2022 TRON SYMPOSIUM (TRONSHOW) CALL FOR PAPERS

https://www.tronshow.org/index-e.html

2022 TRON Symposium, the 38th TRON Project Symposium is held on 7th – 9th of December 2022 in Tokyo, Japan with technical co-sponsorship of IEEE Consumer Technology Society. TRON Symposium is an international symposium that brings together industry, researchers, practitioners, and government officials involved in IoT (Internet of Things), ubiquitous computing, and embedded systems. The symposium will feature presentation sessions of papers, panel discussions, tutorial sessions and an accompanying exhibition.

DATE

- 7th - 9th December 2022, Tokyo, Japan.

VENUE

- Tokyo Midtown, Roppongi, Tokyo, Japan
  https://www.tokyo-midtown.com/en/

ORGANIZERS AND SPONSORS

- TRON Forum
  https://www.tron.org

- collaboration Hub for University and Business (cHUB), Faculty of Information Networking for Innovation And Design (INIAD), Toyo University
  https://www.iniad.org/

- Institute of Infrastructure Application of Ubiquitous Computing (IAUC), Interfaculty Initiative in Information Studies, Graduate School, the University of Tokyo

TECHNICAL CO-SPONSORSHIP

- IEEE Consumer Technology Society
  https://cesoc.ieee.org/

COOPERATION

- Over a dozen organizations cooperate with the sponsors listed above to make TRON Symposium successful. The list should be available on our website. For the last year's supporting organizations, please see the following URL: https://www.tronshow.org/2021-tron-symposium/en/01.html

IMPORTANT DATES:

- Paper submission deadline: October 5th

- Notification of acceptance: November 2nd

- Final paper submission (for accepted papers): November 16th

CALL FOR PAPERS

Prospective authors in the embedded systems industry and the emerging field of the IoT are encouraged to submit **FULL papers** or **extended abstracts** for presentation. Each of full paper or extended abstract will be peer reviewed. Accepted and presented papers will be included in the conference proceedings.

FULL PAPERS

Accepted and presented FULL papers, will be submitted to IEEE for inclusion in **IEEE Xplore®** online publication database. Only original papers that have not been published or submitted for publication elsewhere will be considered.

FULL papers should be in English, of **maximum** 9 pages including figures and pictures, using the supplied template.

EXTENDED ABSTRACTS

The **minimum** length is 2 pages for an extended abstract from busy practitioners. See **"Topics of Interest"** at the end of this call for relevant topics that are of interest to the Symposium per se, and the visitors to the accompanying exhibition. (Note: Extended abstracts will not be submitted to IEEE Xplore database.)

INFORMATION FOR AUTHORS

Those wishing to submit papers or extended abstracts should first register an abstract (up to approximately 300 words) that explains the main content of the final submission by registering your paper to **EDAS.** Please finish this step before the **paper submission deadline**.

Please specify if you would like to submit extended abstract of 2 pages or a FULL paper: there is a check box in the submission form at the URL shown below.

The following is the process of registering your paper and abstract.

- Step 0:
  - ➢ If you are not registered in EDAS, please do so.: https://edas.info

- Step 1:
  - ➢ Please register your paper (title, author, etc.) to 2021 TRON Symposium (TRONSHOW) at EDAS:
    https://edas.info/newPaper.php?c=30027

- Step 2:
  - ➢ Please input the abstract as plain text into the web submission form during registering your paper.
  - ➢ Subsequently, you upload the draft of the full paper or extended abstract.

Manuscripts should not contain page numbers, headers or footers. Please use the **A4** templates available at http://www.ieee.org/conferences_events/conferences/publishing/templates.html.

The submitted papers are peer reviewed and notice of acceptance for presentation will be given by the date of **notification of acceptance**.For papers and extended abstracts that are accepted for presentation, the final version is to be submitted by the date of **final paper submission**. We plan to use IEEE PDF eXpress for the final presentation

submission. The details of using IEEE PDF eXpress to validate the format of the final version for conforming IEEE format will be mailed to the authors whose paper has been accepted.

Authors must present their papers during the presentation time of 2022 TRON Symposium. Since the conference is a hybrid, online presentations are also allowed.

