

Contents

2014 IEEE 11th International Multi-Conference on Systems, Signals and Devices (SSD).....	2
Chairman’s Welcome Message.....	3
SSD 2014 Organizers	4
General Information	5
Venue	5
Travel Information	6
Touristic information.....	7
Social Program	10
Meet the experts	11
Systems, Analysis and Automatic Control	17
Power Electrical Systems	24
Communication and Signal Processing	33
Sensors, Circuits and Instrumentation Systems	42

2014 IEEE 11th International Multi-Conference on Systems, Signals and Devices (SSD)

ORGANIZED BY

- Universitat Politècnica de Catalunya, BarcelonaTech, Spain
- Chemnitz University of Technology, Germany
- Philadelphia University, Jordan

SUPPORTED BY

- Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels - EETAC
- IEEE Power Electronics Society -Industrial Electronics Society Joint Spanish Chapter
- Spanish Chapter of the IEEE Sensors Council
- IEEE Instrumentation and Measurement Society
- IEEE Chapter of Instrumentation and Measurement, Germany
- Ajuntament de Castelldefels

Chairman's Welcome Message

On behalf of the International Multi-Conference on Systems, Signals & Devices Organizing Committee, it is our great pleasure to welcome you to the 11th International Multi-Conference on Systems, Signals & Devices (SSD14) and to Castelldefels.

SSD conferences traditionally gather researchers in the main fields of electrical engineering and information technology from the leading research centers and universities around the world. Since 2001, SSD has grown substantially from a brand new conference with an innovative vision to the SSD of today, firmly established as an international conference with an outstanding scientific quality and an excellent reputation.

SSD14 multi-conference includes four conferences:

- SAC - Systems Analysis and Automatic Control, related to system design, modern control theory, robotics and human-machine interaction systems.
- PES - Power Electrical Systems (PES), devoted to electrical machines, drives and power systems, including modern smart grids.
- CSP - Communication and Signal Processing (CSP) covers electrical signal processing, image processing and communication systems.
- SCI - Sensors, Circuits and Instrumentation Systems (SCI) include topics in the fields of sensors, measurement interfaces, instrumentation systems and energy harvesting systems.

SSD14 secretariat has received 255 submissions from all the continents and 37 countries: Germany, Tunisia, Spain, Italy, Algeria, Jordan, Saudi Arabia, France, Denmark, Korea, Qatar, P.R. China, New Zealand, Egypt, USA, Brazil, India, Turkey, Norway, Iran, Sweden, Portugal, Iraq, Ukraine, Canada, Oman, Lebanon, The Netherlands, Georgia, Indonesia, Taiwan, Hungary, Finland, Slovenia, Russia, Austria and Bahrain.

Each paper has been reviewed by at least two reviewers of the program committee which consisted of more than 150 scientists from more than 20 countries. The program includes two plenary sessions, 12 keynote lectures, with the 180 accepted papers.

We would like to personally thank you for attending the conference. We hope the conference will be an opportunity to share the knowledge and the expertise with other in the field, favoring networking and exchange experiences.

Finally, it is with grateful hearts that we acknowledge the work carried out by Conference Chairs and Committee members in the work of preparing this conference to become a great success.

Prof. Olfa Kanoun and Dr. Angel Cuadras

Castelldefels, February 2014

SSD 2014 Organizers

SSD GENERAL CHAIRS

Angel Cuadras (ES)
Olfa Kanoun (DE)

SSD HONORARY CHAIR

Hans-Rolf Tränkler (DE)

SAC CONFERENCE CHAIR

Cecilo Angulo (SP)

CSP CONFERENCE CHAIRS

Pere Lluís Gilabert (SP)
Gabriel Montoro (SP)

PES CONFERENCE CHAIR

Josep M. Guerrero (DK)

SCI CONFERENCE CHAIR

Manel Gasulla (SP)

SSD STEERING COMMITTEE

Kasim Al-Aubidy (JO)
Mohamed Chtourou (TN)
Faouzi Derbel (D)
Moez Feki (TN)
Olfa Kanoun (D)

Luis Martinez Salamero (E)
Pierre Melchior (FR)
Ghada Amer (EG)
Nabil Derbel (TN)
Mohamed Djemel (TN)

Gerhard Fischerauer (D)
Ahmed Masmoudi (TN)
Mohamed Mekidech (DZ)
Mohamed M'Saad (FR)

SSD ORGANIZING COMMITTEE

Josep Polo
Victoria Julia Ovejas

Marcos Quilez
Gemma Hornero

Ernesto Serrano
Gerard Musterni

CONTACT INFORMATION

SSD General Chair

Angel Cuadras

Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels
Universitat Politècnica de Catalunya, BarcelonaTech
Esteve Terradas 7
08860 Castelldefels
Spain

Tel: (+34) 93 413 7091 angel.cuadras@upc.edu

<http://www.ssd-conf.org/ssd14>

General Information

Venue

The 11th edition of the International Multi-Conference on Systems, Signals & Devices SSD'14 will be hosted at Castelldefels School of Telecommunications and Aerospace Engineering (Barcelona, Spain), campus of the Universitat Politecnica de Catalunya - Barcelona Tech.



Castelldefels is a nice summer resort, with long and sandy beaches, located 20 km south Barcelona and very well communicated, with the benefits of a quiet place. In the same campus there are well reputed research institutes: CTTC for communications research and ICFO for photonic sciences.



Barcelona is a very dynamic South-European and Mediterranean city. It is the perfect city to relax in with its charming people, stroll around the modernist art and enjoy its fine gastronomy.

It is also the Mobile World Capital, and an attractive pole for science and technology development.

Travel Information

<http://goo.gl/maps/PDLjb>



Air

Castelldefels is 15 km from the Barcelona International Airport. To reach Castelldefels from the airport:

By bus: L-99 bus from the new Terminal T1 to Castelldefels (regular shuttle buses between terminals T1 and T2). Frequency: every half hour.

By car: leave the airport and follow the signs for C-31 highway (heading towards Sitges).

By taxi: the average fare of 20 euros each way.

By train (Renfe): to reach Castelldefels, take line C-1 heading to El Prat de Llobregat, where you should change to line C-2 heading towards Sitges/Vilanova/Sant Vicenç de Calders.

Train

The Castelldefels train station is just 300 metres from the EETAC and connects it to Barcelona by the RENFE Rodalies (local trains) line C-2. Four to six trains run every hour from Barcelona-Passeig de Gracia and Barcelona-Sants stations. Travel time is 20-30 minutes.

Buses

Line L94 Barcelona - Castelldefels

Barcelona - L'Hospitalet - El Prat de Llobregat - Viladecans - Gava - Castelldefels

Line L95 Barcelona - Castelldefels

Barcelona - L'Hospitalet - El Prat de Llobregat - Viladecans - Gava - Castelldefels

Line N14 (Night Bus) Barcelona - Castelldefels

Barcelona Pl. Catalunya - Hospitalet - Esplugues - St. Boi - Viladecans - Gava - Castelldefels (downtown)

Line N16 (Night Bus) Barcelona - Castelldefels

Barcelona Pl. Catalunya - Hospitalet - Esplugues - St. Boi - Viladecans - Gava - Castelldefels

Taxis

Radiotaxi Castelldefels Phone: (+34) 93 665 2222

Touristic information

CASTELLDEFELS

Castelldefels is located at the heart of Costa del Garraf, between the mountainous landscape of the massif of Garraf and the Mediterranean. More than five kilometres worth of fine beaches are found there, only a few minutes away from Barcelona and its international airport. Castelldefels Beach has received certified recognition for its tourist and environmental qualities.

This exceptional location makes it an attractive tourist destination for those who wish to observe the sharp contrasts that the region of Baix Llobregat exhibits. Thus, the visitor will be able to play any water sport in the unbeatable facilities of the marina, including canoeing in the Olympic Canal, built for the 1992 Olympics. The lovely temperatures of the coast of Barcelona will let us enjoy the Mediterranean waters, and the rich artistic heritage. The ancient castle of Fels, which gave this town its name, dominates the coastline of the city. You can also see medieval defence towers, erected in the 16th century, such as the towers of Can Ballester and Barona Tower.

<http://www.castelldefelsturisme.com>

ESCOLA D'ENGINYERIA DE TELECOMUNICACIÓ I AEROESPACIAL DE CASTELLDEFELS (EETAC)

Castelldefels School of Telecommunications and Aerospace Engineering (EETAC) is a Higher Education School of UPC specialising in technical and scientific courses in Aeronautics and Telecommunication (BSc, MSc and PhD), with a reputation for excellence in Teaching, Innovation and Quality. The school is also committed to research activities in close contact with industry to promote the transfer of results into practice.

EETAC was created in 1991 as a school belonging to the network of technical schools of the UPC. It was relocated to the Mediterranean Technology Park (PMT) in 2000 and since then it has experienced a continuous growth in the number of students (currently around 1500 students) and facilities (research and teaching laboratories, library, lecture rooms, etc). EETAC's mission is to provide a higher education of outstanding quality at BSc, MSc and PhD levels to contribute to the social and economic development of the country and to carry out important R&D activities, many of them in collaboration with other organizations in the PMT.

<http://eetac.upc.edu>

UNIVERSITAT POLITÈCNICA DE CATALUNYA - UPC BARCELONA TECH

The Universitat Politècnica de Catalunya - BarcelonaTech (UPC) is a public institution dedicated to higher education and research, specialised in the fields of engineering, architecture and science.

In a highly creative context, the UPC's research, teaching and management projects are based on the principles of freedom, justice, democracy, solidarity, cooperation, sustainability, efficiency, transparency and social responsibility. They also reflect the University's commitment to the environment and to change.

The activity that goes on at UPC campuses and schools has made the University a benchmark institution. In 2009, in the Spanish Ministry of Education's first round of International Campus of Excellence designations, the Universitat Politècnica de Catalunya - BarcelonaTech (UPC) was granted the recognition for the Barcelona Knowledge Campus (BKC) project. As a leading member of international networks of excellence, the UPC has a privileged relationship with global scientific and educational organisations. As a result, the University is at an advantage when it comes to attracting international talent.

UPC has schools in Barcelona and other nearby cities: Castelldefels, Manresa, Sant Cugat del Vallès, Terrassa and Vilanova i la Geltrú. It also has affiliated schools in Barcelona, Terrassa, Igualada and Mataró.

<https://www.upc.edu>

BARCELONA

Barcelona, the capital of Catalonia, is a Mediterranean and cosmopolitan city with Roman remains, medieval quarters and the most beautiful examples of 20th century Modernism and avant-garde. It is no surprise that emblematic constructions by the Catalan architects Antoni Gaudí and Lluís Domènech i Montaner have been declared World Heritage Sites by the UNESCO. Barcelona is the 10th-most-visited city in the world and the third most visited in Europe after London and Paris, with several million tourists every year. With its Rambles, Barcelona is ranked the most popular city to visit in Spain.

The city's origins are Roman, and its long history and economic dynamism have made Barcelona a cultural city, which can be seen in the historic-artistic heritage and the promotion of the most innovative artistic trends. A wide cultural programme will take visitors to museums, exhibitions, open-air sculptures... and many concerts, plays and dances. Popular culture also has its manifestations in this city, which still conserves its most cherished traditions, like the fiestas of

La Mercè or the festivities in the neighbourhoods of Gràcia, Sants and Poblenou. These are all exceptional opportunities for getting to know the city's more festive side.

Tradition and modernity can also be seen in its innovative and imaginative gastronomy, based on fresh garden produce, fresh fish, a wide variety of sausages and olive oil. Traditional handmade cakes and pastries and sparkling wines are some of the other highlights in this brief overview of Barcelona's gastronomic culture.

Strolling around the streets of Barcelona will bring surprises at every turn. Pedestrian streets in the old quarter, green spaces, and a splendid seafront with a range of modern facilities are a reflection of its multi-faceted character. Barcelona has cleverly succeeded in embracing its past without forgetting its commitment to the future. The city is endowed with some exceptional infrastructures which are in demand as venues for seminars, symposia and international events. Its exceptional transport connections, the Mediterranean climate and the multitude of attractions for visitors make Barcelona one of the world's leading business cities. Business parks and exhibition and conference centres host a wide range of initiatives.

Visitors coming to Barcelona for pleasure or on business can also enjoy the city's Mediterranean character, which can so clearly be seen on the Barcelona coast. The city also has lovely urban beaches, marine resorts, and golf courses on the seashore. Nature lovers will not have to go far to explore the mountains in the Cordillera Litoral range and the Catalan Pyrenees.

<http://www.barcelonaturisme.com/>

Social Program

The complete program of social activities is shown below:

Tuesday 11th, 15:30

Welcome cocktail

Tuesday 11th, 17:30

Visit to Castelldefels Castel



The castle sits atop a hill, dominating the coastal strip between the Garraf Massif and Barcelona. The southern half of the Castle houses the chapel, originally Romanesque in design, with one single nave and transept and the associated facilities: the rectory, the sacristy, the cemetery and the courtyard. A network of pathways leads slowly up to the castle and the Castle Park, with a range of different routes through the abundant flora, including such exotic species as Mediterranean fan palms. The summit of the hill is the best point from which to look out over the Garraf Massif, the Collserola Uplands, the Plain of Barcelona, Montjuïc, the Llobregat Delta and the coastline.

Thursday 13th, 20:00

Gala Dinner

An enjoyable dinner on the very beach front.

