

[Home](#)
[Call for Papers](#)
[Manuscripts Submission](#)
[Committee](#)
[ITPC](#)
[Important Dates](#)
[Registration Fees](#)
[Conference Timing](#)
[Best Ph.D Thesis Award](#)
[HOPE Award](#)
[Download](#)
[Special Sessions](#)
[Keynote Lecture](#)
[Plenary Lecture](#)
[IEEE Xplore](#)
[Contact Us](#)



Latest Announcements

- ☺ **Welcome to the first and inaugural version of IEEE Industrial Electronics Society Annual On-Line Conference (ONCON)! ONCON-2022 will be held during December 9-11, 2022.**
- ☺

This conference is fully on-line. When the world is trying to get back to physical and offline activities, IEEE IES has decided to keep one online annual conference active. Therefore, we are starting this new series.

Online conferences have their merits. Authors need not look for VISA application/clearances, spend for travel and other expenses and save time too.

While you have a complete flavor of a full IEEE event, the registration fee is kept marginal. ONCON will be having expert talks from global Leaders, Tutorials, Technical Committee Activities and lots of student activities.

Please stay in touch and do not miss attending this unique event.

Best regards,
 ONCON-2022 Team,
 IEEE Industrial Electronics Society

- **Last Date of Submission of Full Paper : 15-10-2022**
- **Acceptance Notification starts from: 7-11-2022**

Major Conference Activities

- Regular papers (similar to other conferences like IECON, ISIE etc.)
- Recognition for Outstanding PhD Thesis
- Student's Outstanding paper Competition
- WIE Activities
- Membership Promotion Activities
- Technical Committee Promotion
- Help Others ProgrammE (HOPE)

Call for papers

IEEE ONCON 2022 is the 1st Annual Online Conference of the IEEE Industrial Electronics Society (IES), focusing on the advanced theory, concepts, and applications of advanced Industrial Electronic Systems. The conference has a wide scope and brings together, scientists, practitioners, industry engineers and inventors that apply electronic concepts within an industrial context. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship. Papers with new research results are encouraged for submission.

The conference is scheduled to take place online from **9-11 December 2022**.

The scope of the conference will cover, but will not be limited to, the following topics:

Power Electronics & Energy Conversion

Power converters, power electronic devices, SiC MOSFET & SiC JFET technologies, PWM converters, integrated power electronics, modeling, simulation and control of power electronics, DC/DC, DC/AC, AC/DC conversion, AC/AC matrix converters, multilevel converters, high frequency links, soft switching techniques, active rectifiers, inverters, UPS, energy efficiency, power electronics for smart grid, EMI and EMC issues.

Electrical Machines and Drives

Special machines and actuators, multiphase motors, AC motor drives control and applications, observers and sensor-less methods, electrical machine design and modelling, thermal, noise and vibration issues in electrical machines, reliability, testing and diagnostics, fault detection in machines and drives, motion control, special application of machines and drives, HVAC, advanced traction control of electric vehicles and electric trains, electrical drives for ships and for aerospace. Advance techniques in real and offline simulation of industrial drives power system and electromechanical devices.

Power Systems and Smart Grid

Large and small hydro generators, energy transmission and distribution, static VAR and harmonic compensations, FACTS, active and hybrid filtering, power quality devices, power management, modeling, simulation and control of power system, grid connect, distributed power generation, diagnostics, smart grid technologies, intelligent control systems, multi-agent systems, global and constrained optimization, electricity market liberalization.

Renewable Energy Generation and Harvesting

Wind, solar, and wave energy converters, nano-, pico-, and micro-hydro power generators, integrated renewable systems, hybrid electric vehicles, fuel cells, advanced batteries, energy storage devices and systems, offshore underwater converters and energy harvesting.

Electrical Energy Storage Systems

Specialty batteries, fuel cells, ultra-capacitors, battery technologies, fly wheels, hybrid storage, flow batteries, battery management systems, cell balancing technologies, energy storage for renewables, energy storage for transportation, power electronics for energy storage, uninterruptible power supplies and small storage systems.

Electric Transportation

Electric propulsion, marine drive trains, railway drive trains, more electric aircraft, Vehicle to Home (V2H), power electronics for drive train, Vehicle to Grid (V2G), Vehicle to Vehicle (V2V), emerging charging technologies, charging infrastructure, wireless charging, energy storage for automotive, modelling, simulation of vehicle systems, intelligent vehicle control and autonomous vehicles.

Sensors, Actuators, Systems Integration and Nano Technologies

Intelligent sensors, actuators and multi-sensor fusion, micro-sensors and micro-actuators, micro-nano technology, electronic instrumentation, micro-electro-mechanical systems (MEMS), systems on chip (SoC), RF systems integration - integrated optics and related technologies. wireless and wire line communication circuits, polymer electronics.

Control, Robotics, and Mechatronics

Advanced control techniques, nonlinear and adaptive control, optimal and robust control, estimation and identification techniques, neural networks, fuzzy algorithms, evolutionary computing, intelligent control of robotics, autonomous mobile robots, tele robotics and teleoperation, humanoid robots, multi-robot systems, intelligent transportation, distributed collaborative systems, security & safety applications, human-robot interface, vision-based robots.

Cloud Computing, Big Data and Software Engineering

Cloud computing, deep learning, machine learning, convolutional learning, big data, data mining, text

mining, artificial intelligence, social computing, decision support systems, data analytics and software engineering.

