



The 38th Annual Conference of the IEEE Industrial Electronics Society

IECON 2012 is the flagship conference of Industrial Electronics Society, an international conference on industrial electronics fast developing technologies and their applications. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship. IECON'12 is being held concurrently with the 6th IEEE International Conference on E-Learning in Industrial Electronics (ICELIE'12). Participation in both conferences just requires the IECON'12 registration fee. Topics of interest include but are not limited to:

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.
Chairs: Bhim Singh (India), Bin Wu (Canada), Hadi Kanaan (Lebanon)

Renewable Energy & Sustainable Development: wind, solar, and wave energy converters, nano, pico and micro-hydro power generators, integrated renewable systems, fuel cells, Biomass converters, piezoelectric transformer and converters, thermoelectric generators and converters, energy storage devices and systems, offshore underwater converters, offshore power supplies, energy harvesting, more electric aircraft energy production, and conversion.
Chairs: Josep Guerrero (Spain), Marco Liserre (Italy), Adel Nasiri (USA)

Power Systems: 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.
Chairs: Ambrish Chandra (Canada), Mo Yuen Chow (USA), Pierre Jean Lagacé (Canada), Salem Rahmani (Tunisia)

Electronic System on Chip & Real Time 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.
Chairs: Eric Monmasson (France), Marc Perron (Canada), Ray Cheung (Hong Kong)

Signal and Image Processing & 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.
Chairs: Alexander Malinowski (USA), Marcel Gabrea (Canada), Milos Manic (USA), Farhat Fnaiech (Tunisia)

Electric and plug-in hybrid electric vehicles: Automotive power electronics, Automotive motor drives, Battery and other energy storage systems, Ultracapacitors and energy management, Fuel cells for automotive applications. Novel machine designs; EV/PHEV charge control algorithms and strategies; EV/PHEV interface with renewable energy and grid, electric transportation.
Chairs: Sheldon Williamson (Canada), Tanvir Rahman (Canada), Tony Coulombe (Canada), Mahesh Krishnamurthy (USA)

Call for papers



IECON' 2012
25-28 October 2012
ÉTS Montréal, Québec, Canada

Electrical Machines & Drives: special machines and actuators, multiphase motors, AC motor drives control and applications, observers and sensorless methods, electrical machine design and modeling, 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 off line simulation of industrial drives power system and electromechanical devices.

Chairs: Aldo Boglietti (Italy), Leila Parsa (USA), Andrea Cavagnino (Italy), Franck Betin (France)

Control Systems & Applications: advanced control techniques, nonlinear and adaptive control, optimal and robust control, estimation and identification techniques, intelligent control, vehicular technology control, control in aerospace, medicine & biology, remote control techniques, neural networks, fuzzy algorithms, evolutionary computing, intelligent systems, instrumentation subject to critical conditions, cyber-physical energy systems, systems control at device level and quantum control, self healing control, cognitive control, distributed control by integrating control and heterogeneous communication, industrial applications

Chairs: Hideki Hashimoto (Japan), Peter Korondi (Hungary), Kok Meng Lee (USA), Ouassima Akhrif (Canada), Sudip Mazumder (USA)

Sensors, Actuators and Systems Integration: 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.

Chairs: Antonio Luque (Spain), Kiyoshi Ohishi (Japan), Thilo Sauter (Austria)

Mechatronics & Robotics: mechatronics systems, robotics, autonomous mobile robots, telerobotics and teleoperation, humanoid robots, multi-robot systems, intelligent transportation, distributed collaborative systems, security & safety applications, human-robot interface, vision-based robots.

Chairs: Makoto Iwasaki (Japan), Roberto Oboe (Italy), Vahé Nerguisian (Canada), Hiroshi Fujimoto (Japan)

Factory Automation & Industrial Informatics: cloud computing, 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.

Chairs: Armando Walter Colombo (Germany), Dietmar Bruckner (Austria), Peter Palenski (Austria)

Software

Electronics and software co-design and architecture, software quality, system and software safety, software verification, validation and diagnostics, software and systems non functional requirements, model based systems and software requirements, software quality, architecture quality, domain specific software estimation and benchmarking

Chairs: Alain Abran (Canada), Carlos Monsalve (Ecuador)



IECON'2012: 25 - 28 October, ÉTS, Montreal, Canada



SPECIAL SESSIONS

The conference will include special sessions on highly specialized topic reporting technical trends and breakthroughs within the scope of the conference. Special sessions are organized at the initiative of one or more individuals, who must adhere to specific procedures published at the conference website.

Chairs: Juan José Rodríguez (Spain), Kim Man, (Hong Kong), Mariusz Malinowski (Poland)

Industry Forum

The industry forum focus on industry directions and use of IES technologies in industry products. It also motivates discussion with applications of the same technologies into diverse usage areas such as automobiles, robotics in the consumer products, remote sensor control in the home, etc. IECON 2012 industry forum has a selection of topic sessions of particular interest to the industries in Canada as well as our IECON attendees; it will discuss product directions, industry needs and product requirements.

Chairs: Arezki Merkouf (Canada), Michael Condry(USA), Victor K.L. Huang (USA), Richard MacDonald (Canada)

Submission of Papers

The working language of the conference is English. Submit the full paper using the following layout. Limitation to 6 full pages, including paper title, authors and affiliations, figures and references (maximum size 2MB). Authors are requested to prepare the manuscripts in the IEEE two-column format, using the template available at IECON'12 Website and to translate it in PDF. No other format in the submission and in the final version can be accepted.

Accepted papers will be published in an IEEE Proceedings volume and will be included in IEEE Xplorer and indexed by EI Compendex. Best papers will be reviewed and published in IEEE Transactions on Industrial Electronics TIE or in IEEE Transactions on Industrial Informatics TII

IMPORTANT 2012 DEADLINES

REGULAR PAPERS : **April 15th**
TUTORIAL PROPOSALS : **April 30th**
SPECIAL SESSION PROPOSALS : **March 20th**
NOTIFICATION of ACCEPTANCE: **June 1st**
FINAL SUBMISSIONS DUE: **July 15th**
EARLY REGISTRATION CLOSES : **August 1st**



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