2021 TRON Symposium (TRONSHOW) Call for Papers

2021 TRON Symposium (TRONSHOW) website http://www.tronshow.org/index-e.html

Date

8th - 10th December 2021, Tokyo, Japan (Accompanying Exhibition runs from 8th - 10th.)

Organized and Sponsored by

- TRON Forum
  https://www.tron.org
- Institute of Infrastructure Application of Ubiquitous Computing (IAUC), Interfaculty Initiative in Information Studies, Graduate School, the University of Tokyo
- collaboration Hub for University and Business (cHUB), Faculty of Information Networking for Innovation And Design (INIAD), Toyo University
  https://www.iniad.org/

Technical Co-sponsorship

- IEEE Consumer Technology Society (Formerly Consumer Electronics Society)
  https://cesoc.ieee.org/

Cooperation by (TBD)

Each year, about a dozen or so organizations cooperate with the sponsors listed above to make TRON Symposium successful. The list should be available and updated when the announcement of the exhibition is published in June/July. For the last year's supporting organizations, please see the following URL:

- https://www.tronshow.org/2020-tron-symposium/en/01.html

Organization

- 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

Venue

- Tokyo Midtown, Roppongi, Tokyo, Japan
  - https://www.tokyo-midtown.com/en/ (in English)
  - https://www.tokyo-midtown.com/jp/index.html (in Japanese)

We are pleased to announce **2021 TRON Symposium**, the 37th TRON Project Symposium to be held on 8th – 10th of December 2021 in Tokyo, Japan. The Symposium, with technical co-sponsorship of IEEE Consumer Technology Society, will feature presentation sessions of papers, poster sessions, panel discussions, tutorial sessions and an accompanying exhibition, **TRONSHOW** (8th – 10th December).

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.

Submission of Papers / Extended Abstracts

Accepted and presented FULL papers, i.e., papers submitted to "FULL" track, will be submitted to IEEE for inclusion in **IEEE Xplore®** online publication database. (Note: SHORT papers, i.e., papers submitted to "SHORT" track will not be submitted to IEEE Xplore database irrespective of their length.) 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. Only original papers that have not been published or submitted for publication elsewhere will be considered.

Papers presented at the Symposium should be full papers or extended abstracts, in English, of **maximum** 9 pages including figures and pictures, using the supplied template. 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.

Abstract (we now use EDAS for registering your abstracts!)

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 final full paper submission date.

To make it easy for the authors to check the appropriateness, the excerpts of session programs for the past four TRON Symposiums are uploaded to the website. TPC will contact you for the appropriateness of the topics explained in the abstract. Please specify if you would like to submit extended abstract of 2 pages or longer for the subsequent final submission (SHORT) instead of 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=28972

- 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.

Important Dates:

Please check the latest update of the dates at https://www.tronshow.org/2021-tron-symposium/en/call.html since there are often extensions.

- November 10
  - Paper registration.
- November 10
  - Full paper submission deadline
- November 30
  - Notification of Acceptance
- December 5
  - Final version deadline (for accepted papers) Author's advance registration deadline

Full Paper / Extended Abstract

The authors then should submit the final paper by the designated deadline to EDAS in Portable Document Format (PDF). Notice of acceptance for presentation will be given by 30th November.

For papers and extended abstracts that are accepted for presentation, the final version is to be submitted by 5th December. (We plan to use PDF eXpress plus of IEEE conference publication service for the final presentation submission. The details of using PDF eXpress plus to validate the format of the final version for conforming IEEE format will be mailed to the authors whose paper has been accepted. Also, please consult the author's guideline posted at the Symposium website.) An author must be present during the REMOTE PRESENTATION TIME for the presentation of the paper during 2021 TRON Symposium (TRONSHOW).

Accompanying Exhibition, TRONSHOW (8th – 10th 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

Please contact the following address if you are interested in participating as an exhibitor:

info@tronshow.org

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
- Smart Houses, Smart Buildings, and Smart Cities,
- 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

- USN (Ubiquitous Sensor Network)
- M2M communications
- Cyber Physical Systems (CPS)
- Computer-Augmented Environment
- IoT architectures
- IoT infrastructures
- IoT applications and IoT services
- 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.
- Location-based Information Systems
- Theory and practice of building real-world IoT application systems
- Cloud computing for the IoT
- Open Data, Big Data processing for the IoT
- IoT security
- Aggregate Computing
- IoT Aggregator

General

- Assistive technology (such as Enableware)[1]
- Impact of technology on society
- Security and privacy
- Standardization efforts, regulatory aspects and governance of the IoT

Technical Program Committee

Inquiries should be directed to the following address of Technical Program Committee (in English):

tpc@tron.org

- Chair:
  - Dr. Ken Sakamura, Dean of INIAD of Toyo University,
    Chair of TRON Forum
- Vice Chair:
  - Dr. Tomohiro Hase, Professor, Ryukoku University, Japan,
    Board Member, IEEE Consumer Technology Society

[1] Enableware is a term coined by TRON Project to refer to hardware/software/IoT-like solution to help the challenged people including the aged to use computer systems and enjoy computer-related services easily. This is an important contribution of the IoT in the future. TRON Forum will hold **TRON Enableware Symposium (TEPS)** separately from the main TRON Symposium. This is different from the main TRON Symposium co-sponsored by IEEE CTS, and is conducted in Japanese language. Please look out for the announcement on the TRON Forum web page.

Members of TPC (Alphabetical order of the family name):

- Muhamed Fauzi Bin Abbas — Singapore Institute of Technology
- Heikki Ailisto — VTT Technical Research Centre of Finland
- Yasuhito Asano — INIAD, Toyo University
- Alessandro Bassi — Alessandro Bassi Consulting
- Alex Galis — University College London
- Masahiro Bessho — INIAD, Toyo University
- Mu-Yen Chen — National Taichung University of Science and Technology
- Kwek Chin Wee — Republic Polytechnic
- Stephan Haller — The Bern University of Applied Sciences
- Chiaki Ishikawa — YRP Ubiquitous Networking Laboratory
- Tomonari Kamba — INIAD, Toyo University
- Shindo Katsunori — YRP Ubiquitous Networking Laboratory
- M. Fahim Ferdous Khan — INIAD, Toyo University
- Ryoichi Kawahara — INIAD, Toyo University
- Jee-Eun Kim — INIAD, Toyo University
- Tatu Koljonen — VTT Technical Research Centre of Finland
- Akira Matsui — Personal Media Corporation
- Akihiro Nakao — The University of Tokyo
- Takako NONAKA — Shonan Institute of Technology
- Alok Prakash — Nanyang Technological University
- George Roussos — Birkbeck College, University of London
- Kentaro Shimizu — The University of Tokyo
- Toru Shimizu — INIAD, Toyo University
- Amiruddin Bin Jaafar Sidek — Custommedia
- Mohit Sindhwani — Quantum Inventions
- Juha-Pekka Soininen — VTT Technical Research Centre of Finland
- Thambipillai Srikanthan — Nanyang Technological University
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- Junpei Tsuji — INIAD, Toyo University
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- Kenji Yoshigoe — Embry-Riddle Aeronautical University
- Takeshi Ogasawara — INIAD, Toyo University
- Ge Hangli — The University of Tokyo