Signal and Image Processing and Computational Intelligence

Computer vision, virtual reality systems, industrial vision, virtual instrumentation, image & sound processing, digital signal processing, remote sensing, multimedia applications, neural networks, fuzzy logic, genetic algorithms, industrial applications of intelligent controllers.

Electronic System on Chip and Embedded Control

Real time simulation algorithms, DSP and FPGA technologies, microprocessor and FPGA based control, real time implementation and control, VHDL applications, embedded systems, real-time distributed embedded systems, technologies for system design, electronic system on chip, design methodologies and tools.

Industrial Automation, Communication, Networking, and Informatics

Building automation, factory automation and communications, flexible manufacturing systems, industrial vision, motion control, autonomous mobile robots, electrical vehicles, intelligent transportation, industrial agents, integrated systems and processes, distributed collaborative systems, human-machine interfaces, security & safety applications, infrastructures for industrial informatics portable electronics, automation systems for power distribution, industrial applications of internet technologies, multimedia, and wireless communications.

Important Timelines

- Opening Date of Submission of Full Paper (upto 6 pages double column format): 15-08-2022
- Last Date of Submission of Full Paper : 15-10-2022
- Acceptance Notification: 7-11-2022
- Submission of Final Manuscript and Copyright Form: 21-11-2022

Home
Call for Papers
Manuscripts Submission
Committee
ITPC
Important Dates
Registration Fees
Conference Timing
Best Ph.D Thesis Award
HOPE Award
Download
Special Sessions
Keynote Lecture
Plenary Lecture
IEEE Xplore
Contact Us

Submission of Manuscripts

Important:

Before you can register your paper you should register to the new conference management system. If you haven't registered yet, please register at:

<https://confcomm.ieee-ies.org/authentication/register>.

As part of the registration process you will receive a confirmation email for you to activate your account.

To prepare your manuscript get the templates from:

<https://www.ieee.org/conferences/publishing/templates.html>

Create your PDF eXpress TM site at:

<https://ieee-pdf-express.org/account/login?ReturnUrl=%2F>

First-time users should do the following:

1. Select the New Users - Click Here link.
2. Enter the following:
 - **56984X** for the Conference ID
 - your email address
 - a password
3. Continue to enter information as prompted.



@Please make the following change:

Previous users of PDF eXpress need to follow the above steps, but should enter the same password that was used for previous conferences. Verify that your contact information is valid.

Please submit your paper using the following link:

<https://confcomm.ieee-ies.org/app/general/conferences/ONCON22/initial-submission>

For any question you may write to **oncon2022@gmail.com**

[Home](#)
[Call for Papers](#)
[Manuscripts Submission](#)
[Committee](#)
[ITPC](#)
[Important Dates](#)
[Registration Fees](#)
[Conference Timing](#)
[Best Ph.D Thesis Award](#)
[HOPE Award](#)
[Download](#)
[Special Sessions](#)
[Keynote Lecture](#) 
[Plenary Lecture](#) 
[IEEE Xplore](#)
[Contact Us](#)

Advisory Board

- Dave Irwin, USA, Chair
- Haitham Abu-Rub, Qatar
- Kamal Al-Haddad, Canada
- Bimal Bose, USA
- Giuseppe Buja, Italy
- Carlo Cecati, Italy
- Ambrish Chandra, Canada
- Armando W. Colombo, Germany
- Carlos Couto, Portugal
- Leopoldo G. Franquelo, Spain
- K. Gopakumar, India
- Hiromasa Haneda, USA
- Victor Huang, USA
- Joachim Holtz, Germany
- Yoichi Hori, Japan
- Okyay Kaynak, Turkey
- Ren C. Luo, Taiwan
- Hao Ma, China
- Kim F. Man, China
- Terry Martin, USA
- Thilo Sauter, Austria
- Bhim Singh, India
- Maria Ines Valla, Argentina
- Xinghuo Yu, Australia

Honorary General Chairs

- Mariusz Malinowski, Poland
- Valeriy Vatkin, Finland
- Roberto Oboe, Italy
- Bijnan Bandyopadhyay, India
- Huijin Gao, China
- Luis Gomes, Portugal
- Yousef Ibrahim, Australia
- Makoto Iwasaki, Japan
- Milos Manic, USA
- Yang Shi, Canada

General Chairs

- Mo-Yuen Chow (USA)
- Kiyoshi Ohishi (Japan)
- Juan Jose Rodriguez-Andina (Spain)
- Akshay K. Rathore (Singapore)
- Chandan Chakraborty (India)

Technical Program Chairs

- Sheldon Williamson (Canada)
- Chengbin Ma (China)
- Fei Gao (France)
- R. Sudharshan Kaarthik (India)

Special Session Chairs

- Giampaolo Buticchi, Italy
- Hadi Kannan, Lebanon
- Deepak Ronanki, India
- Gabor Sziebig, Norway

Track Chairs

Power Electronics & Energy Conversion

- Antonio J. Marques Cardoso, Portugal
- Morgan Kiani, USA
- Chi-Seng Lam, China

Electrical Machines and Drives

- Jose Alfonso Antonino Daviu, Spain
- Shafigh Nategh, Sweden
- Thomas Wolbank, Austria

