**Important dates for Tutorial proposal submissions**
Proposal submissions: **June 1, 2020**  **June 17, 2020**
Acceptance Notification: **June 30, 2020**  **July 15, 2020**
Final manuscript: **July 31, 2020**

**Contact for Tutorials**
Amruthur Narasimhan, narasimhan83@gmail.com
Bala Krishna Maddali, m.bala.krishna@ieee.org
Christopher Udeagha, udeaghaac@gmail.com

**E. 5G Focus - Vertical Areas and Topical Areas Propositions**

Proposals in the Vertical and Topical Areas should address: suggestions for speakers, panel discussions, roundtables, presentation sessions on focus topics, demonstrations of novel or important technologies, and events with other formats that may be effective for furthering the involvement and participation of the attendees.

**Vertical/Topical Areas Proposal Format**
Each proposal (maximum 3 pages) must include:
1. Title of the Vertical or Topical Area Proposal
2. Names, Institutions, addresses, and a short biography (up to 200 words) of the organizers
3. Motivation, background, objective, description of the challenges issues to be covered (1-page max), and timeliness
4. Structure proposal, tentative invited panelist and their bio
5. If appropriate, a description of past versions of the previous Vertical or Topical Area session, the number of attendees, etc.
6. Public adequacy

Anyone interested in submitting a proposal on these tracks should get in contact via e-mail with the corresponding contact persons indicated below

**Contact for Vertical / Topical Areas Proposal:**
Aloizio Preira da Silva, a.pereiradasilva@northeastern.edu
Ivan Seskar, seskar@winlab.rutgers.edu
Kishor Narang, kishor@narnix.com

**Important dates for 5G Focus Vertical and Topical Area Proposal Submissions**
Proposal submissions: **June 1, 2020** June 17, 2020
Acceptance Notification: **June 30, 2020** July 15, 2020
Final manuscript: **July 31, 2020**

**F. Industry Forum & Panel Sessions proposal submissions**

IEEE 5GWF’20 will be hosting Industry Forum & Panel Sessions. Panel presentation materials will not be published in the conference proceedings but will be available on the conference web site. Industrial Forum Panel proposal should contain an abstract, scope, intended audience, objectives, prior history, an outline, the biographical sketch of presenters, and any other information that may assist in making decisions. Industry Forum & Panel Proposals must be in single PDF file not exceeding Four Pages and submitted electronically to IEEE WF-5G 2020 Industry Forum & Panel Track using the EDAS Link.

**Important dates for Industry Forum and Panel Sessions proposal submissions**
Proposal submissions: **June 1, 2020** June 17, 2020
Acceptance Notification: **June 30, 2020** July 15, 2020
Final manuscript: **July 31, 2020**

**Contacts for Industry Forum & Panel Sessions:**
Wale Akinpelu, Wale.Akinpelu@jhuapl.edu
Ajay Rajkumar, rajkumar.ajay@gmail.com
Meng Lu, wklm@xs4all.nl
Sobodh Gajare, sugajare@gmail.com

**G. Entrepreneurship and Innovations Forum (EIF) 2020**

This initiative is meant to actively promote the engagement of start-ups and new businesses in pioneering innovation in 5G. The 5G challenges are pretty much known by now such as latency and reliability, something of a holy grail. Shaving latency down to 1ms for a host of applications from virtual reality games to tele-medicine will be another one of the toughest challenges of 5G. Start-ups are invited to showcase their innovation in this track, sending e-mail to the contact persons

**Contact:**
Ravikiran Annaswamy, ravikiran.a@ieee.org
Sudhir Dixit, sudhir.dixit@gmail.com
Titus Lo, titus.lo@ieee.org

**H. Demonstrations**

The demonstrations are aimed at the researchers from academia and industry, practicing engineers, and technical managers who need to understand both technical and practical aspects of new and emerging topics within the scope of communications, networking, industrial practices/standards and so on. Demonstrations should also emphasize training for current topics and demonstrate some practical works of interest to the industry targeting near-term implementations and development in those areas.

All demonstrators must register for the conference in the appropriate category. Each tabletop is equipped with a power supply. Any furniture or additional equipment is subject to additional fees and needs to be notified to the organizers well in advance; no additional equipment can be arranged without prior notice. Placement of the tabletop is determined by conference organizers.

All submitted proposals will be peer reviewed.

**Demonstrations Proposal Format**

Demo proposals can be up to 2 pages long (including and references) and should be written either in MS Word format or in Latex format using the templates available at [https://www.ieee.org/conferences/publishing/templates.html](https://www.ieee.org/conferences/publishing/templates.html).

The proposal must include:
1. Title of the demonstration.
2. Author name and affiliation.
3. A description of the motivation, background, objective, and novelty of the
4. What exactly will be demonstrated and what will be the setup, including any additional equipment that needs to be arranged (for a fee).
5. Mention whether this demonstration has been done earlier at a different venue.

Accepted demo proposals will be considered for publication in the IEEE 5G World Forum 2020 Conference Proceedings and in IEEE Xplore.

Demonstrations Proposal Submission
EDAS: https://edas.info/newPaper.php?c=26958&track=102302

Demonstration Co-Chairs
Alok De, alokde@ieee.org
Y V S Lakshmi, lakshmi@cdot.in
Amit Saha, amisaha@cisco.com

General Paper Submission Guidelines

Full papers submissions for Technical Paper, Workshop, and Special Session should be written in English with a maximum paper length of SIX (6) printed pages (10-point font) including figures, tables, without incurring additional page charges (maximum of ONE additional page with over length page charge if paper is accepted).

When preparing your manuscript, please pay also attention to the following:

- If your paper has been prepared using Microsoft Word or LaTeX, please ensure that you have used the most current version which will help reduce pdf conversion issues such as embedded fonts, bookmarks, etc.
- No page numbers and no headers/footers
- Use non-zero PDF top and bottom margins (typically at least 0.5 inches/12.7 mm) to help indicate if there are any page numbers

Papers Format

Standard IEEE conference templates for Microsoft Word and LaTeX formats can be found here: http://www.ieee.org/conferences_events/conferences/publishing/templates.html

Papers to be submitted using EDAS System.

Papers are reviewed on the basis that they do not contain plagiarized material and have not been submitted to any other conference at the same time (double submission). These matters are taken very seriously, and the IEEE 5G Initiative will take action against any author who has engaged in either practice.


Please note: To be published in the IEEE 5G World Forum 2020 Conference Proceedings and to be eligible for publication in IEEE Xplore®, an author of an accepted paper is required to register for the conference and the paper must be presented by an author of that paper at the conference unless the TPC Chair grants permission for a substitute presenter arranged in advance the event and who is qualified both to present and answer questions. Non-refundable registration fees must be paid prior to uploading the final IEEE formatted, publication-ready version of the paper. Accepted papers will be submitted for inclusion into IEEE Xplore ®.

CALL FOR PAPERS AND PROPOSALS
2020 IEEE 3rd 5G World Forum (5GWF’20)
10-12 September 2020 — Virtual Event
http://www.ieee-wf-5g.org