Call for Technical Papers

5th IEEE WF-IoT 2019 – 15th-18th April 2019, Limerick, Ireland

Theme: "IoT and the Digital Revolution" <u>http://wfiot2019.iot.ieee.org/</u>



Organized by IEEE IoT Initiative with IEEE Multi-Society Sponsorship

Call for Technical Papers and Other Submissions for the Technical Program

	Technical	Program
1.	Technical Papers	Oral or Poster Presentations and Papers
2.	Industry Forum	Panels and Presentations
3.	Special Sessions	Panels, Presentations, and Papers
4.	Workshops	Panels, Presentations, and Papers
5.	Doctoral Symposium	Presentations and Papers
6.	Tutorials	Presentations and Exercises

The World Forum on Internet of Things 2019 (WF-IoT 2019) seeks submissions and proposals for original technical papers that address, but are not limited to, the following topics and the more detailed list further in this document:

- IoT Enabling Technologies and Topics
 - Sensors and Actuators
 - Power and Energy for IoT
 - Connectivity for IoT
 - Computing Platforms
 - IoT Data Acquisition, Storage and Management
 - IoT Application oriented Technologies
 - Security and Privacy Enhancing Technologies
 - IoT System Interfaces
 - Design, Integration and Testing Methods
- IoT Application and Services for the Verticals
 - IoT Applications
 - IoT Services for the Verticals
 - IoT Multimedia and Societal Impacts
 - IoT Experimental Results and Deployment Scenarios

Horizontal IoT Enabling Technologies

1. Sensors and Actuators

 Sensor Architectures Self-Calibration & Testing Techniques Discrete Sensors, Networked Sensors Sensor Integration Complex and Compound Sensors Cooperative Sensor Systems Sensor Co- registration MEMS Sensors, Fluidic Sensors Fiber-based Sensors, Physical Sensors 	 High Dynamic Range Sensors Sensor Swarms Video Sensors Acoustic Sensors Electro-magnetic Sensors Chemical Sensors, Biological Sensors Wearables, Body Sensor Networks Smart Portable Devices Mobile platforms as Sensors 	 Crowd Sensing, Vision Systems Radar and Lidar Hyper-spectral Sensors Human Centric Sensing Nano Things Miniaturized Actuators Discrete Actuators Discrete Actuators Mechanical Actuators Information Actuators Bionic Systems Augmented Human Capabilities MEMS, Robotics
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2. Power and Energy for IoT

 High Reliability Power supplies and power components Renewable Energy Energy Harvesting Solid State Batteries Battery Safety Systems Super Capacitors New Battery Materials 	 Fuel Cells Batteries Transmitted Power Battery Packaging for Small Systems Battery Standards Integration of Remote IoT Systems with Mobile or Renewable Energy Sources 	 High Efficiency Charging Algorithms and Systems Power Regulation Ultra Low Power Technologies Integration of Battery Systems with the Smart Grid and Micro Grids
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3. Connectivity for IoT

 5G Networks Legacy Networks Software Defined Networks for IoT Virtualization IoT Network Functions IPv6, 6LoWPAN, RPL, 6TiSCH, W3C Mesh Networks Network Coding 	 Heterogeneous Networks High Band, Narrow Band Networks Mixed Licensed, Unlicensed, and Share Spectrum Systems Millimeter Wave Technologies Spectrum Efficiency Dense Communication Environments 	 Special Purpose Networks Low Power LAN and WAN Networks Broadcasting Systems for IoT Routing and Control Protocols for IoT Named IoT Networking
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4. Computing Platforms for IoT

 Computing Architectures Cloud Computing Fog Computing Edge Computing Mobile Computing Platform Based Computing Real Time Computing Distributed Computing Operating Systems Resource Optimization Software 	 Virtualization Hypervisors Autonomic Computing Embedded Computing Low Power Computing Cooperative Computing Quantum Computing Computing Platforms and Frameworks Advanced Computing Concepts 	 Communications Intensive Computing Sensors Data Management Multi-use IoT Platforms Software Frameworks Development Environments Analytic Frameworks Languages Graphics
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5. Data Acquisition, Storage, and Management for IoT