Power Systems and Smart Grid

- Andrea Benigni, Germany
- João Martins, Portugal
- Farhad Shahnia, Australia

Renewable Energy Generation and Harvesting

- Giampaolo Buticchi, China
- Daniel Hissel, France
- Chandan Kumar, India

Electrical Energy Storage Systems

- Bharat Balagopal, USA
- Federico Baronti, Italy

Electric Transportation

- Yigeng Huangfu, China
- Giambattista Gruosso, Italy
- Zedong Zheng, China

Sensors, Actuators, Systems Integration and Nano Technologies

- Seiichiro Katsura, Japan
- Emre Sariyildiz, Australia
- Zhichao Tan, China

Control, Robotics, and Mechatronics

- Mihoko Niitsuma, Japan
- Szemes Peter, Hungary
- Gabor Sziebig, Norway

Cloud Computing, Big Data and Software Engineering

- Adnan M. Abu-Mahfouz, South Africa
- Gerard Hanke, China
- Lei Shu, China

Signal and Image Processing and Computational Intelligence

- Hao Luo, China
- Jinhua She, Japan

Electronic System on Chip and Embedded Control

- Bruno Allard, France
- Tarek Ould-Bachir, Canada
- Alin-Sasa Tisan, UK

Industrial Automation, Communication, Networking, and Informatics

- Moris Behnam, Sweden
- Wenbin Dai, China
- Paulo Leitão, Portugal
- Kim Fung Tsang, China

Industry Forum Chairs

- Michael Condry, USA
- Stamatis Karnouskos, Germany

HOPE Awards Chairs

- Morgan Kiani, USA
- Armando W. Colombo, Germany
- Mihak Kularatna, New Zealand
- Antonio Luque, Spain
- Sumit K. Chattopadhyay, India

Best Ph.D Thesis Award Chairs

- Luis Gomes, Portugal
- Yousef Ibrahim, Australia
- Ritesh Keshri, India

WIE Activities Chairs

- Lucia Lo Bello, Italy
- Mukti Barai, India
- Akansha Sigh, USA
- Chathurika S. Wickramasinghe, USA
- Elena Breaz, France

Publications Chairs

- Pradyumn Chaturvedi, India
- Sertac Bayhan, Qatar
- Peter Palensky, Netherlands

Finance Chairs



- Ambrish Chandra, Canada
- Saptarshi Basak, India

Publicity Chairs

- Qinglong Han, Australia
- Ujjwal Kalla, India

Secretariat

- Arun K. Verma, India
- B. Ramesh Naidu, India
- Cong Sheng Huang, Taiwan
- Zhikang Li, China

[Home](#)
[Call for Papers](#)
[Manuscripts Submission](#)
[Committee](#)
[ITPC](#)
[Important Dates](#)
[Registration Fees](#)
[Conference Timing](#)
[Best Ph.D Thesis Award](#)
[HOPE Award](#)
[Download](#)
[Special Sessions](#)
[Keynote Lecture](#) 
[Plenary Lecture](#) 
[IEEE Xplore](#)
[Contact Us](#)

International Technical Program Committee

- **Ajay Singh, India**
- **Alireza Khaligh, USA**
- **Andrii Chub, Estonia**
- **Anton Dianov, Korea**
- **Antonio Manuel Santos Spencer Andrade, Brazil**
- **Arun Kumar Paul, India**
- **Atif Iqbal, Qatar**
- **Ayan Mallik, USA**
- **Chen Wenjie, Singapore**
- **Herbert Hess, USA**
- **Ion Boldea, Romania**
- **Jan Haase, Germany**
- **John Lam, Canada**
- **Jose I. Leon, Spain**
- **Joydeep Mitra, USA**
- **L.Umanand, India**
- **Marcelo Godoy Simoes, Finland**
- **Marek Jasinski, Poland**
- **Minh C. Ta, Vietnam**
- **Mohammad Nasir Uddin, Canada**
- **N C Sahoo, India**
- **Narayan Kar, Canada**
- **Olorunfemi Ojo, USA**
- **Pang Zhibo, Sweden**
- **Qiang Gao, China**
- **Rajeevan. P.P, India**
- **S.M. Suhail Hussain, Saudi Arabia**
- **Saad Mekhilef, Malaysia**
- **Sandoval Carneiro Jr, Brazil**
- **Santanu Kapat, India**
- **Stratis Batzelis, UK**
- **Sukumar Mishra, India**
- **Yasutaka Fujimoto, Japan**
- **Yen Shin Lai, Taiwan**
- **Yueshi Guan, China**
- **Zhongcheng Lei, China**



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

[Home](#)

[Call for Papers](#)

[Manuscripts Submission](#)

[Committee](#)

[ITPC](#)

[Important Dates](#)

[Registration Fees](#)

[Conference Timing](#)

[Best Ph.D Thesis Award](#)

[HOPE Award](#)

[Download](#)

[Special Sessions](#)

[Keynote Lecture](#)



[Plenary Lecture](#)



[IEEE Xplore](#)

[Contact Us](#)



Important Timelines

- **Opening Date of Submission of Full Paper (upto 6 pages double column format): 15-08-2022**
- **Last Date of Submission of Full Paper : 15-10-2022**
- **Acceptance Notification: 7-11-2022**
- **Submission of Final Manuscript and Copyright Form: 21-11-2022**



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

- Home
- Call for Papers
- Manuscripts Submission
- Committee
- ITPC
- Important Dates
- Registration Fees
- Conference Timing
- Best Ph.D Thesis Award
- HOPE Award
- Download
- Special Sessions
- Keynote Lecture 
- Plenary Lecture 
- IEEE Xplore
- Contact Us

Registration Fees

IEEE IES Member (Early/Late): **\$200/\$250**
IEEE Student Member (Early/Late): **\$75/\$125**
Non IEEE Student Member (Early/Late): **\$100/\$150**
IEEE Non-IES-Member (Early/Late): **\$225/\$275**
Non-IEEE Member (early/late): **\$250/\$300**

Early registration fees will apply until **21st November 2022**. With one full registration one can present up to TWO papers.