Hotel Playafels

Platja Ribera de San Pedro, 1-9

Castelldefels

Friday 14th, 15:00

Gaudí Tour

Gaudí was an architect from Catalonia who is considered the main representative of Catalan Modernism. Nature, architecture and religion were his passions and all of them are reflected in his art. Particularly, we are going to visit **Sagrada Família** and **Casa Batlló** which are two of the most emblematic works of Gaudí. An expert in Gaudí's architecture will come with us during the tour.

Enjoy the visit!



Meet the experts

Dr. Francisco Falcone

Ambient Intelligence Towards Smart Cities

Francisco Falcone (M05, SM09) received his Telecommunications Engineering Degree (1999) and PhD in Communications Engineering (2005), both at the Universidad Pública de Navarra (UPNA) in Spain. From 1999 to 2000 he worked as Microwave Commissioning Engineer at Siemens-Italtel. From 2000 to 2008 he worked as Radio Network Engineer in Telefónica Móviles. In 2009 he co-founded Tafco Metawireless, a spin off devoted to complex EM analysis. From 2003 to 2009 he was also Assistant Lecturer at UPNA, becoming Associate Professor in 2009. Since 2012 he is Head of the Electrical and Electronic Engineering Dept at UPNA. His research area is artificial electromagnetic media, complex electromagnetic scenarios and wireless system analysis. He has over 300 contributions in journal and conference publications. He has been recipient of the CST Best Paper Award in 2003 and 2005, Best PhD in 2006 awarded by the Colegio Oficial de Ingenieros de Telecomunicación, Doctorate award 2004-2006 awarded by UPNA, Juan Lopez de Peñalver Young Researcher Award 2010 awarded by the Royal Academy of Engineering of Spain and Premio Talgo 2012 for Technological Innovation.

Prof. Paul Mitcheson

RF Energy Harvesting and Inductive Power Transfer

Paul D. Mitcheson received the M.Eng. degree in electrical and electronic engineering and the Ph.D. degree from Imperial College London, U.K., in 2001 and 2005, respectively. He became a Lecturer (Assistant Professor) at Imperial College in 2006 and is currently a Senior Lecturer (Associate Professor) in the Control and Power Research Group, Electrical and Electronic Engineering Department at Imperial College London. He has research interests in energy harvesting devices, in particular the power processing requirements for harvester powered systems, including RF energy harvesting. He has a parallel line of work, which also concerns getting power to "hard to reach" places, investigating inductive power transfer.

Prof. Eduard Alarcon

Energy harvesting: device, circuit and system co-design and on-chip integration

Eduard Alarcon received the M. Sc. (National award) and Ph.D. degrees (honors) in Electrical Engineering from the Technical University of Catalunya (UPC BarcelonaTech), Spain, in 1995 and 2000, respectively. Since 1995 he has been with the Department of Electronic Engineering at UPC, where he became Associate Professor in 2000. From August 2003 to January 2004, July-August 2006 and July-August 2010 he was a Visiting Professor at the CoPEC center, University of Colorado at Boulder, US, and during January-June 2011 he was Visiting Professor at the School of ICT/Integrated Devices and Circuits, Royal Institute of Technology (KTH), Stockholm, Sweden.

During the period 2006-2009 he was Associate Dean of International Affairs at the School of Telecommunications Engineering, UPC. He has co-authored more than 250 scientific publications, 4 books, 4 book chapters and 4 patents, and has been involved in different National, European and US (DARPA, NSF) R&D projects within his research interests including the areas of on-chip energy management circuits, energy harvesting and wireless energy transfer, and nanotechnology-enabled wireless communications. He is the PI of the Guardian Angels EU FET flagship project at UPC and through N3CAT center he is part of the graphene flagship.

Dr Ramon Blasco-Gimenez

HVDC Integration of large Wind Power Plants

Dr Ramon Blasco-Gimenez obtained his BEng. degree from the Technical University of Valencia, Spain, in 1992, and his Ph.D. degree in Electrical and Electronic Engineering from the University of Nottingham, U.K., in 1996.

From 1992 to 1995, he was a Research Assistant in the Department of Electrical and Electronic Engineering, University of Nottingham. He is currently an Associate Professor at the Dept. of Systems Engineering and Control of the Technical University of Valencia, where he teaches advanced control techniques and control of drives.

He has been a consultant to utilities on integration of wind farms in weak grids and to large wind farm operators on risk based operation and maintenance of off-shore wind farms. His research interests include control of motor drives, wind power generation, off-shore wind farms and large scale grid integration of renewable energy and has published more than 90 journal and conference papers in the aforementioned topics.

Dr Blasco-Gimenez has been a co-recipient of the 2005 IEEE Transactions on Industrial Electronics Best Paper Award. He is a Senior Member of the IEEE, member of the IEEE Electronics Society Technical Committee in Renewable Energy, a registered professional engineer in Spain, Chartered Engineer (U.K.) and member of the Institute of Engineering and Technology.

Alessandro Cidronali

Architectures and technologies for small-cell based communication systems

Alessandro Cidronali (M89, SM 10) is an Associate Professor of Electronics at the Department of Information Engineering, University of Florence, where he teaches courses on electron devices and integrated microwave circuits. From 1999 to 2003, he was a Visiting Researcher with the Motorola Physics Science Research Laboratory. From 2002 to 2005, he was a Guest Researcher with the Non-Linear Device Characterization Group, at the National Institute of Standards and Technology (NIST). Under the frame of the IST-EU FP6 Network TARGET (IST-1-507893-NOE), he served as workpackage leader for the transmitters modeling/architectures for wireless broadband access work packages. His research activities cover the study of analysis and synthesis methods for nonlinear microwave circuits, the design of broadband monolithic

microwave integrated circuits (MMICs) and the development of modeling for microwave devices and circuits. Prof. Cidronali was recipient of the Best Paper Award presented at the 61st ARFTG Conference. From 2004 to 2006, he was an associate editor for the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES. Prof. Cidronali is a member of the IEEE TC-20 Wireless Technologies MTT Technical Committee.

Luis M. Correia

A Perspective of the Networks of the Future and Smart Cities

Luis M. Correia was born in Portugal, on 1958. He received the Ph.D. in Electrical and Computer Engineering from IST (University of Lisbon) in 1991, where he is currently a Professor in Telecommunications, with his work focused in Wireless/Mobile Communications in the areas of propagation, channel characterisation, radio networks, traffic, and applications, with the research activities developed in the INOV-INESC institute. He has acted as a consultant for Portuguese mobile communications operators and the telecommunications regulator, besides other public and private entities. Besides being responsible for research projects at the national level, he has been active in 28 ones within the European frameworks of RACE, ACTS, IST, ICT and COST (where he also served as evaluator and auditor), having coordinated 3 of them, and taken leadership responsibilities at various levels in many others. He has supervised more than 150 M.Sc. and Ph.D. students, having authored more than 350 papers in international and national journals and conferences, for which he has served also as a reviewer, editor, and board member, and edited 6 books. He has been part of 26 Ph.D. juries at the international level. He was part of the COST Domain Committee on ICT. He was the Chairman of the Technical Programme Committee of several major conferences, and is part of several Steering Boards. He is part of the Expert Advisory Group and of the Steering Board of the European Net!Works platform, and was the Chairman of its Working Group on Applications.

Dr. Ramon Costa-Castelló

On Tracking and Rejecting Periodical Signals

Ramon Costa-Castelló was born in Lleida, CATALUNYA, SPAIN in 1970, obtained the master degree in computer science in 1993 from the Facultat d'Informàtica de Barcelona (FIB) from the Universitat Politècnica de Catalunya (UPC), in 2001 he obtained the PhD degree in computer science from the Advanced Automation and Robotics (AAR) program from the Cibernetics Institute (Institut de Cibernètica, IC) at UPC. Currently, he is an Associate Professor at the Automatic Control department (Department of Enginyeria de Sistemes Automàtica i Informàtica Industrial, ESAII) and the Control and Organization Institute (Institut d'Organització i Control de Sistemes Industrials, IOC) both from UPC. Currently, his teaching activity is related with the Industrial Engineering degree from the School of Industrial Engineering of Barcelona (Escola Tècnica Superior d'Enginyeria Industrial de Barcelona, ETSEIB) and the Master in Automation and Robotics (MAR) from the ESAII department. At this moment he is teaching: Computer Control, Advanced Control and Real Time Systems from the ETSEIB and Robust Control from the

MAR. His research is mainly focused on the development of digital control techniques for tracking/rejection periodic signals (repetitive control, resonant control), with application to power electronic converters (active filters, rectifiers) and mechatronic plants. In parallel with this activity he works on the development of virtual/remote laboratories and interactive applications applied to teaching of automatic control. He is the author of a number of magazines and conference papers. He is a Senior Member from the Institute of Electrical and Electronics Engineers (IEEE), member of the Comité Español de Automática (CEA) and member of IFAC (EDCOM, TC 9.4 Committee). <https://sites.google.com/site/ramoncostacastello/>

Dr.-Ing. José de Gea Fernández

Towards general-purpose autonomous mobile robotic manipulators

José de Gea Fernández received his M.Sc. in Electronics Engineering (2002) from the Technical University of Catalunya (UPC), Spain and his PhD in Robotics (2011) from the University of Bremen, Germany. Between 2003 and 2009 he was a Researcher at the Robotics Group of the University of Bremen. Since 2009 he is working at the Robotics Innovation Center of DFKI (German Research Center for Artificial Intelligence) in Bremen. There, from 2011 to 2013 he acted as Deputy Head of the Department for "Mobility and Manipulation". Currently, he is Senior Researcher and co-leader of the Team "Intelligent Kinematics". He has co-authored over 30 scientific publications and has been involved in different German national (BMBF, DFG, BMWi, DLR) and European projects (EU, ESA) in several areas within his research in robotic manipulation. He led the DFKI team in the German project SemProm which specified the software / hardware characteristics and designed the control strategies for the robot AILA. He also led the DFKI contributions in the EU Project Robofoot and is currently project leader of the project BesMan (Behaviors for Mobile Manipulation), funded by BMWi (German Federal Ministry of Economics and Technology) and DLR (German Space Agency). His research area is on mobile manipulation, which involves performing complex manipulation actions in unstructured and dynamically changing environments. This research area aims at getting robot manipulators out of typical industrial, pre-determined and enclosed environments and deploy them in real-world scenarios and unforeseen situations.

Prof. Gerard C.M. Meijer

Capacitive Sensor Systems, emerging technologies

Gerard Meijer received his M.Sc. and Ph.D. degrees in Electrical Engineering from the Delft University of Technology, Delft, The Netherlands, in 1972 and 1982, respectively. Since 1972 he has been a member of the Research and teaching staff of Delft University of Technology, where he is a professor, engaged in research and teaching on Analogue Electronics and Electronic Instrumentation. Since 1984, he has been consultant for industrial companies and research institutes. In 1996 he co-founded the company SensArt, where he is consultant in the field of sensor systems. In 1999 the Dutch Technology Foundation STW awarded him with the honoree degree "Simon StevinMeester" and in 2001 he was awarded the Anthony van Leeuwenhoek

chair at TUDelft. In addition to many journal and conference papers, Meijer is also author and editor of books in the field of sensor systems, published by Wiley, Springer, IOP and Kluwer.

Prof. Eric Monmasson

FPGA-based controllers for power electronics and drive applications

Eric Monmasson (M'96-SM'06) received the Ing. and Ph.D. degrees from the Ecole Nationale Supérieure d'Ingénieurs d'Electrotechnique d'Electronique d'Informatique et d'Hydraulique de Toulouse (ENSEEIH), Toulouse, France, in 1989 and 1993, respectively. Eric Monmasson is currently a full professor at the University of Cergy-Pontoise, Cergy-Pontoise, France. He is also with the Systèmes et Applications des Technologies de l'Information et de l'Energie laboratory (SATIE, UMR CNRS8029). His current research interests include the advanced control of electrical motors and generators and the use of FPGAs for energy control systems. He was the chair of the technical committee on Electronic Systems-on-Chip of the IEEE Industrial Electronics Society (2008-2011). He is also a member of the steering committee of the European Power Electronics Association and the chair of the number one technical committee of the International Association for Mathematics and Computers in Simulation (IMACS). He was the general chair of ELECTRIMACS 2011 Conference. He is an associate editor of IEEE Transactions on Industrial Electronics and IEEE Transactions on Industrial Informatics. He is the author or coauthor of 3 books and more than 150 scientific papers.

Noel O'Connor

Taming the Information Overload of the Sensor Web

Noel E. O'Connor is an Associate Professor in the School of Electronic Engineering at DCU and a Funded Investigator (FI) in INSIGHT, Ireland's national research centre for data analytics, where he is responsible for aspects of the centre's work on Media Analytics. His early research was in the field of video compression, specifically object-based compression in the context of MPEG-4, which subsequently led to an interest in video object segmentation and tracking as well as other aspects of computer vision. With the advent of MPEG-7, he became interested in audio-visual (AV) analysis for content-based information retrieval as well as low-power configurable hardware for AV processing, a key-enabler for next generation context-aware multimedia sensors. The focus of his current research is in multi-modal content analysis leveraging mutually complementary sensor data sources, for applications in sports and health, digital media, ambient assisted living and environmental monitoring. Since 1999 Prof. O'Connor has published over 180 peer-reviewed publications, filed 6 patents and spun off a campus company. He has graduated 16 Ph.D students and 3 Masters students. He is an Area Editor for Signal Processing: Image Communication (Elsevier) and an Associate Editor for the Journal of Image and Video Processing (Springer). He was awarded the DCU President's Research Award for Science and Engineering in 2010. Also in 2010, he was awarded Enterprise Ireland's National Commercialization Award for ICT. He is a member of the IEEE, ACM, Engineers Ireland and the IET.