 Memory Systems Device Storage, Storage Migration Distributed Storage File Systems, Archival Storage Near Line Storage Cloud Based Storage Fog Data Banks Collaborative Shared File Systems 	 High Performance File Systems Storage for Real Time Processing Storage for Streaming Data Data Buffering Methods Data Capture, Data Retrieval Data Provenance and Curation 	 Data Compression, Data Aggregation Data Cleanup and Filtering Structured & Unstructured Data Types Self-Describing Data Methods Transactional Data Systems
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6. IoT Application Oriented Technologies

 Big Data IoT Data Analytics Machine Learning Deep Learning Neural Networks Classification IoT Mining and Analytics 	 Trend Analysis Resource Management Localization Technologies Adaptive Systems and Models at Runtime 	 Mobility, Localization and Management Aspects Identity Management Object Recognition
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7. Security and Privacy Enhancing Technologies

 IoT Privacy and Security Concerns Identification and Authentication Issues Wireless Sensor Network for IoT Security 	 Intrusion Detection in IoT Cryptography, Key Management and Authorization for IoT Physical/MAC/Network Attacks in Internet of Things 	 Cross-layer Attacks in IoT Privacy Based Channel Access in IoT Big Data and Information Integrity in IoT
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8. IoT System Interfaces

 Visual Speech Tactile Cooperative Actuator Systems 	 Biologically Inspired Actuators Gestural Contextual 	Brain DrivenVirtual RealityAugmented Reality
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9. Design, Integration and Testing Methods

 Requirement Gathering Modeling and Simulation Tools Tradeoff Systems Managing Software, Electronic, and Mechanical Design IoT Standards Naming Conventions 	 Design Space Exploration Techniques for IoT Devices and Systems Operational Technologies and Processes Open Source Activities 	 Design Automation Product Lifecycle Management Analysis Estimation Synthesis Testing and Validation Verification
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IoT Application and Services

1. IoT Applications

 Cyber-physical Systems Real Time Control Systems and Functions Context and Situation Aware Services Self-Forming Services, Service Chains Service Experiences and Analysis 	 Internet Applications Naming and Identifiers Semantic Technologies, Collective Intelligence Cognitive and Reasoning about Things and Smart Objects 	 Horizontal Application Development for IoT Design Principals and Best Practices for IoT Application Development Ambient Intelligence
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2. IoT Services for Verticals

 Smart Cities Smart Home Assisted Living Building Management and Operation Automation Smart Public Places Hospitality Retail Large Event Management Public Safety Healthcare, e-Health Environmental Monitoring 	 Connected Car, Automotive Intelligent Transport Transport and Logistics Highway and Rail Systems Aerospace and Defense Industrial IoT Industry 4.0 Manufacturing Industrial Service Creation and Management 	 Smart Grid, Energy Management Utilities Management and Operation Mining, Oil & Gas, Digital Oilfield, Electronic Oilfield Consumer Electronics, Agriculture and Rural Financial Services
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3. IoT Multimedia and Societal Impacts

 The Human Role in IoT, Social Aspects and Services Value Chain Analysis and Evolution Aspects New Human-Device Interactions for IoT, Do-It-Yourself 	 Social Models and Networks Green IoT: Sustainable Design and Technologies Urban Dynamics and Crowdsourcing Services Business Models for IoT 	 Allocation of Responsibility and Obligation in IoT Services and Offerings Metrics, Measurements, and Evaluation of IoT Sustainability and ROI
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4. IoT Experimental Results and Deployment Scenarios

 Closing the Gap between Research and Implementation Experimental prototypes, Test-Bed and Field Trial Experiences Multi-Objective IoT System Modeling and Analysis & Performance, Energy, Reliability, Robustness 	 IoT Interconnections Analysis & QoS, Scalability, Performance, Interference Real Case Deployment Scenarios and Results IoT Deployment at Government and ISPs IoT Deployment in Agriculture, Retail, Smart Cities, etc. 	 IoT Deployment in Industry Gaps Analysis for Real Deployment Standardization and Regulation
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Instructions for Submission:

Technical Paper Submissions

The 5th IEEE World Forum on Internet of Things (WF-IoT 2019) solicits full paper technical paper submissions describing original research. Suggested size is four pages; papers up to six pages will be accepted. Extended versions of selected papers may be considered for publication in the IEEE IoT Journal: <u>http://ieee-iotj.org/.</u>

How to Submit - All papers must be submitted in PDF and US letter format. Submitted papers must conform to the IEEE formatting guidelines as specified in these Word and LaTeX <u>templates</u>.