For any question you may write to oncon2022@gmail.com



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

- Home
- Call for Papers
- Manuscripts Submission
- Committee
- ITPC
- Important Dates
- Registration Fees
- Conference Timing
- Best Ph.D Thesis Award
- HOPE Award
- Download
- Special Sessions
- Keynote Lecture
- Plenary Lecture
- IEEE Xplore
- Contact Us

Conference Timing

ONCON2022 will be held during December 9-11, 2022

ONCON2022 will have three Sessions each day according to the following time-schedule. These slots will have multiple Technical Sessions, Keynote, Plenary and Industry talks and other activities.

Session-A

This will follow Japan Standard Time (JST: GMT+9)
JST 9:00 AM to JST 1:10 PM
and will cover IEEE Region 10

Session-B

This will follow Central European Time (CET: GMT+1)
CET 9:00 AM to 1:10 PM
and will cover IEEE Region 8

Session-C

This will follow New York Time (EST: GMT-5)
EST 9:00 AM to 1:10 PM
and will cover IEEE Regions 1 to 7 and 9.

All technical sessions will be by default scheduled according to the communicating author' s country (IEEE Region). However, any author can select any time zone by sending their preference in advance to the Secretariat (oncon2022@gmail.com)

Home
 Call for Papers
 Manuscripts Submission
 Committee
 ITPC
 Important Dates
 Registration Fees
 Conference Timing
 Best Ph.D Thesis Award
 HOPE Award
 Download
 Special Sessions
 Keynote Lecture
 Plenary Lecture
 IEEE Xplore
 Contact Us

Best Ph.D Thesis Award

Fresh PhD holders who have defended their theses during 1st Jan 2021 to ~~September 30, 2022~~ **October 15, 2022** will be considered. The scope of the thesis-work is Industrial Electronics (check the TIE-scope at <http://www.ieee-ies.org/pubs/transactions-on-industrial-electronics>) and Industrial Informatics (check the TII-scope at: <http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics>).

Candidates are required to submit a 3 mins video of their work along with a 10 slides PPT highlighting the Novelty and Usefulness of the research. After preliminary screening top 10 candidates will be asked to send 5 mins video of the activities they would like to highlight.

Out of 10 candidates, 3 top candidates will be called for a 30 mins on-line presentation. The best candidate will finally be selected for the award.

Deadline for submission of 3 mins video and 10 slides PPT: ~~September 30, 2022~~ **October 15, 2022** For any question you may write to **oncon2022@gmail.com**

Submit your slides & video by email to **oncon2022@gmail.com**

Best Ph.D Thesis Award Chairs

Marcian Cirstea, UK
 Luis Gomes, Portugal
 Yousef Ibrahim, Australia
 Leila Parsa, USA
 Ritesh Keshri, India

Home
Call for Papers
Manuscripts Submission
Committee
ITPC
Important Dates
Registration Fees
Conference Timing
Best Ph.D Thesis Award
HOPE Award
Download
Special Sessions
Keynote Lecture
Plenary Lecture
IEEE Xplore
Contact Us

HOPE Award

Help Others Programme (HOPE) is a unique program to promote and appreciate humanitarian activities through IEEE IES. The motivation is to use electricity to help mankind (particularly deprived and/or electricity-less population around the globe). The scope is anything involving industrial electronics & informatics. One example may be to promote solar PV to empower developing and under developed nations.

A team (consisting of one to five persons) needs to submit first a 10 slides PPT by the deadline.

After preliminary screening top 10 teams will be asked to send 5 mins video of the activities they would like to highlight.

Out of 10 teams 3 top teams will be called for a 30 mins on-line presentation. One top team will finally be selected for the award.

Deadline for submission of 10 slides PPT: ~~September 30, 2022~~ **October 15, 2022**

For any question you may write to oncon2022@gmail.com

Submit your slides by email to oncon2022@gmail.com



Hope Award Chairs:

Morgan Kiani, USA
Armando W. Colombo, Germany
Nihal Kularatna, New Zealand
Antonio Luque, Spain
Sumit K. Chattopadhyay, India



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

[Home](#)
[Call for Papers](#)
[Manuscripts Submission](#)
[Committee](#)
[ITPC](#)
[Important Dates](#)
[Registration Fees](#)
[Conference Timing](#)
[Best Ph.D Thesis Award](#)
[HOPE Award](#)
[Download](#)
[Special Sessions](#)
[Keynote Lecture](#) 
[Plenary Lecture](#) 
[IEEE Xplore](#)
[Contact Us](#)

Download

- [Call for Papers](#)

IEEE ONCON 2022 is the 1st Annual Online Conference of the IEEE Industrial Electronics Society (IES), focusing on the advanced theory, concepts, and applications of advanced Industrial Electronic Systems. The conference has a wide scope and brings together, scientists, practitioners, industry engineers and inventors that apply electronic concepts within an industrial context. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship. Papers with new research results are encouraged for submission.

The conference is scheduled to take place online from 9-11 December 2022.

The scope of the conference will cover, but will not be limited to, the following topics:

Power Electronics & Energy Conversion

Power converters, power electronic devices, SiC MOSFET & SiC JFET technologies, PWM converters, integrated power electronics, modeling, simulation and control of power electronics, DC/DC, DC/AC, AC/DC conversion, AC/AC matrix converters, multilevel converters, high frequency links, soft switching techniques, active rectifiers, inverters, UPS, energy efficiency, power electronics for smart grid, EMI and EMC issues.