Leonhard Reindl*Power Supply for Wireless Sensor or Actuator Nodes*

Leonhard Reindl received his Diploma in Physics from Technical University of Munich, Germany, in 1985 and his Dr. sc. techn. from University of Technology Vienna, Austria, in 1997. In April 1985 Dr. Reindl joined the surface acoustic wave group of the Siemens Corporate Technology Division, Munich, Germany. At Siemens Dr. Reindl contributed to the development of SAW convolvers, dispersive, tapped, and reflective delay lines. His primary interest was in the development and application of SAW ID-tag and wireless passive SAW sensor systems. In April 1999 Dr. Reindl joined the Institute of Electrical Information Technology, Clausthal University of Technology, where he became professor of communications and microwave techniques. In May 2003 he accepted a full professor position as the chair for Electrical Instrumentation at the Institute for Microsystems Technology (IMTEK) at the University of Freiburg, Germany. Dr. Reindl is member of the IEEE, of the TPC of the IEEE Frequency Control Symposium, the Ultrasonics Symposium, the Eurosensors, and of the German biannual Symposium Sensoren und Messsysteme. He has been elected member of the AdCom of the IEEE UFFC society in 2005 to 2007 and from 2009 to 2011. He served also for the European ESRIF committee. He holds more than 30 patents on SAW devices and wireless passive sensors and has authored or co-authored more than 150 papers in this field.

Juan C. Vasquez*Research Challenges in Microgrid Technologies*

Received the B.S. degree in Electronics Engineering from Autonomous University of Manizales, Colombia in 2004 where he has been teaching courses on digital circuits, servo systems and flexible manufacturing systems. In 2009, he received his Ph.D degree from the Technical University of Catalonia, Barcelona, Spain in 2009 at the Department of Automatic Control Systems and Computer Engineering, from Technical University of Catalonia, Barcelona, Spain, where he worked as Post-doc and also teaching courses based on renewable energy systems. Currently, he is an Assistant Professor at Aalborg University, Denmark, where he is the co-leader of the microgrid research programme. He has been involved in a number of real microgrid site projects around the world. His research interests include modeling, simulation, networked control systems and optimization applied to distributed generation in AC/DC microgrids.

Systems, Analysis and Automatic Control

SAC CONFERENCE CHAIRS

Cecilo Angulo (SP)

PROGRAM COMMITTEE

Abdulwahid Al-Saif (SA)

Adriano Fagiolini (IT)

Ahmed Chemori (FR)

Chokri Rekik (TN)

Guillaume Charland (CA)

Ioannis Iossifidis (DE)

Kamal Medjaher (FR)

Matthew I. Campbell (USA)

Nobutaka Wada (JP)

Maamar Bettayeb (AE)

Tarek Raissi (FR)

Yassine Bouteraa (TN)

Pierre Melchior (FR)

Abdelkrim Brahmi (CA)

Denis Efimov (FR)

Ahmed El Hajjaji (FR)

Fareh Raouf (CA)

Hassen Mekki (TN)

Faical Mnif (OM)

Maarouf Saad (CA)

Martin Mellado (ES)

Paulo Gil (PT)

Salem Rahmani (TN)

Mohamed Chtourou (TN)

Rajib Kar (IN)

Marek Wegrzyn (PL)

Ines Tejado (ES)

Addison Rios-Bolivar (VE)

Duarte Valerio (PT)

Eric Rogers (UK)

Mohamed Djemel (TN)

Jorge Villagra (ES)

Magdi Mahmoud (KSA)

Mohammed Chadli (FR)

Pierre Borne (FR)

Salwa Elloumi (TN)

Georg Frey (DE)

Jean-Claude Trigeassou (FR)

TOPICS

SAC1: Robotics & Mechatronics

SAC2: System Identification

SAC4: MAV Special Session

SAC5: Nonlinear Control

SAC6: Nonlinear Observers

SAC8: Intelligent Control Systems

SAC9: Fuzzy Systems

SAC10: Adv. Linear Control Theory

Tuesday, February 11th – 15:30-17:30 Registration Room: 028b

Tuesday, February 11th – 17:30 Excursion

Wednesday, February 12th – 8:30-9:00 Registration Room: 028b

Wednesday, February 12th – 9:00-9:30 Opening Room: ICFO Auditorium

Wednesday, February 12th – 9:30-10:15 Room: ICFO Auditorium

PL1 Plenary Lecture
Chair Angel Cuadras

Ambient Intelligence Towards Smart Cities
Francisco Falcone

Wednesday, February 12th – 10:15-10:45 Coffee break Room: 028a

Wednesday, February 12th – 10:45-11:15 Room: 022

SAC KL 1 Keynote Lecture
Chair Cecilio Angulo

Towards general-purpose autonomous mobile robotic manipulators
José de Gea Fernández

Wednesday, February 12th – 11:15-12:45 Room: 022

SAC 1 Robotics & Mechatronics
Chair José de Gea Fernández

1569847689 Development and implementation of a real time system for distributed control of an industrial robot
Yassine Bouteraa (University of SFAX, Tunisia)

1569840887 Transferring Model-Free Objects between Human Hand and Robot Hand Using Vision/Force Control
Mohamad Bdiwi (Chemnitz University of Technology, Germany); Alexey Kolker (Novosibirsk State Technical University, Russia); Jozef Suchý (Chemnitz University of Technology, Germany)

1569832815 Task-based whole-body control of humanoid robots with ZMP regulation, real-time application to a squat-like motion
David Galdeano (LIRMM, France); Ahmed Chemori (LIRMM, France); Sebastien Krut (LIRMM, France); Philippe Fraisse (Cnrs Lirmm, France)

1569845397 UAV Quadrotor Implementation: A Case Study
Dana Shatat (Philadelphia University, Jordan); Tarek A. Tutunji (Philadelphia University, Jordan)

1569847629 Applying Reverse Engineering and its techniques on a Remote Controlled Toy Helicopter
Mohammed Bani Younis (Philadelphia University Jordan, Jordan); Mohammad Al-Shabi (Philadelphia University, Jordan); Samer Alamjed Alshaer (Philadelphia University Jordan, Jordan)

Wednesday, February 12th – 12:45-13:00

Meet the expert

Wednesday, February 12th – 13:00-14:30

Lunch

Wednesday, February 12th – 14:30-16:10

Room: 022

SAC 2 Chair	System Identification Cecilio Angulo
1569846605	Evaluation of rotation formalisms in three dimensions using a Lissajous knot <i>Hejia Pan (Mississippi State University, USA); Bryan Jones (Mississippi State University, USA)</i>
1569847413	Derivative Based Control For LPV System With Unknown Parameters: An Application on a Permanent Magnet Synchronous Motors <i>Sonia Maalej (INRIA-Lille and University of Lille, France); Alexandre Kruszewski (LAGIS/EC LILLE, France); Romain Delpoux (Laboratoire des Sciences de l'Information et des Systèmes, France); Lotfi Belkoura (LAGIS/Univ Lille1, France)</i>
1569842145	State Estimation and Application to Induction Machines - A Comparative Study <i>Majdi Mansouri (Electrical and Computer Engineering Program, Texas A&M University at Qatar, Qatar); Hazem N Nounou (Texas A&M University at Qatar, Qatar); Mohamed Nounou (Texas A&M University at Qatar, Qatar)</i>
1569842105	Modeling and Simulation of Quadrotor Helicopter with 2-DoF Tilting Rotors <i>Mahmoud Elfeky (King Fahd University of Petroleum and Minerals, Saudi Arabia); Moustafa Elshafei (King Fahd University of Petroleum & Minerals, Saudi Arabia); Abdulwahid A. Al-Saif (King Fahd University of Petroleum & Minerals, Saudi Arabia); Mohammad F. Al-Malki (MFADEC - Design and Engineering Consultancy, Saudi Arabia)</i>

Wednesday, February 12th – 16:10-16:40

Coffee break

Room: 028a

Wednesday, February 12th – 16:40-18:10

Room: 022

SAC4 Chair	MAV Special Session Wilbert Aguilar
1569846545	Designing Embedded Systems for Fixed-Wing UAVs: Dynamic Models Study for the Choice of an Emulation Vehicle <i>Rabah Louali (École Militaire Polytechnique, Algeria); Bouaziz Samir (Paris, France); Abdelhafid Elouardi (University of Paris-Sud, IEF, France); Mohand Said Djouadi (Ecole Militaire Polytechnique, Algeria); Abdelkrim Nemra (École Militaire Polytechnique, Algeria)</i>
1569847733	Flight Test and Simulation Results of an Integrated Dual Airborne Laser Scanner and Inertial Navigator for UAV Applications <i>Maarten Uijt de Haag (Ohio University, USA); Pengfei Duan (Ohio University, USA)</i>

1569847377	Towards an autonomous flying robot for inspections in open and constrained spaces <i>Massimo Satler (Scuola Superiore Sant'Anna, Italy); Matteo Unetti (Scuola Superiore Sant'Anna, Italy); Nicola Giordani (Scuola Superiore Sant'Anna, Italy); Carlo Avizzano (Scuola Superiore Sant'Anna, Italy); Paolo Tripicchio (Scuola Superiore Sant'Anna, Italy)</i>
1569847363	Robust Video Stabilization based on Motion Intention for Low-Cost Micro Aerial Vehicles <i>Wilbert Aguilar (UPC-BarcelonaTech, Spain); Cecilio Angulo (Technical University of Catalonia, Spain)</i>
1569832235	Load Swing control for an Unmanned Aerial Vehicle with a Slung load <i>Sami El Ferik (King Fahd University of Petroleum and Minerals, Saudi Arabia); Ghufuran Ahmed (King Fahd University of Petroleum and Minerals, Saudi Arabia); Hanafy Omar (Qassim Uiversity, Burriyadah, Saudi Arabia)</i>

Thursday, February 13th – 8:30-9:00 **Registration** Room: 028b

Thursday, February 13th – 9:00-9:45 Room: 001

PL2	Plenary Lecture
Chair	Manel Gasulla, Angel Cuadras
	RF Energy Harvesting and Inductive Power Transfer <i>Paul Mitcheson</i>

Thursday, February 13th – 9:45-10:00 **Meet the expert**

Thursday, February 13th – 10:00-10:30 **Coffee break** Room: 028a

Thursday, February 13th – 10:30-11:00 Room: 022

SAC KL 2	Keynote Lecture
Chair	
	On Tracking and Rejecting Periodical Signals <i>Ramon Costa-Castelló</i>

Thursday, February 13th – 11:00-12:40 Room: 022

SAC5	Nonlinear Control
Chair	Ramon Costa-Castelló
1569827973	Multivariable adaptive neural control based on multimodel emulator for nonlinear square MIMO systems <i>Nesrine Bahri (University of Gabes, Tunisia); Ridha Ben Abdennour (, Tunisia)</i>

1569847327	Application of a Second-Order Sliding Mode to Engine Speed Control during Gear Shifting Process on Automated Manual Transmission <i>Hua Huang (MDT, TU Berlin, Germany); Clemens Guehmann (Technische Universitaet Berlin, Germany); Yue Yu (Technische Universität Berlin, Germany)</i>
1569844667	Position control of a hydraulic servo system using sliding mode with discontinuous surface <i>Emna Kolsi (Engineering School of Sfax, Tunisia)</i>
1569847595	Continuous Closed Form Trajectories Generation and Control of Redundantly Actuated Parallel Kinematic Manipulators <i>Moussab Bennehar (Université Montpellier 2, France); Ahmed Chemori (LIRMM - CNRS / University Montpellier 2, France); Francois Pierrot (LIRMM, France); Sebastien Krut (LIRMM, France)</i>
1569833307	Feedback Linearization Control of Nonlinear Uncertain Systems Using Single Hidden Layer Neural Networks <i>Mohammed Belkheiri (Université Amar Telidji de Laghouat, Algeria); Hamou Ait Abbas (Université Amar Telidji de Laghouat, Algeria); Boubakeur Zegnini (Université Amar Telidji de Laghouat, Algeria)</i>

Thursday, February 13th – 12:40-13:00

Meet the expert

Thursday, February 13th – 13:00-14:30

Lunch

Thursday, February 13th – 14:30-16:10

Room: 022

SAC6 Chair	Nonlinear Observers Nabil Derbel
1569847661	Design of Robust Observers for Positive Delayed Interval Systems <i>Ines Zaidi (Valladolid University, Spain)</i>
1569845375	Finite Time Observers for a class of nonlinear system <i>Chakib Ben Njima (University of Monastir - LARATSI, Tunisia); Walid Ben Mabrouk (National School of Engineering of Monastir, Tunisia); Hassani Messaoud (ENIM, Tunisia)</i>
1569846661	Output feedback control of nonlinear hybrid dynamic systems <i>Imen Imen M (ENIM, Tunisia); Nabil Barhoumi (ENIM, Tunisia); Faouzi M'Sahli (University of Monastir, Tunisia)</i>
1569826561	Backstepping control for two tanks process based on adaptive high gain observer <i>Amani Turki (National Engineering School, Tunisia); Faouzi M'Sahli (University of Monastir, Tunisia); Safa Choueikh (ENIM, Tunisia)</i>
1569846615	Partial Vehicle State Estimation using Hight Order Sliding Mode Observers <i>Amani Turki (National Engineering School, Tunisia); Faouzi M'Sahli (University of Monastir, Tunisia); Safa Choueikh (ENIM, Tunisia)</i>