- **Peer Review Process** All submitted technical papers will be peer reviewed by an international Technical Program Committee (TPC). If the paper is accepted and presented, it will be included in the conference proceedings and be submitted to the Xplore Digital Library. IEEE takes the protection of intellectual property very seriously. All submissions will be screened for plagiarism using CrossCheck. All submitted papers are subject to the IEEE ComSoc plagiarism policy, see: https://www.comsoc.org/conferences/plagiarism-policy
- Oral vs. Poster Presentations Prospective authors will be given the choice to submit with a preference for oral or poster presentation or either. The TPC will respect the author's choice as much as possible when building a coherent program. Authors will respect the TPCs decision regarding presentation format. All technical session paper submissions must comply with the templates defined above, whether they are oral or poster presentations or either mode.

	Enabling Technologies Topics	EDAS Links
1.	Sensors and Actuators	https://edas.info/newPaper.php?c=25109&track=91949
2.	Power and Energy for IoT	https://edas.info/newPaper.php?c=25109&track=91950
3.	Connectivity for IoT	https://edas.info/newPaper.php?c=25109&track=91951
4.	Computing Platforms for IoT	https://edas.info/newPaper.php?c=25109&track=91952
5.	Data Acquisition, Storage, and Management for IoT	https://edas.info/newPaper.php?c=25109&track=91953
6.	IoT Application Oriented Technologies	https://edas.info/newPaper.php?c=25109&track=91954
7.	Security and Privacy Enhancing Technologies	https://edas.info/newPaper.php?c=25109&track=91955
8.	IoT System Interfaces	https://edas.info/newPaper.php?c=25109&track=93240
9.	Design, Integration, and Testing Methods	https://edas.info/newPaper.php?c=25109&track=93241

For all topics that have been identified in the descriptions above, please use the following links to submit a paper:

	Applications and vices	EDAS Links
1.	IoT Applications	https://edas.info/newPaper.php?c=25109&track=93242
2.	IoT Services for Verticals	https://edas.info/newPaper.php?c=25109&track=93243
3.	IoT Multimedia and Societal Impacts	https://edas.info/newPaper.php?c=25109&track=93244
4.	IoT Experimental Results and Deployment Scenarios	https://edas.info/newPaper.php?c=25109&track=93245

****Papers that do not address any of the above topics must be submitted electronically to the following EDAS link: https://edas.info/N25109.

Important Dates for Technical Paper Submissions

Technical Paper Submission Due Date: November 1, 2018 December 14, 2018

Acceptance Notification: January 15, 2019 January 25, 2019

Camera-ready Submission: February 20, 2019 February 27, 2019

Contacts for Technical Papers

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Workshop and Special Session Proposal Submissions

IEEE WF-IoT 2019 will be hosting a series of workshops and special sessions. Workshops and special sessions feature topics relevant to the IoT community on the latest research, engineering, standards and business issues. These events 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 workshops and special sessions.

How to Submit - Each idea for proposals must include the following and should be maximum five pages:

- Workshop or special session title
- Length of the workshop or special session (half/full-day)
- Names, main contact, and a short bio (200 words) of the organizers

- Brief description of the workshop or special session including abstract, scope and timeliness.
- Planned format of the workshop or special session, including projected number of referred papers, hot topic sessions, keynotes, and panel discussions.
- Potential participants including program committee members and invited speakers.
- Brief description of publicity plan
- Prior history of the workshop or special session (if any)
- Draft call for papers For the Workshops and Special Sessions, the first stage is to identify the subject matter for the session. Once identified, a separate call for papers, which will be peer reviewed, will accompany the sessions.
- Any other relevant information
- Accepted workshops and special sessions must follow IEEE academic best practices regarding peer reviews and paper publication. Accepted and presented papers will be added to IEEE Xplore and the conference proceedings.
 - Workshop proposals must be marked and submitted electronically: https://edas.info/newPaper.php?c=25109&track=91958.
 - Special Session proposals must be marked and submitted electronically: https://edas.info/newPaper.php?c=25109&track=91946.