Electrical Machines and Drives

Special machines and actuators, multiphase motors, AC motor drives control and applications, observers and sensor-less methods, electrical machine design and modelling, thermal, noise and vibration issues in electrical machines, reliability, testing and diagnostics, fault detection in machines and drives, motion control, special application of machines and drives, HVAC, advanced traction control of electric vehicles and electric trains, electrical drives for ships and for aerospace. Advance techniques in real and offline simulation of industrial drives power system and electromechanical devices.

Power Systems and Smart Grid

Large and small hydro generators, energy transmission and distribution, static VAR and harmonic compensations, FACTs, active and hybrid filtering, power quality devices, power management, modeling, simulation and control of power system, grid connect, distributed power generation, diagnostics, smart grid technologies, intelligent control systems, multi-agent systems, global and constrained optimization, electricity market liberalization.

Renewable Energy Generation and Harvesting

Wind, solar, and wave energy converters, nano-, pico-, and micro-hydro power generators, integrated renewable systems, hybrid electric vehicles, fuel cells, advanced batteries, energy storage devices and systems, offshore underwater converters and energy harvesting.

Electrical Energy Storage Systems

Specialty batteries, fuel cells, ultra-capacitors, battery technologies, fly wheels, hybrid storage, flow batteries, battery management systems, cell balancing technologies, energy storage for renewables, energy storage for transportation, power electronics for energy storage, uninterruptible power supplies and small storage systems.

Electric Transportation

Electric propulsion, marine drive trains, railway drive trains, more electric aircraft, Vehicle to Home (V2H), power electronics for drive train, Vehicle to Grid (V2G), Vehicle to Vehicle (V2V), emerging charging technologies, charging infrastructure, wireless charging, energy storage for automotive, modelling, simulation of vehicle systems, intelligent vehicle control and autonomous vehicles.

Sensors, Actuators, Systems Integration and Nano Technologies

Intelligent sensors, actuators and multi-sensor fusion, micro-sensors and micro-actuators, micro-nano technology, electronic instrumentation, micro-electro-mechanical systems (MEMS), systems on chip (SoC), RF systems integration - integrated optics and related technologies. wireless and wire line communication circuits, polymer electronics.

Control, Robotics, and Mechatronics

Advanced control techniques, nonlinear and adaptive control, optimal and robust control, estimation and identification techniques, neural networks, fuzzy algorithms, evolutionary computing, intelligent control of robotics, autonomous mobile robots, tele robotics and teleoperation, humanoid robots, multi-robot systems, intelligent transportation, distributed collaborative systems, security & safety applications, human-robot interface, vision-based robots.

Cloud Computing, Big Data and Software Engineering

Cloud computing, deep learning, machine learning, convolutional learning, big data, data mining, text mining, artificial intelligence, social computing, decision support systems, data analytics and software engineering.

Signal and Image Processing and Computational Intelligence

Computer vision, virtual reality systems, industrial vision, virtual instrumentation, image & sound processing, digital signal processing, remote sensing, multimedia applications, neural networks, fuzzy logic, genetic algorithms, industrial applications of intelligent controllers.

Electronic System on Chip and Embedded Control

Real time simulation algorithms, DSP and FPGA technologies, microprocessor and FPGA based control, real time implementation and control, VHDL applications, embedded systems, real-time distributed embedded systems, technologies for system design, electronic system on chip, design methodologies and tools.

Industrial Automation, Communication, Networking, and Informatics

Building automation, factory automation and communications, flexible manufacturing systems, industrial vision, motion control, autonomous mobile robots, electrical vehicles, intelligent transportation, industrial agents, integrated systems and processes, distributed collaborative systems, human-machine interfaces, security & safety applications, infrastructures for industrial informatics portable electronics, automation systems for power distribution, industrial applications of internet technologies, multimedia, and wireless communications.

Important Timelines

Opening Date of Submission of Paper: 15-08-2022

Last Date of Submission of Full Paper: 15-10-2022

Acceptance Notification: 7-11-2022

Submission of Final Manuscript and Copyright Form: 21-11-2022

Special Sessions

Special Sessions are the technical sessions on emerging and selected areas within the scope of Industrial Electronics and Informatics. Special Sessions by Experts are most welcome. These will run in parallel to other Technical Sessions. One session will have typically five to six papers with 2 hours of duration. A team of two to four experts (preferably from different countries) may form a team to organize a Special Session. If you are interested to organize a Special Session in ONCON2022, please contact the Special Session Chairs with the proposed TITLE and your brief CV with the list of publications:

Special Session Chairs

Giampaolo Buticchi, China
Hadi Kannan, Lebanon
Deepak Ronanki, India
Gabor Sziebig, Norway

Timeline:

Deadline to receive the proposal: **September 15, 2022**

If you have any question, you may write to the Conference Secretariat at: oncon2022@gmail.com

Approved Special Sessions for ONCON2022

Deadlines of paper submissions are same as Regular Sessions

SS1: Industry 4.0 in Agriculture

Organisers: (1) Lei Shu, Nanjing Agricultural University, China/University of Lincoln, UK, (2) Ye Liu, Macau University of Science and Technology, Macau, China, (3) Yongliang Qiao, The University of Sydney, Australia

Details & Scope: This special session on "Industry 4.0 in Agriculture" is to provide a forum for researchers from diverse interdisciplinary areas to present their latest achievements in smart agriculture.