Thursday, February 13th – 16:10-16:40

Coffee break

Room: 028a

Thursday, February 13th – 16:40-18:10

Room: 022

SAC 8 Chair	Intelligent Control Systems Moez Feki
1569846281	RISE Feedback Control for a R/W Head Track Following in Hard Disc Drives <i>Manel taktak-Meziou (ICOS, Tunisia); Ahmed Chemori (LIRMM - CNRS / University Montpellier 2, France); Jawhar Ghommam (INSAT, Tunis, Tunisia); Nabil Derbel (National Engineering School of Sfax, Tunisia)</i>
1569847549	Robot control By Computed Torque Based on Support Vector Regression <i>Nacereddine Djelal (University of Science and Technology Houari Boumediene USTHB, Algeria)</i>
1569847399	Outside-In: Simplifying Systems by Integrating the Outside Perspective <i>David Kampert (RWTH Aachen University, Germany); Ulrich Epple (RWTH Aachen University, Germany)</i>
1569846931	Ultrasonic visibility tests and estimation of specular target plane orientation through a robotic scanning <i>Luigi Spedicato (University of Salento, Italy); Nicola Ivan Giannoccaro (University of Salento, Italy); Arcangelo Messina (University of Salento, Italy); Aime' Lay-Ekuakille (University of Salento, Italy)</i>
1569850655	Evaluation and Analysis of an on-chip Safety System Architecture <i>Ali Hayek (University of Kassel, Germany); Josef Boercsoek (University of Kassel, Germany)</i>

Thursday, February 13th – 20:30

Gala dinner

Friday, February 14th – 10:00-10:30

Coffee break

Room: 028a

Friday, February 14th – 10:30-11:00

Room: 022

SAC KL 3 Chair	Keynote Lecture Cecilio Angulo
From Personal Robots to Cloud Robotics <i>Jordi Albó Canals</i>	

Friday, February 14th – 11:00-12:50

Room: 022

SAC 9 Chair	Fuzzy Systems Jordi Albó Canals
1569827629	Real-Time Monitoring and Intelligent Control for Greenhouses Based on Wireless Sensor Network <i>Yassine Bouteraa (University of SFAX, Tunisia)</i>
1569846325	Fuzzy Augmented State Kalman Observer for Fault And State Estimation <i>Imen Maalej (ENIS, Tunisia); Donia Ben halima (University of Sfax, Sfax Engineering School, Tunisia); Chokri Rekik (University of Sfax, Sfax Engineering School, Tunisia)</i>
1569847625	Fuzzy logic based energy management algorithm of a hybrid electric vehicle with range-extender <i>Lei Yang (Chemnitz University of Technology, Germany); Erik Markert (Chemnitz University of Technology, Germany); Ulrich Heinkel (Chemnitz University of Technology, Germany)</i>
1569847851	On the state estimation of chaotic systems by a particle filter and an extended Kalman filter <i>Sameh Mejri (Ecole Polytechnique de Tunisie, Tunisia); Ali Sghaïer Tlili (Ecole Polytechnique de Tunisie, Tunisia); Naceur Benhadjbrarik (Hight school of sciences and technics Tunis, Tunisia)</i>

SAC 10 Chair	Advanced Linear Control Theory Jordi Albó Canals
1569846881	Performance trade-offs between Type II and Type III PLLs <i>Mikel Ugarte (Public University of Navarra, Spain); Alfonso Carlosena (Public University of Navarra, Spain)</i>
1569830665	Strong Stabilization of Time Delay Systems <i>Mikel Ugarte (Public University of Navarra, Spain); Alfonso Carlosena (Public University of Navarra, Spain)</i>

Friday, February 14th – 12:50-13:00

Meet the expert

Friday, February 14th – 13:00-14:30

Lunch

Friday, February 14th – 14:30-14:45

Closure

Room: 001

Friday, February 14th – 14:45

Excursion

Power Electrical Systems

PES CONFERENCE CHAIRS

Josep M. Guerrero (DK)

PROGRAM COMMITTEE

Andreas Lindemann (DE)	Daniel Montesinos-Miracle (ES)	Eric Monmasson (FR)
Khaled Jelassi (TN)	Aymen Flah (TN)	Josep Cairo (ES)
Salvatore D'Arco (NO)	Bruno François (FR)	Chokri Ben SALAH (TN)
Trabelsi Hafedh (TN)	Mohamed Elleuch (TN)	Said El-Barbari (TN)
Aymen Flah (TN)	Trabelsi Hafedh (TN)	Maamar Bettayeb(TN)
Stephan Ilijevic(ES)	Chokri Ben SALAH (TN)	Padmanabhan Sanjeevikumar (IN)

TOPICS

PES1: Optimization in electrical systems

PES2: Wind Energy

PES3: Photovoltaics

PES4: Electrical Grid Applications

PES5: Power Electronics

PES6: Machines

PES7-8: Microgrids

PES9: Transformers

PES10: Energy management

Tuesday, February 11th – 15:30-17:30 Registration Room: 028b

Tuesday, February 11th – 17:30 Excursion

Wednesday, February 12th – 8:30-9:00 Registration Room: 028b

Wednesday, February 12th – 9:00-9:30 Opening Room: ICFO Auditorium

Wednesday, February 12th – 9:30-10:15 Room: ICFO Auditorium

PL1 Plenary Lecture
Chair Angel Cuadras

Ambient Intelligence Towards Smart Cities
Francisco Falcone

Wednesday, February 12th – 10:15-10:45 Coffee break Room: 028a

Wednesday, February 12th – 10:45-11:15 Room: 024

PES KL 1 Keynote Lecture
Chair Josep M. Guerrero

Research Challenges in Microgrid Technologies
Juan C. Vasques

Wednesday, February 12th – 11:15-12:35 Room: 024

PES 1 Optimization in electrical systems
Chair Juan C. Vasquez

1569841695 Tuning of PID SSSC Controller Using Artificial Bee Colony Optimization Technique
Abu H. Rahim (King Fahd University of Petroleum & Minerals, Saudi Arabia)

1569841831 Approximate and Reinforcement Learning Techniques to Solve Non-Convex Economic Dispatch Problems
Mohammed Abouheaf (King Fahd University of Petroleum & Minerals, Saudi Arabia); Sofie Haesaert (Eindhoven University of Technology, The Netherlands); Wei-Jen Lee (Energy Systems Research Center, USA); Frank Lewis (Automation and Robotics Research Institute, University of Texas at Arlington, USA)

1569846365 Optimal Load Frequency Control Based on Hybrid Bacterial Foraging and Particle Swarm Optimization
Nour EL Yakine Kouba (University of Sciences and Technologies Houari Boumediene, Algeria); Mohamed Mena (University of Sciences and Technologies Houari Boumediene, Algeria); Mourad Hasni (USTHB University, Algeria); Boussahoua Bouziane (USTHB, Algeria); Mohamed Boudour (Université des Sciences & Technologies, Houari Boumediene, Alger, Algeria)

1569846439	Optimal Reactive Power Dispatch based on Particle Swarm Optimization Approach Applied to The Algerian Electric Power System <i>Youcef Amrane (University of Science and Technology Houari Boumediene, Algeria); Mohamed Boudour (Université des Sciences & Technologies, Houari Boumediene, Alger, Algeria)</i>
------------	--

Wednesday, February 12th – 12:35-13:00

Meet the expert

Wednesday, February 12th – 13:00-14:30

Lunch

Wednesday, February 12th – 14:30-16:10

Room: 024

PES 2	Wind Energy
Chair	Josep M. Guerrero
1569819323	A WT Based High Resolution Approach to Quantify Single-Phase Power Components Defined in IEEE STD 1459-2010 <i>Gad Mohamed (Alexandria University, Egypt); Medhat El Geneidy (Alexandria University, Egypt); Nabil Abbasy (Alexandria University, Egypt)</i>
1569819325	A WT Based High Resolution Approach to Quantify Three-Phase Power Components Defined in IEEE STD 1459-2010 <i>Gad Mohamed (Alexandria University, Egypt); Medhat El Geneidy (Alexandria University, Egypt); Nabil Abbasy (Alexandria University, Egypt)</i>
1569846257	Direct Power Control of a Doubly Fed Induction Generator Dedicated to Wind Energy Conversions <i>Aicha Daoud (University of Sfax, Tunisia); Fatma Ben Salem (University of Sfax, National School of Engineering, Tunisia)</i>
1569846437	Vector Control of a Cascaded Doubly Fed Induction Generator for a Wind Energy Conversion System <i>Ghada Boukettaya (National School of Engineering of Sfax, Tunisia); Omar Naifar (University of Sfax, National School of Engineering, Tunisia)</i>

Wednesday, February 12th – 14:30-16:10

Room: 023

PES 3	Photovoltaics
Chair	
1569846265	Modeling and Simulation of Hybrid System Coupling a Photovoltaic Generator, a PEM Fuel Cell and an Electrolyzer (Part I) <i>Bechir Neily (University of Sfax, Tunisia); Nabil Tlili (University of Sfax, Tunisia); Fatma Ben Salem (University of Sfax, National School of Engineering, Tunisia)</i>
1569846269	Modeling and Simulation of Hybrid System Coupling a Photovoltaic Generator, a PEM Fuel Cell and an Electrolyzer (Part II) <i>Bechir Neily (University of Sfax, Tunisia); Nabil Tlili (University of Sfax, Tunisia); Fatma Ben Salem (University of Sfax, National School of Engineering, Tunisia)</i>

1569846273	Sliding Mode Control of Output-Parallel-Connected Two-Stage Boost Converters for PV Systems <i>Reham Haroun Mohamed (Universitat Rovira i Virgili, Spain); Abdelali El Aroudi (Research group GAEI, Technical Engineering School of the Rovira i Virgili, Spain); Angel Cid-Pastor (Rovira I Virgili University, Spain); Luis Martinez-Salamero (Rovira I Virgili University, Spain)</i>
1569847255	Low Cost Photovoltaic Array Emulator Design for the Test of PV Grid-Connected Inverters <i>Javier Chavarria (UPC-BarcelonaTech, Spain); Domingo Biel (UPC-BarcelonaTech, Spain); Alberto Poveda (UPC-BarcelonaTech, Spain); Francecs Guinjoan (Universitat Politècnica de Catalunya-BarcelonaTECH, Spain); Francesc Masana (UPC-BarcelonaTech, Spain); Eduard Alarcon (Technical University of Catalunya, Spain)</i>
1569848073	Experimental Implementation Techniques of P&O MPPT Algorithm for PV Pumping System <i>Najet Rebei (INSAT, Tunisia); Othman Hasnaoui (Institut Nationale des Sciences Appliquées de Tunis (INSAT), Tunisia); Ali Hmidet (Institut Nationale des Sciences Appliquées de Tunis (INSAT), Tunisia); Rabia Gammoudi (Institut Nationale des Sciences Appliquées de Tunis (INSAT), Tunisia)</i>
1569827875	Active power filter based on wind turbine for electric power system quality improvement <i>Mouna Rekik (ENIS, Tunisia)</i>

Wednesday, February 12th – 16:10-16:40

Coffee break

Room: 028a

Wednesday, February 12th – 16:40-18:10

Room: 024

PES 4 Chair	Electrical Grid Applications
1569827875	Active power filter based on wind turbine for electric power system quality improvement <i>Mouna Rekik (ENIS, Tunisia)</i>
1569845659	Design of a Computer Code to Evaluate the Influence of the Harmonics in the Transient Stability studies of Electrical Networks <i>Aissa Souli (Nuclear Research Center of Birine - Algeria, Algeria); A Hellal (Electrical Engennering Department, Laghouat University Algeria, Algeria)</i>
1569846635	HVDC Transmission in the Interconnected South Mediterranean Region - LFC Control Analysis <i>Adnene Haj Hamida (Tunisian Electric and Gas Company, Tunisia); Khadija Ben Kilani (National Engineering School of Tunis, Tunisia); Mohamed Elleuch (University of Tunis El Manar, Tunisia)</i>
1569847247	Power Routing Strategies for Dense Electrical Grids <i>Josep Cairo (Catalonia Institute for Energy Research, Spain); Jordi Pegueroles-Queralt (IREC, Spain)</i>

1569847397	Reduction of Low-Order-Even-Harmonics in Grid Connected Inverters for Renewable Energy Systems using Delta-Sigma based A/D Conversion <i>Tobias Barth (Dresden University of Technology, Germany); Martin Wagner (Technical University of Dresden, Germany); Steffen Bernet (Dresden University of Technology, Germany)</i>
1569848427	Power Flow Limitations for LCL Grid-Connected Power Converters <i>Marcos Orellana (Universitat Politecnica de Catalunya (UPC), Spain); Robert Griño (Universitat Politecnica de Catalunya (UPC), Spain)</i>