Important Dates for Workshops and Special Session Proposal Submissions and Papers

Ideas for workshop and special session proposal submissions: September 30, 2018 November 1, 2018 November 30, 2019

Proposal acceptance notification: October 10, 2018 November 16, 2018 December 14, 2018

Workshop and Special Session website published: Workshops and Special Sessions will be published on the website when accepted.

Workshop or Special Session paper submission Due Date: November 1, 2018 December 14, 2018

Paper acceptance notification: January 15, 2019 January 25, 2019

Camera-ready submission: February 20, 2019 February 27, 2019

Papers must be submitted electronically: https://edas.info/newPaper.php?c=25109&track=91958

Contacts for Special Sessions and Workshops

Peter Corcoran, NUI, dr.peter.corcoran@ieee.org

Sean McGrath, University of Limerick, sean.mcgrath@ul.ie

Raffaele Giaffreda, FBK CREATE-NET, rgiaffreda@fbk.eu

Tutorial Proposal Submissions

IEEE WF-IoT 2019 solicits idea proposals for Half-day 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 Submission Tutorial Proposals must be in single PDF file not exceeding Four Pages and submitted electronically to IEEE WF-IoT 2019 Tutorial Track using the EDAS link: https://edas.info/newPaper.php?c=25109&track=91957

Important Dates for Tutorial Proposal Submissions

Tutorial Proposal Submission: November 1, 2018 December 14, 2018

Acceptance Notification: December 15, 2018 December 28, 2018

Slides for Accepted Tutorial Submission: February 20, 2019 February 27, 2019

Contacts for Tutorials

Bala Krishna Maddali, GGS Indraprastha University, <u>m.bala.krishna@ieee.org</u>

Ranga Venkatesha Prasad, EWI, TUDelft, <u>r.r.venkateshaprasad@tudelft.nl</u>

Industry Forum Panel Proposal Submissions

WF-IoT 2019 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. The material proposed should be of high relevance to the technical program.

Important Dates for Industry Forum Panel Proposal Submissions

Industry Forum Panel proposal submissions: November 1, 2018 December 14, 2018

Proposal acceptance notification: **December 15, 2018 December 28, 2018**

Slides and presentation material: February 20, 2019 February 27, 2109

Proposals must be submitted electronically: https://edas.info/newPaper.php?c=25109&track=91943

Contacts for Industry Forum Panels

Yoshihiro Ohba, Toshiba, yoshihiro.ohba@toshiba.co.jp

Chungmin Chen, iConnective, cmmchen@gmail.com

Doctoral Symposium Paper Submissions

The goal of the WF-IoT 2019 Doctoral Symposium is to provide a supportive setting in which PhD students can present and receive feedback on their work. Students at different stages in their research will be able to articulate and discuss their problem statement, goals, methods, and results. The symposium also aims to provide students with useful guidance on various aspects of their research from established researchers and the other student attendees. Finally, the symposium seeks to motivate students in the development of their scientific curiosity and facilitate their networking within the research community. The PhD symposium also aims to facilitate networking among researcher in the WF-IoT community and help students establish contacts for entering the job market. PhD Symposium attendance is open to all WF-IoT registrants.

How to Submit Doctorial Symposium Papers

Paper on PhD research project (max. 2-4 pages) must be formatted according to the WF-IoT paper submission instructions. A letter of recommendation from the supervisor must be attached to the proposal submission as well as full contact information including affiliation, address, e-mail and phone. Papers must be submitted electronically:

https://edas.info/newPaper.php?c=25109&track=91942

Important Dates for Doctoral Symposium Paper Submissions

Paper submission: November 1, 2018 November 30, 2018 December 14, 2018

Acceptance Notification: January 15, 2019 January 25, 2019

Camera-ready Submission: February 20, 2019 February 27,

2019

Contacts for Doctoral Symposium

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