Topics of interest include, but are not limited to:

- Internet of Things for smart agriculture
- Robotics and autonomous systems for smart agriculture
- Artificial intelligence for smart agriculture
- Big data analytics for smart agriculture
- Blockchain for smart agriculture
- Edge computing for smart agriculture
- Unmanned aerial vehicle for smart agriculture

SS2: Recent Advances in Model Predictive Control for Power Electronic Converters

Organisers: (1) Jorge Rodas, Universidad Nacional de Asunción, Luque, Paraguay and (2) Jose Rodriguez, Universidad San Sebastian, Santiago, Chile

Details & Scope: On model predictive control related topics in Power Electronics.

SS3: Modelling and Control Techniques for Distributed Grid Connected PE Devices

Organisers: (1) Kawther Ezzeddine, University of Tunis, Tunisia, (2) Mahmoud Hamouda, University of Sousse, Tunisia, (3) Hadi Y. Kanaan, Saint-Joseph University of Beirut, Lebanon (4) Kamal Al-Haddad, Ecole de Technologie Supérieure, Canada

Details & Scope: Nowadays, renewable energy sources (RES) represent a real alternative to

unsustainable and polluting fossil sources. Indeed, RES are expected to, strongly, contribute in the reduction of greenhouse emissions through the production of sustainable and green energy. The world is now generating more than 20% of its electricity from PV, wind, fuel cells, solar thermal, bioenergy, and other RES technologies. This share of RES in power generation is expected to, strongly, grow in the next decades. It is, commonly, known that most RES technologies are based on power electronics energy conversion systems, such as DC-DC topologies, single-phase and three-phase inverters, transformerless power systems, multilevel inverters, topologies with reduced leakage current, grid feeding inverters, grid forming inverters, etc. In fact, to exploit most of the produced renewable energy, it is fundamental to design efficient, reliable, and low-cost power conversion topologies, which will trigger new technical challenges to maximize the potential of integrating these systems onto AC power grids.

In this regard, this special session addresses the recent advances and new challenges in static power converters topologies dedicated to RES. Topics of interest include, but are not limited to:

- Power conversion topologies for RES
- Modern control techniques for power conversion topologies
- Artificial intelligence-based control algorithms and maximum power extraction
- IoT applications in static power converters for RES
- Design, Modelling, simulation, and control of renewable energy systems
- Power quality improvement in AC grids by artificial intelligence
- Advanced common mode voltage and leakage current mitigation techniques
- Low-voltage ride-through capability
- Advanced methods for fault detection Fault diagnosis and fault tolerant control of power converters
- PLL-based synchronization techniques
- Electromagnetic compatibility
- Relevant grid codes
- Battery chargers

Keynote Lecture #1

9th Dec. 2022

How Can a Smart Power Grid Help to Integrate Diverse Sources of Generation and Storage



Saifur Rahman, PhD
 Joseph Loring Professor & Director
 Advanced Research Institute
 Virginia Tech, USA
2022 IEEE President-elect

Abstract:

With the focus on environmental sustainability and energy security, power system planners are looking at renewable energy and storage as supplements and alternatives. But such generation sources have their own challenges - primarily intermittency. It is expected that the smart grid – due to its inherent communication, sensing and control capabilities – will have the ability to manage the load, storage and generation assets (including renewables) in the power grid to enable a large-scale integration of distributed generation. In a smart grid, information about the state of the grid and its components can be exchanged quickly over long distances and complex networks. It will therefore be possible to have the integration of sustainable energy sources, such as wind, solar, off-shore electricity, etc. for smoother system operation.

The future electric utility will become an intelligent provider of these services. This lecture introduces the operational characteristics of renewable energy sources, and various aspects of the smart grid - technology, standards and regulations. It also addresses the interplay among distributed generation, storage and conventional generation to provide an efficient operational strategy in the context of the smart grid.

Brief Bio:

Professor Saifur Rahman is the founding director of the Advanced Research Institute at Virginia Tech, USA where he is the Joseph R. Loring professor of electrical and computer engineering. He also directs the Center for Energy and the Global Environment. He is a Life Fellow of the IEEE and an IEEE Millennium Medal winner. He is the 2022 IEEE President-elect and was the president of the IEEE Power and Energy Society (PES) for 2018 and 2019. He was the founding editor-in-chief of the IEEE Electrification Magazine and the IEEE Transactions on Sustainable Energy. He has published over 140 journal papers and has made over four hundred conference and invited presentations. In 2006 he served on the IEEE Board of Directors as the vice president for publications. He is a distinguished lecturer for the IEEE Power & Energy Society and has lectured on renewable energy, energy efficiency, smart grid, energy internet, blockchain, IoT sensor integration, etc. in over 30 countries. He is the founder of BEM Controls, LLC, a Virginia (USA)-based software company providing building energy management solutions. He served as the chair of the US National Science Foundation Advisory Committee for International Science and Engineering from 2010 to 2013. He has conducted several energy efficiency, blockchain and sensor integration projects for Duke Energy, Tokyo Electric Power Company, the US National Science Foundation, the US Department of Defense, the US Department of Energy and the State of Virginia. He has a PhD in electrical engineering from Virginia Tech.

Keynote Lecture #2

10th Dec. 2022

Architectures, Topologies and Components for High-Frequency, High-Density Power Conversion



David Perreault
 Massachusetts Institute of Technology

Abstract:

This talk describes emerging approaches to advance the miniaturization and performance of power electronics. Improved energy-storage components are one key avenue. Likewise, architectures and topologies that minimize magnetic energy storage and/or utilize it more flexibly can yield smaller, higher-performance systems. Designs operating at greatly increased frequencies can also facilitate miniaturization and improved bandwidth, and can enable new applications. This talk will outline opportunities provided by such approaches and provide examples of their use to achieve higher-performance power electronic systems.