Thursday, February 13th – 8:30-9:00 **Registration** Room: 028b

Thursday, February 13th – 9:00-9:45 Room: 001

PL 2	Plenary Lecture
Chair	Manel Gasulla, Angel Cuadras
	RF Energy Harvesting and Inductive Power Transfer <i>Paul Mitcheson</i>

Thursday, February 13th – 9:45-10:00 **Meet the expert**

Thursday, February 13th – 10:00-10:30 **Coffee break** Room: 028a

Thursday, February 13th – 10:30-11:00 Room: 024

PES KL 2	Keynote Lecture
Chair	Josep M. Guerrero
	FPGA-based controllers for power electronics and drive applications <i>Eric Monmasson</i>

Thursday, February 13th – 11:00-12:40 Room: 024

PES 5	Power Electronics
Chair	Eric Monmasson
1569830943	Sliding Mode Control of a Ćuk Converter with Variable Hysteresis Width for HBLEDs Applications <i>Mirko Bodetto (Rovira I Virgili University, Spain); Abdelali El Aroudi (Research group GAEL, Technical Engineering School of the Rovira i Virgili, Spain); Angel Cid-Pastor (Rovira I Virgili University, Spain); Javier Calvente (Universitat Rovira i Virgili, Spain); Luis Martinez-Salamero (Rovira I Virgili University, Spain)</i>
1569846287	Gate Drive Unit DC-DC Power Supply for Multi-Level Converters or Series Connection of IGBTs with High Voltage Insulation <i>Tobias Barth (Dresden University of Technology, Germany); Sebastian Semmler (Siemens AG, Germany); Martin Buschendorf (TU Dresden, Germany); Rodrigo Alvarez (TU Dresden, Germany); Steffen Bernet (Dresden University of Technology, Germany)</i>

1569846297	VSC-based DTC-SVM with Adaptive Parameter Estimation <i>Fatma Ben Salem (University of Sfax, National School of Engineering, Tunisia)</i>
1569847109	Investigating the Effects of Parasitic Components on Wireless RF Energy Harvesting <i>Antwi Nimo (University of Freiburg, Germany); Joan Albesa (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)</i>
1569848357	Development of a Smart LED Lighting System: Rapid Prototyping Scenario <i>Giovanni Calisse (Università Politecnica delle Marche, Italy); Gionata Cimini (Università Politecnica delle Marche, Italy); Luigi Colombo (Università Politecnica delle Marche, Italy); Alessandro Freddi (Università Politecnica delle Marche, Italy); Gianluca Ippoliti (Università Politecnica delle Marche, Italy); Andrea Monteriù (Università Politecnica delle Marche, Italy); Matteo Pirro (Università Politecnica Delle Marche, Italy)</i>

Thursday, February 13th – 12:40-13:00

Meet the expert

Thursday, February 13th – 13:00-14:30

Lunch

Thursday, February 13th – 14:30-16:10

Room: 023

PES 6 Chair	Machines
1569841735	Sliding mode control for induction machine based on the Lyapunov theory <i>Omar Naifar (University of Sfax, National School of Engineering, Tunisia); Ghada Boukettaya (National School of Engineering of Sfax, Tunisia)</i>
1569846521	Enhanced High Frequency Injection Algorithm For Sensorless Sliding Mode Control PMSM Drives <i>Víctor Repecho (UPC Barcelona Tech, Spain); Domingo Biel (UPC-BarcelonaTech, Spain); Antoni Arias (UPC Barcelona Tech, Spain)</i>
1569847853	Transient Performance of Isolated Induction Generator under Different Loading Conditions <i>Ahmed Alsalloum (King Saud University, Saudi Arabia); Abdulrahman Alolah (College of Eng.-King Saud University, Saudi Arabia); Rizk Hamouda (King Saud University, Saudi Arabia)</i>
1569871715	Stabilization of multimachine power systems <i>Kahouli Amor (ENIS, Tunisia); Hsan Hadj Abdallah (University of Sfax, Tunisia)</i>
1569846691	On the Dynamic Modeling of Inset Permanent Magnet Motor <i>Msadek Hejra (Engineering School of Sfax, Tunisia); Ali Mansouri (Engineering School of Sfax, Tunisia); Trabelsi Hafedh (Engineering school of Sfax, Tunisia)</i>

PES 7 Chair	Microgrids
1569846929	Control and Analysis of Droop and Reverse Droop Controllers for Distributed Generations <i>Dan Wu (Aalborg University, Denmark); Fen Tang (Beijing Jiaotong University, P.R. China); Juan Vasquez (Aalborg University, Denmark); Josep M. Guerrero (Aalborg University, Denmark)</i>
1569847091	Decoupled Droop Control Techniques for Inverters in Low-Voltage AC Microgrids <i>Jerónimo Quesada (University of the Basque Country UPV/EHU, Spain); Rafael Sebastián (Spanish University for Distance Education (UNED), Spain); Manuel Castro (Spanish University for Distance Education - UNED, Spain); Jose Antonio Sainz (University of the Basque Country UPV/EHU, Spain)</i>
1569847141	Tertiary Control for Optimal Unbalance Compensation in Islanded Microgrids <i>Lexuan Meng (Aalborg University, Denmark); Fen Tang (Beijing Jiaotong University, P.R. China); Mehdi Savaghebi (Islamic Azad University, Iran); Josep M. Guerrero (Aalborg University, Denmark); Juan Vasquez (Aalborg University, Denmark)</i>
1569847149	Secondary Voltage Unbalance Compensation for Three-Phase Four-Wire Islanded Microgrids <i>Fen Tang (Beijing Jiaotong University, P.R. China); Xiao Zhou (Beijing Jiaotong University, P.R. China); Lexuan Meng (Aalborg University, Denmark); Josep M. Guerrero (Aalborg University, Denmark); Juan Vasquez (Aalborg University, Denmark)</i>
1569847201	Hierarchical Control for Multiple DC-Microgrids Clusters <i>Qobad Shafiee (Aalborg University, Denmark); Tomislav Dragičević (Aalborg University, Denmark); Juan Vasquez (Aalborg University, Denmark); Josep M. Guerrero (Aalborg University, Denmark)</i>

Thursday, February 13th – 16:10-16:40

Coffee break

Room: 028a

Thursday, February 13th – 16:40-18:10

Room: 024

PES 8 Chair	Microgrids
1569847373	Modeling and Control of Flexible HEV Charging Station upgraded with Flywheel Energy Storage <i>Tomislav Dragičević (Aalborg University, Denmark); Qobad Shafiee (Aalborg University, Denmark); Dan Wu (Aalborg University, Denmark); Lexuan Meng (Aalborg University, Denmark); Juan Vasquez (Aalborg University, Denmark); Josep M. Guerrero (Aalborg University, Denmark)</i>

1569847461	Dynamic-Phasor-Based Nonlinear Modelling of AC Islanded Microgrids Under Droop Control <i>Valerio Mariani (Università degli Studi del Sannio, Italy); Francesco Vasca (Università degli Studi del Sannio, Italy); Josep M. Guerrero (Aalborg University, Denmark)</i>
1569847479	Control of single-phase islanded PV/battery minigrids based on Power-Line Signaling <i>Pablo Quintana (University of Oviedo, Spain); Josep M. Guerrero (Aalborg University, Denmark); Tomislav Dragičević (Aalborg University, Denmark); Juan Vasquez (Aalborg University, Denmark)</i>
1569848169	Power flow analysis for DC voltage droop controlled DC microgrids <i>Chendan Li (Aalborg University, Denmark)</i>

Thursday, February 13th – 20:30

Gala dinner

Friday, February 14th – 8:45-10:00

Room: 024

PES 9 Chair	Transformers
1569846603	Control of parallel EHV interconnection lines using Phase Shifting Transformers <i>Anas El Hraiech (the Tunisian Electric and Gas Company (STEG), Tunisia); Khadija Ben Kilani (National Engineering School of Tunis, Tunisia); Mohamed Elleuch (University of Tunis El Manar, Tunisia)</i>
1569846675	Transformer Modeling Suitable for DC/AC and AC/DC conversion chains <i>Hedia Turki (Ecole Nationale d'Ingénieurs de Tunis, Tunisia); Mohamed Elleuch (University of Tunis El Manar, Tunisia)</i>
1569847237	Design of a High-Frequency Transformer for an Induction Heating system <i>Xavier Duran (Universitat Politècnica de Catalunya (UPC), Spain); Francisco-Javier Quirós (Universitat Politècnica de Catalunya (UPC), Spain); Daniel Montesinos-Miracle (Centre d'Innovació Tecnològica en Convertidors Estàtics i Accionaments, Spain)</i>
1569853115	A comparative Study of impact of Electrical stress and thermal aging on transformer oil <i>Saliha Boudraa (University of Laghouat Laghouat, Algeria); L. Mokhnache (University of Laghouat Laghouat, Algeria)</i>

Friday, February 14th – 10:00-10:30 **Coffee break** Room: 028a

Friday, February 14th – 10:30-11:00 Room: 024

PES KL 3	Keynote Lecture
Chair	Josep M. Guerrero
HVDC Integration of large Wind Power Plants <i>Ramón Blasco-Giménez</i>	

Friday, February 14th – 11:00-12:40 Room: 024

PES 10	Energy management
Chair	Ramón Blasco-Giménez
1569827855	Optimized energy diagnostics in energy efficiency projects managed by demand side <i>Jose Rocha (PUC-Rio Pontificia Universidade Católica do Rio de Janeiro, Brazil); Marco Pacheco (PUC-RJ, Brazil)</i>
1569846541	Energy Management of a Fuel Cell Serial-Parallel Hybrid System <i>Harrynson Ramírez Murillo (Universitat Rovira i Virgili, Spain); Carlos Restrepo (Delft University of Technology, Spain); Javier Calvente (Universitat Rovira i Virgili, Spain); Alfonso Romero (Universitat Rovira i Virgili, Spain); Roberto Giral (Universitat Rovira i Virgili, Spain)</i>
1569847085	Potential of Residential Demand Flexibility - Italian Scenario <i>Malik Intisar Ali Sajjad (Politecnico di Torino, Italy); Gianfranco Chicco (Politecnico di Torino, Italy); Akhtar Rasool (Sabanci University, Turkey); Majid Aziz (Politecnico di Torino, Italy)</i>
1569847101	A Statistical Analysis of Sampling Time and Load Variations for Residential Load Aggregations <i>Malik Intisar Ali Sajjad (Politecnico di Torino, Italy); Gianfranco Chicco (Politecnico di Torino, Italy); Roberto Napoli (Politecnico di Torino, Italy)</i>
1569848059	Demand side management of an isolated hybrid energy production unit supplying domestic loads <i>Randa Kallel (National School of Engineering Sfax, Tunisia); Ghada Boukettaya (National School of Engineering of Sfax, Tunisia)</i>

Friday, February 14th – 12:40-13:00 **Meet the expert**

Friday, February 14th – 13:00-14:30 **Lunch**

Friday, February 14th – 14:30-14:45 **Closure** Room: 001

Friday, February 14th – 14:45 **Excursion**

Communication and Signal Processing

CSP CONFERENCE CHAIRS

Pere Lluís Gilabert (SP)

Gabriel Montoro (SP)

PROGRAM COMMITTEE

Luis Alonso (ES)	Nikolaos Bartzoudis(ES)	Kasim Al-Aubidy (JO)
Eduard Bertran (ES)	Faouzi Bouslama (CA)	Nuno Carvalho(PT)
Sofiane Cherif (CA)	Mohamed Deriche (SA)	Mohamed Aymen Charrada(TN)
Antonio Pascual-Iserte (ES)	Leila Ben Letaifa (TN)	Jordi Mateu (ES)
John Wood (USA)	Apostolos Georgiadis (ES)	Antoni Gelonch (ES)
Lionel Prevost (FR)	Mario Garcia-Lozano (ES)	Leonhard Reindl (DE)
Besma Roui Abidi (US)	Luis Torres (ES)	Dominique Schreurs (BE)
Jose Pedro (PT)	Jose García(ES)	Michael Gadringer (AT)
Thomas Eriksson(SE)	Gayle Collins(USA)	Berthold Lankl (DE)
Carlos Collado (ES)	Genevieve Baudoin (FR)	Vittorio Camarchia (IT)
Nuno Carvalho (PT)	Mohamed Aymen Charrada (TN)	Alessandro Cidronali(IT)
Paolo Colantonio (IT)	Gayle Collins (USA)	Ana Collado (ES)
Ali Douik (TN)	Thomas Eriksson (SW)	Michael Gadringer (AU)
Jose Garcia(ES)	Nuno Carvalho (PT)	Paulo Gil (PT)
Bouraoui Mahmoud (TN)	Edouard Ngoya (FR)	Miquel Payaro(ES)
Jose Pedro (PT)	Dominique Schreurs (BE)	Daniel Silveira (BR)
Antoine Tabbone (FR)	Najoua Ben Amara (TN)	

