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

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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 • Mechanical Actuators • Information Actuators • Bionic Systems • Augmented Human Capabilities • MEMS, Robotics

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

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

• Satellite, High Altitude Communications • D2D and M2M Communications	• Body and Wearable Networks	• IoT and Future Internet architectures • Communication Security

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

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

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

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

8. IoT System Interfaces

- Visual - Speech - Tactile - Cooperative Actuator Systems	- Biologically Inspired Actuators - Gestural - Contextual	- Brain Driven - Virtual Reality - Augmented Reality

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

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

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

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

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

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: http://ieee-iotj.org/.

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 templates.

- **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.

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

IoT Enabling Technologies and 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

IoT Applications and Services	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

Late Technical Papers Accepted Until: **January 15, 2019**

Acceptance Notification: **February 4, 2019**

Camera-ready Submission: **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

Late proposals accepted until: **January 15, 2019**

Proposal acceptance notification: **February 4, 2019**

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

Workshop or Special Session Late Papers Accepted Until: **January 15, 2019**

Paper acceptance notification: **February 4, 2019**

Camera-ready submission: **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 - Closed

Tutorial Proposal Submission: ~~**December 14, 2018**~~

Acceptance Notification: **February 4, 2019**

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

Contacts for Tutorials

Bala Krishna Maddali, GGS Indraprastha University, m.bala.krishna@ieee.org

Ranga Venkatesha Prasad, EWI, TUDelft, r.r.venkateshaprasad@tudelft.nl

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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 Late Proposals Accepted Until: **January 15, 2019**

Proposal acceptance notification: **February 4, 2109**

Slides and presentation material: **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

Late Papers Accepted Until: **January 15, 2019**

Acceptance Notification: **February 4, 2019**

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

Contacts for Doctoral Symposium

Dave Cavalcanti, Intel, dave.cavalcanti@intel.com

Vincenzo Piuri, Universita degli Studi di Milano, Italy, vincenzo.piuri@unimi.it