Brief Bio:

David Perreault is the Ford Professor of Electrical Engineering and Computer Science at MIT. His research interests include design power electronic systems and components and in their use in a wide range of applications. He is a Member of the National Academy of Engineering, a Fellow of the IEEE and is the recipient of awards including the IEEE R. David Middlebrook Achievement Award for his work in power electronics. He has co-authored fourteen IEEE prize papers in the area, and co-founded startup companies Eta Devices (acquired by Nokia in 2016) and Eta Wireless (acquired by Murata in 2021).



Keynote Lecture #3

11th Dec. 2022

Motion Control of EV and Paradigm Shift to Motor/Capacitor/Wireless



Yoichi Hori
 Tokyo University of Science, Japan

Abstract:

The most distinct advantage of electric vehicle is electric motor's quick and precise torque generation. I named this technique 'Motion Control of EV' and have been demonstrating its basic effectiveness of various proposed methods like adhesion control by using some really made experimental EVs. On the other hand, 'Motor', 'Capacitor' and 'Wireless' will be the key technologies for cars in the future, instead of 'Engine', 'Battery' and 'Quick charge'. Future cars will be driven by electric motors, but we still have lots of problems in energy supply. Why are electric vehicles supposed to be charged with 'stopped', in a 'short time', and by 'big energy', even though the energy form of electricity is completely different from that of gasoline. Super-capacitors and wireless power transfer to EV's in motion will play an important role in the future EV world by drastically reducing too big usage of recent high-capacity batteries.

Brief Bio:

Yoichi Hori received his B.S., M.S., and Ph.D. degrees in Electrical Engineering from the University of Tokyo, in 1978, 1980, and 1983, respectively. He became a Professor at the same department in 2000. In 2002, he moved to the Institute of Industrial Science, in 2008 to the Department of Advanced Energy, and in 2021 he retired and has been in Tokyo University of Science. His research fields are control theory and its industrial applications to motion control, mechatronics, robotics, electric vehicles, etc. He is IEEE Life Fellow. He was the President of IEEJ-IAS, the President of WEVA and the Vice-president of JSAE. He is now the President of Capacitors Forum, the Chairman of Motor Technology Symposium of JMA, the Representative Director of NeV. He is the winner of the Best Transactions Paper Award from the IEEE Transactions on Industrial Electronics in 1993, 2001 and 2013, of the 2000 Best Transactions Paper Award from IEEJ, and 2011 Achievement Award of IEEJ.

Plenary Lecture #1

9th Dec. 2022

Extending capacitors' lifetime in power converters



Leopoldo G. Franquelo

Department of Electrical Engineering, Sevilla
University, Spain
Chair Professor, Department of Control Science
and Engineering, Harbin Institute of Technology,
Harbin, China

Abstract:

In today's renewable energy systems, power converter role is of paramount importance. One of the most critical components of power converters are the capacitors. The lifetime of the capacitor strongly depends on the hotspot temperature, which is normally not possible to measure. In this way, the capacitor hotspot temperature estimation as well as the overall damage estimation during converter operation are hot topics for industry and academia. In this talk, the basic concepts of capacitor hotspot estimation, as well as the operation of power converters to extend the lifetime of the capacitor will be addressed.

Brief Bio:

Leopoldo G. Franquelo (Life Fellow, IEEE) was born in Málaga, Spain. He received the M.Sc. and Ph.D. degrees in EE from Sevilla University, Spain, in 1977 and 1980, respectively. He is full professor at the Department of EE, Sevilla University, he has also been Chair Professor with the Department of Control Science and Engineering, Harbin Institute of Technology, Harbin, China. He has authored more than 300 papers, 120 of them in IEEE Journals. His current research interests include modulation techniques for multilevel inverters and application to power electronic systems for renewable energy systems.

Dr. Franquelo is Distinguished Lecturer of the IEEE-IES. He was, Co-Editor-in-Chief, and the Editor-in-Chief of the TIE, Vice President for Conferences from 2004 to 2007, and President of the IES from 2010 to 2011. Currently he is a life member of the IES AdCom. In 2009 and 2013, he received the prestigious Andalusian Research Award and the FAMA Award recognizing the excellence of his research career. He has received a number of Best Paper Awards from IEEE journals. He was the recipient of the Eugene Mittelmann Outstanding Research Achievement Award and the Antohny J. Hornfeck Service Award from the IES, in 2012 and 2015, respectively.

Plenary Lecture #2

10th Dec. 2022

Discontinuous Control: Past, present, and future



Xinghuo Yu
RMIT University, Melbourne, Australia

Abstract:

Discontinuous control is a very effective approach to deliver fast and efficient actions to achieve desirable control objectives. However, its analysis and synthesis encounter some of the most difficult mathematical problems. Major schools of thoughts, such as the sliding mode control and the switched control systems, have emerged over the last several decades. Yet, there are still many unsolved challenges across the spectrum of theory and applications of discontinuous control. Furthermore, new challenges arise due to fast industrial developments, e.g. industrial cyber-physical systems. In this talk, we will first introduce the basics of discontinuous control. We will then examine the major schools of thoughts in dealing with discontinuity and discontinuous control, and their analysis and synthesis methodologies, exploring inherent properties that distinguish them from the continuous control systems. We will also present key challenges that may hinder their developments and future opportunities especially in the emerging industrial complex cyber-physical systems environments.