TOPICS

CSP1: Technologies for Wireless Communication Systems

CSP2: Communication Systems 1

CSP3: Session: Biometric & Medical Imaging

CSP4: Highly Linear and Efficient Wireless Transmitters I

CSP5: Highly Linear and Efficient Wireless Transmitters II

CSP6: Communication Systems 2

CSP7: Data fusion & Pattern Recognition

CSP8: Communication Systems 3

CSP9: New Trends in Content-Based Video Retrieval

Tuesday, February 11th – 15:30-17:00 Registration Room: 028b

Tuesday, February 11th – 17:30 Excursion

Wednesday, February 12th – 8:30-9:00 Registration Room: 028b

Wednesday, February 12th – 9:00-9:30 Opening Room: ICFO Auditorium

Wednesday, February 12th – 9:30-10:15 Room: ICFO Auditorium

PL1 Plenary Lecture
Chair Angel Cuadras

Ambient Intelligence Towards Smart Cities
Francisco Falcone

Wednesday, February 12th – 10:15-10:45 Coffee break Room: 028a

Wednesday, February 12th – 10:45-11:15 Room: 025

CSP KL 1 Keynote Lecture
Chair

Taming the Information Overload of the Sensor Web
Noel O'Connor

Wednesday, February 12th – 11:15-12:35 Room: 025

CSP 1 Technologies for Wireless Communication Systems
Chair Mario García

1569847837 A new Channel and QoS Aware Scheduler to enhance the capacity of Voice over LTE systems
Biljana Bojovic (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Nicola Baldo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

1569846515 LEACH Enhancements for Wireless Sensor Networks Based on Energy Model
Mohammad M. Shurman (Jordan University of Science and Technology, Jordan); Noor Awad (Jordan University of Science and Technology, Jordan); Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Khalid Darabkh (Jordan University, Jordan)

1569847643 A Collaborative Reputation Approach to Avoid Misbehaving Nodes in MANETs
Mohammad M. Shurman (Jordan University of Science and Technology, Jordan); Mohammad Alfawares (Jordan University of Science and Technology, Jordan); Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Khalid Darabkh (Jordan University, Jordan)

1569848231 Performance Analysis of IPsec and SSL in 802.11n WLAN Using Fedora15
Samad Salehi Kolahi (Unitec Institute of Technology, New Zealand); Yuqing Cao (Unitec, New Zealand); Hong Chen (Unitec, New Zealand)

Wednesday, February 12th – 12:35-13:00

Meet the expert

Wednesday, February 12th – 13:00-14:30

Lunch

Wednesday, February 12th – 14:30-16:10

Room: 025

CSP 2 Chair	Communication Systems 1 Eduard Bertran
1569847271	A 1-V CMOS Double Loop Continuous-Time Adaptive Equalizer for Short-Haul Optical Networks <i>Cecilia Gimeno (University of Zaragoza, Spain); Erick Guerrero (University of Zaragoza, Spain); Carlos Sanchez-Azqueta (University of Zaragoza, Spain); Concepción Aldea (University of Zaragoza, Spain); Santiago Celma (University of Zaragoza, Spain)</i>
1569847439	Design Considerations for Loop Filters in Continuous-Time Adaptive Equalizers <i>Carlos Sanchez-Azqueta (University of Zaragoza, Spain); Cecilia Gimeno (University of Zaragoza, Spain); Erick Guerrero (University of Zaragoza, Spain); Concepción Aldea (University of Zaragoza, Spain); Santiago Celma (University of Zaragoza, Spain)</i>
1569827675	Wavelet Transform Basis to detect the odd peaks in wireless systems <i>Ahlam Damati (The German Jordan University, Jordan); Omar Daoud (Philadelphia University, Jordan); Qadri Hamarsheh (Philadelphia University - , Jordan)</i>
1569826139	Analysis of a Class of Direct Sampling Receiver Architectures from Signal Processing and System Perspective <i>Christoph Schultz (Intel Corporation, Germany); Philipp Hillger (Intel Corporation, Germany)</i>
1569846703	Adaptive Asymmetric Least Squares baseline estimation for analytical instruments <i>Sergio Oller Moreno (Institute for Bioengineering of Catalonia, Spain); Santiago Marco (University of Barcelona, Spain)</i>

Wednesday, February 12th – 14:30-16:10

Room: 026

CSP 3 Chair	Biometric & Medical Imaging Noel O'Connor
1569814589	Short-term anxiety recognition from blood volume pulse signal <i>Wahida Handouzi (Lorraine, France); Choubeila Maaoui (Université of Lorraine, France); Alain Pruski (Université Lorraine, France)</i>
1569826179	Human Action Recognition Using 3D Zernike Moments <i>Okay Arik (Hacettepe University, Turkey); Semih Bingol (Hacettepe University, Turkey)</i>
1569845927	People identification for domestic non-overlapping RGB-D camera networks <i>Boris Takac (Universitat Politècnica de Catalunya - BarcelonaTECH, Spain); Andreu Catala (Universitat Politècnica de Catalunya, Spain); Wei Chen (Eindhoven University of Technology, The Netherlands); Matthias Rauterberg (Eindhoven University of Technology, The Netherlands)</i>

1569848589 Recognition of pathological voices
Salma Chekili (Ecole Nationale d'Ingénieurs de Tunis, Tunisia); Asma Belhaj (Université de Sfax, Tunisia); Aïcha Bouzid (National School of Engineers of Tunis, Tunisia); Nouredine Ellouze (ENIT, Tunisia)

Wednesday, February 12th – 16:10-16:40

Coffee break

Room: 028a

Wednesday, February 12th – 16:40-18:10

Room: 025

CSP 4 Chair	Highly Linear and Efficient Wireless Transmitters I José Angel García, Gabriel Montoro (co-chair)
1569827041	A Doherty Power Amplifier based on a Tapered Line Impedance Inverter <i>Mehran Yahyavi (Universitat Politècnica de Catalunya (UPC), Spain); Eduard Bertran (UPC, Spain)</i>
1569868289	Behavioral Modeling and Predistortion of nonlinear Power Amplifiers Based on Adaptive Filtering Techniques <i>Azzedine Zerguine (KFUPM, Saudi Arabia); Oualid Hammi (KFUPM, Saudi Arabia); Abubakr Abdelhafiz (The University of Calgary, Canada); Mohamed Helaoui (University of Calgary, Canada); Fadhel Ghannouchi (University of Calgary, Canada)</i>
1569847541	MILA - A Noise Mitigation Technique for RF Power Amplifier Linearization <i>Per N Landin (Chalmers University of Technology, Sweden); Annika Mayer (Chalmers University of Technology, Sweden); Thomas Eriksson (Chalmers University of Technology, Sweden)</i>
1569839421	A Hybrid PAPR Reduction Scheme for OFDM Using SLM with Clipping at the Transmitter, and Sparse Reconstruction at the Receiver <i>Matthias Gay (University of Applied Sciences Mittweida, Germany); Alexander Lampe (University of Applied Sciences Mittweida, Germany); Marco Breiling (Fraunhofer IIS, Germany)</i>
1569846295	Radiation Characteristics of Circular Microstrip Patch Antenna with and Without Air Gap Using Neuro-Spectral Computation Approach <i>Sami Bedra (Electronics Department, University of Batna, Algeria)</i>

Thursday, February 13th – 8:30-9:00 Registration Room: 028b

Thursday, February 13th – 9:00-9:45 Room: 001

PL 2 Chair	Plenary Lecture Manel Gasulla, Angel Cuadras
RF Energy Harvesting and Inductive Power Transfer <i>Paul Mitcheson</i>	

Thursday, February 13th – 9:45-10:00 Meet the expert

Thursday, February 13th – 10:00-10:30 Coffee break Room: 028a

Thursday, February 13th – 10:30-11:00 Room: 025

CSP KL 2 Chair	Keynote Lecture Pere L. Gilabert
A Perspective of the Networks of the Future and Smart Cities <i>Luis M. Correia</i>	

Thursday, February 13th – 11:00-12:40 Room: 025

CSP 5 Chair	Highly Linear and Efficient Wireless Transmitters II José Angel García, Pere L. Gilabert (co-chair)
1569846241	Summary of Envelope Modulator designs by the University of Oviedo <i>Pablo Fernandez (University of Oviedo, Spain); Alberto Rodriguez (University of Oviedo, Spain); Miguel Rodriguez (Colorado Power Electronics Center - University of Colorado, USA); Javier Sebastian (University of Oviedo, Spain)</i>
1569846623	Evaluating GaN Doherty Architectures for 4G Picocells, WiMax and Microwave Backhaul Links <i>Rocco Giofrè (University of Roma Tor Vergata, Italy); Luca Piazzon (University of Roma Tor Vergata, Italy); Paolo Colantonio (University of Roma Tor Vergata, Italy); Franco Giannini (University of Tor Vergata, Rome, Italy); Vittorio Camarchia (Politecnico di Torino, Italy); Giovanni Ghione (Politecnico di Torino, Italy); Marco Pirola (Politecnico di Torino, Italy); Roberto Quaglia (Politecnico di Torino, Italy)</i>
1569847381	Performance Enhancement of RF Wideband Power Amplifier by Reconfigurable Matching Networks <i>José-Ramón Pérez-Cisneros (University of Zaragoza, Spain); Paloma García-Ducar (University of Zaragoza, Spain); Pedro Carro (University of Zaragoza, Spain); Antonio Valdovinos (University of Zaragoza, Spain); Jesús de Mingo (University of Zaragoza, Spain)</i>

1569847637	Characterizing power amplifier static AM/PM with spectrum analyzer measurements <i>Telmo Cunha (University of Aveiro, Portugal); Pedro Cabral (Universidade de Aveiro, Portugal); Luis Nunes (Universidade de Aveiro - Instituto de Telecomunicacoes, Portugal)</i>
1569847559	Receiver Desensitization in Envelope Tracking PA Based FDD LTE Transceivers <i>Alessandro Cidronali (Universita' di Firenze, Italy); Stefano Maddio (University of Florence, Italy); Giovanni Collodi (Università degli Studi di Firenze, Italy); Gianfranco Manes (University of Florence, Italy)</i>

Thursday, February 13th – 12:40-13:00

Meet the expert

Thursday, February 13th – 13:00-14:30

Lunch

Thursday, February 13th – 14:30-16:10

Room: 025

CSP 6 Chair	Communication Systems 2 Toni Gelonch
1569842149	Kullback-Leibler divergence -based Improved Particle Filter <i>Majdi Mansouri (Electrical and Computer Engineering Program, Texas A&M University at Qatar, Qatar); Hazem N Nounou (Texas A&M University at Qatar, Qatar); Mohamed Nounou (Texas A&M University at Qatar, Qatar)</i>
1569834643	Employing Smartphones Xenon Flashlight For Mobile Payment <i>Mariam Galal (Arab Academy of Science and Technology, Egypt); Ahmed Abd El Aziz (Photonics Research Lab, Arab Academy of Science and Technology, Egypt); Heba Fayed (Arab Academy for Science, Technology & Maritime Transport, Egypt); Moustafa Hussein Aly (Arab Academy for Science, Technology & Maritime Transport, Egypt)</i>
1569832689	Closed-form Expression for Outage Probability in Relay-Based Cooperative Diversity Systems over Multipath Fading Channels with Interference <i>Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Amer M Magableh (Jordan University of Science and Technology, Jordan); Rami Mohaisen (Jordan University of Science and Technology, Jordan)</i>
1569832687	Performance Evaluation of Bit Error Probability in DCSK Cooperative Communication Systems over Nakagami-m Fading Channels <i>Amer M Magableh (Jordan University of Science and Technology, Jordan); Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Maiss Al-Khasawneh (Jordan University of Science and Technology, Jordan)</i>

Room: 026

CSP 7 Chair	Data fusion & Pattern Recognition Lluís Torres
1569845573	An Efficient Method for Feature Extraction of Human Iris Patterns <i>Khalid Darabkh (Jordan University, Jordan); Raed Taleb Al-Zubi (University of Jordan, Jordan); Mariam Jaludi (The University of Jordan, Jordan); Hind Al-Kurdi (The University of Jordan, Jordan)</i>
1569846353	Wavelet Denoising and Fractal Feature Selection for Classifying Simulated Earthquake Signal from Mobile Phone Accelerometer <i>Tieta Antaresti (University of Indonesia, Indonesia)</i>
1569855217	A Survey of Image-Based Arabic Sign Language Recognition <i>Mohamed Mohandes (King Fahd University of Petroleum & Minerals, Saudi Arabia); Junzhao Liu (King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia); Mohamed Deriche (King Fahd University of Petroleum & Minerals, Saudi Arabia)</i>
1569855247	Copy and Move Image Forgery Detection Techniques <i>Qureshi Ali (King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia); Mohamed Deriche (King Fahd University of Petroleum & Minerals, Saudi Arabia)</i>
1569846331	Improved Closed Set Text Independent Speaker Identification System using Gammachirp Filterbank in Noisy Environments <i>Amina Ben Abdallah (Laboratory of Systems and Signal Processing National Engineering School of Tunis, TUNISIA, Tunisia); Zied Hajaiej (ENIT, Tunisia)</i>

Thursday, February 13th – 16:10-16:40

Coffee break

Room: 028a

Thursday, February 13th – 16:40-18:10

Room: 025

CSP 8 Chair	Communication Systems 3 Toni Pascual
1569846909	Wi-Fi LDPC Encoder with Approximate Lower Triangular Diverse Implementation and Verification <i>Yi Hua Chen (Oriental Institute of Technology, Taiwan)</i>
1569826617	Generalized Concatenated Codes for Correcting Two-Dimensional Clusters of Errors and Independent Errors <i>Juergen Freudenberger (University of Applied Sciences, Konstanz, Germany); Jens Spinner (University of Applied Sciences, Konstanz, Germany); Sergo Shavgulidze (Georgian Technical University, Georgia)</i>
1569826159	Set Partitioning of Gaussian Integer Constellations and its Application to Two-Dimensional Interleaver Design <i>Juergen Freudenberger (University of Applied Sciences, Konstanz, Germany); Jens Spinner (University of Applied Sciences, Konstanz, Germany); Sergo Shavgulidze (Georgian Technical University, Georgia)</i>