TOPICS OF INTEREST

Broadly speaking there are two (2) categories. One is embedded systems and the other is the IoT (or ubiquitous computing) application and services. The boundary of these categories has become blurred thanks to the real-world services applications of the IoT that use RFID tags, small sensor nodes to build ubiquitous sensor network, and the like. Topics of the symposium include the following, but not limited to:

EMBEDDED SYSTEMS:

- Home electronic appliances
- Intelligent Mobility (automotive, construction machinery)
- Power-aware computing and energy harvesting
- Smart-grid application
- Intra-system and inter-systems electromagnetic compatibility
- Human Machine Interface (HMI) for embedded systems
- Security of embedded devices
- Functional safety, fault tolerance
- Real-time OS development and application
- Embedded systems software and optimization
- Hardware/Software co-design of embedded systems
- Embedded systems design automation
- ASICs and FPGAs
- System/Network-on-chip
- The use and development of RTOS and the middleware
- Comparative study of RTOSs including TRON RTOS Family
- Theory and practice of embedded systems education/training

IOT TECHNOLOGIES

- USN (Ubiquitous Sensor Network)
- M2M communications
- IoT architectures

- IoT infrastructures

- IoT architectures and application frameworks (uID architecture, SmartM3, etc.)

- Implementation of servers for uID Architecture (1.0, 2.0), ucode, etc.

- RFID tags, ucode tags, etc.

- Cloud computing for the IoT

- IoT security

- Aggregate Computing

- IoT Aggregator

- Security for the IoT

- IaaS, PaaS, and SaaS

- Kubernetes

- Distributed systems

- Cloud computing architectures

- Virtualization/containerization technologies in cloud computing

- SDN and NFV

- Distributed storage and databases

- Microservices

- Edge computing and fog computing

- Access control, authorization, and authentication

- Fault tolerance

- Continuous integration and deployment

IOT APPLICATIONS

- Smart Houses, Smart Buildings, and Smart Cities

- Assistive technologies

- Cyber Physical Systems (CPS)

- Computer-Augmented Environment

- IoT applications and IoT services

- Location-based Information Systems

- Theory and practice of building real-world IoT application systems

DATA PLATFORM

- Open data

- Personal data store

- Big Data processing for the IoT

- RDF

GENERAL

- Impact of technology on society

- Security and privacy

- Standardization efforts, regulatory aspects and governance of the IoT

ABOUT TRON PROJECT AND TRON SYMPOSIUM

TRON Project was established in 1984. It aims to build the open architecture of advanced embedded systems. It has developed very popular TRON real-time OS (RTOS) family: ITRON specification, and T-Kernel, for example. TRON Project's original goal included the vision of "Computer Everywhere" which is basically the same as ubiquitous computing or the IoT (the Internet of Things). Today, the embedded systems technology is used widely to support the IoT. The project has influenced ICT industry very much. For example, TRON RTOS family has more than 60% of embedded systems market share in Japan. The project has led the IoT research by introducing ucode, an identifier system as part of its IoT application framework called uID architecture. (See https://www.tron.org/ for the detailed background on TRON Project.)

To disseminate the result of the project and foster communication of interested parties, TRON Project has held the annual TRON Symposium for the last 36 years. TRON Symposium is the place to discuss the applications and services of the IoT in the future such as the home electronic appliances, homes, buildings and cities of the future, and to discuss the nuts and bolts of embedded systems such as RTOS kernel, the implementation issues such as the interaction of the IoT paradigm and Cloud. We welcome discussions of the impact of technology on society.

ACCOMPANYING EXHIBITION, TRONSHOW (7TH – 9TH DECEMBER)

- We will hold the annual exhibition of products, services, and publication related to TRON Project in parallel to the TRON Symposium.
  http://www.tronshow.org/index-e.html

ORGANIZING COMMITTEE

- TRON Symposium Technical Program

  - Chair Ken Sakamura, Chair of TRON Forum, Dean of Faculty of Information Networking for Innovation And Design (INIAD), Toyo University

- Symposium Publicity

  - Chair Chiaki Ishikawa, YRP Ubiquitous Networking Laboratory

- Symposium Publication

  - Co-chair Toshihisa Muto, Personal Media Corporation

  - Co-chair Chiaki Ishikawa, YRP Ubiquitous Networking Laboratory

- ➢ Co-chair Masahiro Bessho, INIAD, Toyo University

- ➢ Co-chair Takeshi Yashiro, INIAD, Toyo University

TECHNICAL PROGRAM COMMITTEE

- Chair:

  - ➢ Dr. Ken Sakamura, Dean of INIAD of Toyo University, Chair of TRON Forum

- Vice Chair:

  - ➢ Dr. Tomohiro Hase, Professor Emeritus, Ryukoku University, Japan, Former Board Member of IEEE Consumer Technology Society (CTSoc) , Current Chair of CTSoc West Japan Joint Chapter

- Member of TPC: (TBA)

CONTACT

- Inquiries about the conference should be directed to the following address of Technical Program Committee: tpc@tron.org

- Please contact the following address if you are interested in accompanying exhibition: info@tronshow.org