Brief Bio:

Xinghuo Yu is an Associate Deputy Vice-Chancellor, a Vice-Chancellor's Professorial Fellow, and a Distinguished Professor at RMIT University (Royal Melbourne Institute of Technology), Melbourne, Australia. He is the Senior Past President of IEEE Industrial Electronics Society. He received BEng and MEng degrees from the University of Science and Technology of China, Hefei, China, in 1982 and 1984, and PhD degree from Southeast University, Nanjing, China in 1988, respectively. His main research areas include control systems engineering, intelligent and complex systems, and smart power and energy systems. He received many awards and honours for his contributions, including the 2018 MA Sargent Medal from Engineers Australia and the 2013 Dr.-Ing. Eugene Mittelmann Achievement Award from IEEE Industrial Electronics Society. He is a Fellow of the IEEE, Engineers Australia, Australian Computer Society, and Australian Institute of Company Directors.

Plenary Lecture #3

11th Dec. 2022

GaN-based power converters enabling talktive power



Marco Liserre
Kiel University, Kiel, Germany

Abstract:

The most distinct advantage of electric vehicle is electric motor's quick and precise torque generation. I named this technique 'Motion Control of EV' and have been demonstrating its basic effectiveness of various proposed methods like adhesion control by using some really made experimental EVs. On the other hand, 'Motor', 'Capacitor' and 'Wireless' will be the key technologies for cars in the future, instead of 'Engine', 'Battery' and 'Quick charge'. Future cars will be driven by electric motors, but we still have lots of problems in energy supply. Why are electric vehicles supposed to be charged with 'stopped', in a 'short time', and by 'big energy', even though the energy form of electricity is completely different from that of gasoline. Super-capacitors and wireless power transfer to EV's in motion will play an important role in the future EV world by drastically reducing too big usage of recent high-capacity batteries.

Brief Bio:

Marco Liserre (S'00-M'02-SM'07-F'13) received the MSc and PhD degree in Electrical Engineering from the Bari Polytechnic, respectively in 1998 and 2002. He has been Associate Professor at Bari Polytechnic and from 2012 Professor in reliable power electronics at Aalborg University (Denmark). From 2013 he is Full Professor and he holds the Chair of Power Electronics at Kiel University (Germany). He has published 500 technical papers (1/3 of them in international peer-reviewed journals) and a book. These works have received more than 35000 citations. Marco Liserre is listed in ISI Thomson report "The world's most influential scientific minds" from 2014. He has been awarded with an ERC Consolidator Grant for the project "The Highly Efficient And Reliable smart Transformer (HEART), a new Heart for the Electric Distribution System". He is member of IAS, PELS, PES and IES. He has been serving all these societies in different capacities. He has received the IES 2009 Early Career Award, the IES 2011 Anthony J. Hornfeck Service Award, the 2014 Dr. Bimal Bose Energy Systems Award, the 2011 Industrial Electronics Magazine best paper award and the Third Prize paper award by the Industrial Power Converter Committee at ECCE 2012, 2012, 2017 IEEE PELS Sustainable Energy Systems Technical Achievement Award and the 2018 IEEE-IES Mittelmann Achievement Award.



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

Home
 Call for Papers
 Manuscripts Submission
 Committee
 ITPC
 Important Dates
 Registration Fees
 Conference Timing
 Best Ph.D Thesis Award
 HOPE Award
 Download
 Special Sessions
 Keynote Lecture
 Plenary Lecture
 Lecture #1
 Lecture #2
 Lecture #3
 IEEE Xplore
 Contact Us

IEEE Xplore

All accepted and presented papers will be uploaded in IEEE Xplore. All accepted and presented papers are eligible for further submission to the IEEE Journal of Emerging and Selected Topics in Industrial Electronics (JESTIE) as Post Conference papers. Accepted post conference papers from ONCON2022 are expected to be published either in July 2023 or Oct 2023 issue of JESTIE (<https://www.ieee-ies.org/pubs/jestie>). Authors need to submit the modified and upgraded manuscript to the journal latest by March 31, 2023.

General information to upgrade conference papers into journal papers:



- For conference paper to be considered for a journal publication it must have at least 40% new content reflecting new data, experimental results, analysis, conclusions, etc. They are expected to comply with the IEEE policy regarding plagiarism. While ONCON2022 papers can be up to six pages, the journal paper can be up to ten pages. Details of the page length for JESTIE are available at: <https://www.ieee-ies.org/pubs/jestie/268-gia#page-limit>
- Authors are requested to attach the conference paper to their submission, so that reviewers have it at hand and can easily compare the two papers.

The relevant IEEE policy on post-conference publications in journals can be found in the IEEE Publication Service and Product Board (PSPB) Manual, which is available online at: <https://pspb.ieee.org/images/files/files/opsmanual.pdf>



1st IEEE Industrial Electronics Society Annual On-Line Conference (ONCON) 2022

Dec 9-11, 2022

[Home](#)
[Call for Papers](#)
[Manuscripts Submission](#)
[Committee](#)
[ITPC](#)
[Important Dates](#)
[Registration Fees](#)
[Conference Timing](#)
[Best Ph.D Thesis Award](#)
[HOPE Award](#)
[Download](#)
[Special Sessions](#)
[Keynote Lecture](#) 
[Plenary Lecture](#) 
[Lecture #1](#)
[Lecture #2](#)
[Lecture #3](#)
[IEEE Xplore](#)
[Contact Us](#)

Contact

If you have any question, you may write to the Conference Secretariat at: oncon2022@gmail.com

or in case of urgency send WhatsApp Message to **+91-9733677284**