1569848191 Closed-form Expression of Bit Error Rate in Dual-Hop Dual-Branch Mixed Relaying Cooperative Networks with Best-Path Selection over Rayleigh Fading Channels

Muawiah Hlayil (JUST, Jordan); Ali M Hayajneh (Jordan University of Science and Technology, Jordan); Mamoun F. Al-Mistarihi (Jordan University of Science and Technology, Jordan); Mohammad M. Shurman (Jordan University of Science and Technology, Jordan); Khalid Darabkh (Jordan University, Jordan)

Thursday, February 13th – 20:30

Gala dinner

Friday, February 14th – 10:00-10:30

Coffee break

Room: 028a

Friday, February 14th – 10:30-11:00

Room: 025

CSP KL 3 Chair	Keynote Lecture Pere L. Gilabert
-------------------	-------------------------------------

Architectures and technologies for small-cell based communication systems
Alessandro Cidronali

Friday, February 14th – 11:00-12:40

Room: 025

CSP 9 Chair	New Trends in Content-Based Video Retrieval Francesc Tarrés
----------------	--

1569842675 The Use of Digital Image Processing for IC Reverse Engineering
Raul Quijada (UPC-Barcelona Tech, Spain)

1569846711 New Matching Method for Human Body Tracking
Mehrez Abdellaoui (National Engineering School of Monastir, Tunisia); Leila Kabbai (University of Monastir, Tunisia); Ali Douik (Ecole Nationale d'Ingénieurs de Monastir, Tunisia)

1569846987 The Importance of Audio Descriptors in Automatic Soccer Highlights Generation
Francesc Tarrés (Barcelona-Tech (UPC), Spain); Arnau Raventós (UPC-Barcelona Tech, Spain); Luis Torres (UPC-BarcelonaTECH, Spain); Raul Quijada (UPC-Barcelona Tech, Spain)

1569842921 Analysis of Low-Altitude Aerial Sequences for Road Traffic Diagnosis using Graph Partitioning and Markov Hierarchical Models
Khaled Kaâniche (University of Sousse, Tunisia); Cédric Demonceaux (MIS, France); Pascal Vasseur (Université de Rouen, France)

1569845937 Automatic detection of lumen contours in IVUS images based on a sequence of combined techniques
Hassen Lazrag (Ecole Nationale d'Ingénieurs de Tunis, Tunisia)

Friday, February 14th – 12:40-13:00

Meet the expert

Friday, February 14th – 13:00-14:30

Lunch

Friday, February 14th – 14:30-14:45

Closure

Room: 001

Friday, February 14th – 14:45

Excursion

Sensors, Circuits and Instrumentation Systems

SCI CONFERENCE CHAIRS

Manel Gasulla (SP)

PROGRAM COMMITTEE

Bruno Ando (IT)	Roberto Casas (ES)	Vedran Bilas (HR)
Georg Brasseur (AT)	Werner Brenner (AT)	Àngel Cuadras (ES)
Vittorio Ferrari (IT)	Thomas Fröhlich (DE)	Gerald Gerlach (DE)
Pedro Silva Girão (PT)	Voicu Groza (CN)	Wail Gueaieb (CA)
Jörg Himmel (DE)	John Horstmann (DE)	Reinhard Lerch (DE)
Fernando Puente Leon (DE)	Claude Lucat (FR)	Bernhard Zagar (AT)
Subhas Mukhopadhyay (NZ)	Marco Parvis (IT)	Josef Preishuber-Pfluegl (DE)
Pedro Ramos (PT)	Leonhard Reindl (DE)	Pavel Ripka (CZ)
Emilio Sardini (IT)	Jose Pelegri-Sebastia (ES)	Gemma Hornero (ES)
Dan Stefanescu (RO)	Ernesto Serrano (ES)	Diego Ramirez (ES)
Gerhard Fischerauer (DE)	Jürgen Czarske (DE)	Luis Fonseca (ES)
Ruggero Donida (IT)	Vincenzo Piuri (IT)	Octavian Postolache (PT)
Pere Riu (ES)	Ferran Reverter (ES)	Joan Albesa (DE)
Kamel Besbes(TN)	Carmine Landi (IT)	Aime' Lay-Ekuakille (IT)
Santiago Marco (ES)	Gerard Meijer (NL)	Pere Miribel Catala (ES)
Pedro Silva Girao (PT)	Gordon Silverman (USA)	Bernhard Zagar(AU)

TOPICS

SCI1: Sensors and Measurement Systems I

SCI2: Analog Circuit Design

SCI3: Workshop on Wireless Sensor Networks in Industrial Plants I

SCI4: Special Session on Biomedical & Environmental Measurements and Instrumentation I

SCI5: Workshop on Wireless Sensor Networks in Industrial Plants II

SCI6: Sensors and Measurement Systems II

SCI7: Signal Processing and Parameter Estimation

SCI8: Special Session on Biomedical & Environmental Measurements and Instrumentation II

SCI9: Sensor Design

SCI10: Data Acquisition & Distributed Measurements

SCI11: Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions I

SCI12: Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions II

SCI13: Special Session on Energy Harvesting and Wireless Power Transfer Systems

Tuesday, February 11th – 15:30-17:00 **Registration** Room: 028b

Tuesday, February 11th – 17:30 **Excursion**

Wednesday, February 12th – 8:30-9:00 **Registration** Room: 028b

Wednesday, February 12th – 9:00-9:30 **Opening** Room: ICFO Auditorium

Wednesday, February 12th – 9:30-10:15 Room: ICFO Auditorium

PL1 Plenary Lecture

Chair Angel Cuadras

Ambient Intelligence Towards Smart Cities

Francisco Falcone

Wednesday, February 12th – 10:15-10:45 **Coffee break** Room: 028a

Wednesday, February 12th – 10:45-11:15 Room: 001

SCI KL 1 Keynote Lecture

Chair Manel Gasulla

Capacitive Sensor Systems, emerging technologies

Gerard C.M. Meijer

Wednesday, February 12th – 11:15-12:35 Room: 001

SCI 1 Sensors and Measurement Systems I

Chair Gerard C.M. Meijer

1569847591 Low Power Accelerometer Based Intrusion and Tamper Detector

Gergely Vakulya (University of Pannonia, Hungary); Gyula Simon (University of Pannonia, Hungary)

1569831805 Acoustic Indoor-Localization System for Smart Phones

Fabian Höflinger (University of Freiburg, Germany); Johannes Wendeberg (University of Freiburg, Germany); Joachim Hoppe (University of Freiburg, IMTEK, Germany); Rui Zhang (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany); Christian Schindelbauer (University of Freiburg, Germany)

1569844461 A simple and flexible FPGA Based Autocorrelator for afterpulse Characterization of Single-Photon Detectors

Sixia Gong (Politecnico di Milano, Italy); Ivan Labanca (Politecnico di Milano, Italy); Ivan Rech (Politecnico di Milano, Italy); Massimo Ghioni (Politecnico di Milano, Italy)

1569847671 Wifi Sensor Networks: A study of energy consumption

Carlos Trasviña Moreno (University of Zaragoza, Spain)

Wednesday, February 12th – 12:35-13:00 **Meet the expert**

Wednesday, February 12th – 13:00-14:30 **Lunch**

Wednesday, February 12th – 14:30-16:10

Room: 001

SCI 2 Chair	Analog Circuit Design Joan Albesa
1569816701	High performance two-stage charge-pump for spur reduction in CMOS PLL <i>Jung-Woong Park (Chungbuk University, Korea); Nam-Soo Kim (Chungbuk National University, Korea); Hyeim Jeong (Chungbuk National University, Korea); Da-Sol Won (Chungbuk National University, Korea); Ho-Yong Choi (Chungbuk National University, Korea)</i>
1569823681	Closed loop control for shape memory alloy actuators <i>Christian Auerswald (Chemnitz University of Technology, Germany); Björn Senf (Fraunhofer-Institut für Werkzeugmaschinen und Umformtechnik, Germany); Jan Mehner (Technische Universität Chemnitz, Germany); Welf-Guntram Drossel (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany)</i>
1569845337	Novel CMOS Second Generation Current Conveyor CCII with Rail-To-Rail Input Stage and Filter Application <i>Thouraya Ettaghzouti (University of Monastir, Tunisia); Néjib Hassen (University of Monastir, Tunisia); Kamel Besbes (University of Monastir, Tunisia)</i>
1569846995	An Ultra-Low Voltage Tunable Dual-Band Pass Filter <i>Mehdi Azadmehr (Vestfold University College, Norway); Belal Khakpour Khajeh (Vestfold University College, Norway); Yngvar Berg (University of Oslo Norway, Norway)</i>
1569825695	Wake-up receiver operating at 433 MHz <i>Gerd Gamm (University of Freiburg, Germany); Sebastian Stoecklin (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)</i>

Wednesday, February 12th – 14:30-16:10

Room: 021

SCI 3 Chair	Workshop on Wireless Sensor Networks in Industrial Plants I Olfa Kanoun, Thomas Keutel
1569895605	Energy Harvesting for Wireless Sensor Nodes in Factory Environments <i>Christian Viehweger (Chemnitz University of Technology, Germany); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)</i>
1569895613	Requirements for wireless sensors in production and logistic processes <i>Tobias Weisbach (Technische Universität Chemnitz, Germany); Andre Hurzig (Technische Universität Chemnitz, Germany); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)</i>
1569895603	Energy-efficient Adaptive Communication by Preference-based Routing and Forecasting <i>Tobias Weisbach (Technische Universität Chemnitz, Germany); Andre Hurzig (Technische Universität Chemnitz, Germany); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)</i>

	<i>Technology, Germany)</i>
1569897735	Improved MEMS AE sensors in HARM technology <i>Robert Sommer (Technische Universität Chemnitz, Germany); Markus Freitag (Technische Universität Chemnitz, Germany); Joerg Schaufuss (Chemnitz University of Technology, Germany); Alexander Sorger (Technische Universität Chemnitz, Germany); Jan Mehner (Technische Universität Chemnitz, Germany)</i>
1569847635	Application of a Wireless Sensor Networks and Web2Py Architecture for Factory Line Production Monitoring <i>Massimo Grisostomi (Università Politecnica delle Marche, Italy); Lucio Ciabattini (Università Politecnica delle Marche, Italy); Mariorosario Prist (IDEA Soc. Coop., Italy); Sauro Longhi (Università Politecnica delle Marche, Italy); Gianluca Ippoliti (Università Politecnica delle Marche, Italy)</i>

Wednesday, February 12th – 16:10-16:40

Coffee break

Room: 028a

Wednesday, February 12th – 16:40-18:10

Room: 001

SCI 4	Special Session on Biomedical & Environmental Measurements and Instrumentation I
Chair	Aimé Lay-Ekuakille
1569825911	Low-Cost System Based on Electro-oculography for Communication of Disabled People <i>Alberto López Martínez (University of Oviedo, Spain); Isidoro Rodriguez Cuervo (University of Oviedo, Spain); Francisco Ferrero Martín (University of Oviedo, Spain); Marta Valledor (University of Oviedo, Spain); Juan C Campo Rodriguez (University of Oviedo, Spain)</i>
1569841677	Sensing and Features Extraction for the Detection of Freeze of Gait in Parkinson Disease <i>Ali Saad (University le Havre, France); Guérin Francois (University le Havre, Lebanon); Zaarour Iyad (Lebanese University, Lebanon); Mohammed Ayache (UIL, Lebanon); Lefebvre Dimitri (Le havre University, France)</i>
1569842035	Preliminary Study of Resistive Sensors in Inkjet Technology for Force Measurements in Biomedical Applications <i>Michela Borghetti (University of Brescia, Italy); Emilio Sardini (University of Brescia, Italy); Mauro Serpelloni (University of Brescia, Italy)</i>
1569847057	Identification of Visual Evoked Potentials in EEG detection by Emprical Mode Decomposition <i>Patrizia Vergallo (University of Salento, Italy); Aime' Lay-Ekuakille (University of Salento, Italy); Nicola Ivan Giannoccaro (University of Salento, Italy); Domenico Labate (Mediterranea University of Reggio Calabria, Italy); Francesco Morabito (University Mediterranea of Reggio Calabria, Italy); Antonio Trabacca (IRCCS Eugenia Medea, Associazione La Nostra Famiglia, BRINDISI - ITALY, Italy); Shabana Urooj (Gautam Buddha University, India); Vikrant Bhateja (Shri Ramswaroop Memorial Group of Professional Colleges, Lucknow (UP), India)</i>

1569846523 Towards a portable point-of-use blood analysis with EIS technique device
 Jaime Punter (University of Barcelona, Spain); Beatriz del Moral (University of Barcelona, Spain); Jordi Colomer-Farrarons (University of Barcelona, Spain); Beatriz Prieto-Simon (Mawson Institute, University of South Australia, Spain); Ivón Rodríguez-Villareal (CRM-UAB, Spain); Joan Cid (Hospital Clínic, Spain); Pere Miribel-Català (University of Barcelona, Spain)

Wednesday, February 12th – 16:40-18:10

Room: 021

SCI 5 Chair	Workshop on Wireless Sensor Networks in Industrial Plants II Olfa Kanoun, Christian Viehweger
----------------	--

1569895601 A Nanowatt Wake-Up Receiver for Industrial Production Line
Sadok Bdiri (University of Sfax, Tunisia); Faouzi Derbel (Leipzig University of Applied Sciences, Germany)

1569895607 Adaptable Electromagnetic Energy Harvester Design for Industrial Implementation
Sonia Bradai (University of Sfax, Tunisia); Slim Naifar (University of Sfax, Tunisia); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

1569895611 MISO Configuration Efficiency in Inductive Power Transmission for Supplying Wireless Sensors
 Bilel Kallel (University of Sfax, Tunisia); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

1569895597 Modeling and simulation of magnetostriction in a twin lateral transducers energy harvester
Slim Naifar (University of Sfax, Tunisia); Sonia Bradai (University of Sfax, Tunisia); Thomas Keutel (University of Technology, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

Thursday, February 13th – 8:30-9:00

Registration

Room: 028b

Thursday, February 13th – 9:00-9:45

Room: 001

PL 2 Chair	Plenary Lecture Manel Gasulla, Angel Cuadras
---------------	---

RF Energy Harvesting and Inductive Power Transfer
Paul Mitcheson

Thursday, February 13th – 9:45-10:00

Meet the expert

Thursday, February 13th – 10:00-10:30

Coffee break

Room: 028a

Thursday, February 13th – 10:30-11:00

Room: 001

SCI KL 2 Chair	Keynote Lecture Manel Gasulla
Power Supply for Wireless Sensor or Actuator Nodes <i>Leonhard Reindl</i>	

Thursday, February 13th – 11:00-12:40

Room: 001

SCI 6 Chair	Sensors and Measurement Systems II Leonhard Reindl
1569832257	Signal conditioner for conductance measuring cells in gas-conducting liquid flows <i>Toufik Morsi (University of Science and Technology Houari Boumediene USTHB, Algeria); Nouredine Ababou (University of Science and Technology Houari Boumediene USTHB, Algeria); Amina Ababou (University of Science and Technology Houari Boumediene USTHB, Algeria); Faiza Saidj (University of Science and Technology Houari Boumediene, Algeria); Abdelwahid Azzi (University of Science and Technology Houari Boumediene, Algeria)</i>
1569826465	Open Parallel-Plate Dielectric Resonator for Passive Torque Sensing <i>Joachim Hoppe (University of Freiburg, IMTEK, Germany); Jean-Michel Boccard (IMTEK - Institute for Microsystem Technology, Germany); Taimur Aftab (University of Freiburg, IMTEK, Germany); Adnan Yousaf (University of Freiburg, Germany); Abhishek Ojha (University of Freiburg, Germany); Thomas Ostertag (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)</i>
1569826839	Optical Systems for the Detection and Recognition of Fish in Rivers <i>Francisco Ferrero Martín (University of Oviedo, Spain)</i>
1569839857	Rotation Angle Measurement Device: Principle of Operation and Initial Calibration Results <i>Valerii Granovskii (Concern CSRI Elektropribor, JSC, Russia)</i>
1569846939	A new wireless interface for resistive chemical sensors <i>Luay Shahin (University of Siena, Italy); Francesco Bertocci (University of Siena, Italy); Ada Fort (University of Siena, Italy); Marco Mugnaini (University of Siena, Italy); Santina Rocchi (University of Siena, Italy); Valerio Vignoli (University of Siena, Italy)</i>

Thursday, February 13th – 11:00-12:40

Room: 021

SCI 7 Chair	Signal Processing and Parameter Estimation Thomas Keutel
1569827439	Generalized Discrete Event Specifications of Logic Gates <i>Maamar Hamri (LSIS, France); Aziz Naamane (LSIS, France); Norbert Giambiasi (LSIS UMR CNRS 7296, France)</i>
1569842153	Improved Particle Filtering for State and Parameter Estimation- CSTR Model <i>Majdi Mansouri (Electrical and Computer Engineering Program, Texas</i>

	<i>A&M University at Qatar, Qatar); Hazem N Nounou (Texas A&M University at Qatar, Qatar); Mohamed Nounou (Texas A&M University at Qatar, Qatar)</i>
1569846379	HMM used for Component Parameters Apportionment <i>Tommaso Addabbo (University of Siena, Italy); Francesco Bertocci (University of Siena, Italy); Ada Fort (University of Siena, Italy); Marco Mugnaini (University of Siena, Italy); Santina Rocchi (University of Siena, Italy); Luay Shahin (University of Siena, Italy); Valerio Vignoli (University of Siena, Italy)</i>
1569846419	Nonlinear Model Order Reduction for High Q MEMS Gyroscopes <i>Markus Dorwarth (Robert Bosch GmbH, Germany); Steven Kehrberg (Robert Bosch GmbH, Germany); Robert Maul (Robert Bosch GmbH, Germany); Rudy Eid (Robert Bosch GmbH, Germany); Florian Lang (Robert Bosch GmbH, Germany); Benjamin Schmidt (Robert Bosch GmbH, Germany); Jan Mehner (Technische Universität Chemnitz, Germany)</i>
1569847571	Localisation of Objects using Passive RFID Technology <i>Marten Wegener (Chemnitz University of Technology, Germany); Daniel Froß (TU Chemnitz, Germany); Marko Rößler (Chemnitz University of Technology, Germany); Ulrich Heinkel (Chemnitz University of Technology, Germany)</i>
1569830701	Analysis of inhomogeneous Multilayer antenna structure by Hybrid Method <i>Gharbi Ramzi (Faculty of Science of Tunis, Tunisia)</i>

Thursday, February 13th – 12:40-13:00

Meet the expert

Room:001

Thursday, February 13th – 13:00-14:30

Lunch

Thursday, February 13th – 14:30-16:10

Room: 001

SCI 8	Special Session on Biomedical & Environmental Measurements and Instrumentation II
Chair	Aimé Lay-Ekuakille
1569847105	Leak Detection in Waterworks for Preserving Environment: A Comparative Study <i>Giuseppe Griffo (University of Salento, Italy); Aime' Lay-Ekuakille (University of Salento, Italy); Patrizia Vergallo (University of Salento, Italy)</i>
1569847113	Power Loss Density Distribution in Biological Tissue to Analyse Processes in Electrosurgery <i>Christoph Knopf (Ruhr West University of Applied Sciences, Germany); Joerg Himmel (University of Applied Sciences Ruhr West, Muelheim an der Ruhr, Germany); Felix Hochgeschurz (University of Applied Sciences Ruhr West, Muelheim an der Ruhr, Germany); Stephan Klöckner (Olympus Winter & Ibe GmbH, Germany); Klaus Thelen (University of Applied Science, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)</i>

1569847655	Development of a novel SNOM probe for in liquid biological samples <i>Francesco Armani (University of Trieste, Italy); Antonio Boscolo (University of Trieste, Italy); Massimo Bressanutti (University of Trieste, Italy); Marco Dalle Feste (University of Trieste, Italy); Barbara Piuze (University of Trieste, Italy); Marina Zweyer (University of Trieste, Italy)</i>
1569847013	Measurement error sensitivity analysis for detecting and locating leak in pipeline using ANN and SVM <i>Mohammad Nasir (King Fahd University of Petroleum & Minerals, KSA, Saudi Arabia); Muhammad Mysorewala (King Fahd University of Petroleum & Minerals, Saudi Arabia); Lahouari Cheded (King Fahd University of Petroleum & Minerals, Saudi Arabia); Bilal Siddiqui (King Fahd University of Petroleum and Minerals, Saudi Arabia); Muhammad Sabih (King Fahd University of Petroleum & Minerals, Saudi Arabia)</i>
1569814681	Rectangular Patch Resonator Sensors For Characterization of Biological Materials <i>Nabila Aouabdia (Constantine 1 University, Algeria); Nour Eddine Belhadj-Tahar (UPMC, France); Georges Alquié (UPMC, France)</i>

Thursday, February 13th – 14:30-16:10

Room: 021

SCI 9 Chair	Sensor Design Emilio Sardini
1569806853	Optoelectronic Properties of Silicon Photodetector Doped With Indium or Aluminum <i>Wagah Mohammed (Philadelphia University, Jordan); Munther Al-Tikriti (Philadelphia University, Jordan); Mudhar Hamoodi (Mosul University, Iraq)</i>
1569847557	A CMOS Monolithic Integrated Ambient Light Sensor based on a Single Photodiode Stack <i>Michael Meister (IMMS GmbH, Germany); Ulrich Liebold (IMMS GmbH, Germany); Andre Jäger (IMMS GmbH, Germany); Sebastian Thiele (X-FAB Semiconductor Foundries AG, Germany); Robin Weirauch (X-FAB Semiconductor Foundries AG, Germany); Daniel Gäbler (X-FAB Semiconductor Foundries AG, Germany); Konrad Bach (X-FAB Semiconductor Foundries AG, Germany)</i>
1569846925	Evaluation of the Piezoresistive Behavior of Multifunctional Nanocomposites Thin Films <i>Abderrahmane Benchirouf (Technische Universität Chemnitz, Germany); Abdulkadir Sanli (Technische Universität Chemnitz, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)</i>
1569847389	Single-Wall Carbon Nanotubes Based Infrared Sensors on Flexible Substrate <i>Ravikant Sharma (Technische Universität Chemnitz, Germany); Ammar Al-Hamry (Chemnitz University of Technology, Reichenhainer Str. 70 Chemnitz, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany); Abdulkadir Sanli (Technische Universität Chemnitz, Germany); Abderrahmane Benchirouf (Technische Universität Chemnitz, Germany); Müller Christian (Technische Universität Chemnitz, Germany)</i>

1569846407 Pyroelectric Sensor for Entropy Measurements
Angel Cuadras (Universitat Politècnica de Catalunya, Spain); Victoria Julia Ovejas (Universitat Politècnica de Catalunya, Spain)

Thursday, February 13th – 16:10-16:40

Coffee break

Room: 028a

Thursday, February 13th – 16:40-18:10

Room: 001

SCI 10 Data Acquisition & Distributed Measurements
 Chair Jörg Himmel

1569842587 A Low-Cost Open-Source Data Acquisition System
Francisco Ferrero Martín (University of Oviedo, Spain); Juan C Campo Rodriguez (University of Oviedo, Spain); Marta Valledor (University of Oviedo, Spain); Jose Ramón García (University of Oviedo, Spain)

1569863985 Experimental performance evaluation of battery powered small-scale reverse osmosis desalination system
Moustafa Elshafei (King Fahd University of Petroleum & Minerals, Saudi Arabia); Abdulwahid A. Al-Saif (King Fahd University of Petroleum & Minerals, Saudi Arabia)

1569844493 Monitoring and Remote Control of Energy Consumption by WiFi Networks
Sergio Zarza Sánchez (UPC, Spain); Rosa Fernández-Cantí (UPC, Spain); Jose A Lazaro (Universitat Politècnica de Catalunya (UPC), Spain); Isidre Ortega (UPC, Spain); José A Altabás (University of Zaragoza, Spain)

1569848869 Design High Precision Time Keeping Clock System Based on Time Digital Convert
Tao Linwei (Northwestern Polytechnical University, P.R. China)

Thursday, February 13th – 16:40-18:10

Room: 021

SCI 11 Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions I
 Chair Olfa Kanoun

1569839859 Low-cost Online Determination of Calcium-Magnesium-Ratio by Cyclic Voltammetry
Roman Gruden (Seuffer GmbH & Co. KG, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)

1569849343 SoH Evaluation of LiFePO₄ Cells Using Impedance and Thermal Measurements
Victoria Julia Ovejas (Universitat Politècnica de Catalunya, Spain); Angel Cuadras (Universitat Politècnica de Catalunya, Spain); Joan Ramon Morante (IREC, Spain)

1569848107	Characterization of the dielectric properties of multi-walled carbon nanotubes (MWCNTs) /PEDOT:PSS nanocomposites Abdulkadir Sanli (Technische Universität Chemnitz, Germany); Abderrahmane Benchirouf (Technische Universität Chemnitz, Germany); Ravikant Sharma (Technische Universität Chemnitz, Germany); Müller Christian (Technische Universität Chemnitz, Germany); Olfa Kanoun (Chemnitz University of Technology, Germany)
1569846595	Towards the Impedimetric Tracking of Single Magnetically Trailed Microparticles <i>Marco Carminati (Politecnico di Milano, Italy); Giorgio Ferrari (Politecnico di Milano, Italy); Soon Uk Kwon (Politecnico di Milano, Italy); Marco Monticelli (Politecnico di Milano, Italy); Andrea Torti (Politecnico di Milano, Italy); Daniela Petti (Politecnico di Milano, Italy); Edoardo Albisetti (Politecnico di Milano, Italy); Matteo Cantoni (Politecnico di Milano, Italy); Riccardo Bertacco (Politecnico di Milano, Italy); Marco Sampietro (Politecnico di Milano, Italy)</i>

Thursday, February 13th – 20:30

Gala dinner

Friday, February 14th – 9:00-10:00

Room: 001

SCI 12	Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions II
Chair	Angel Cuadras
1569825531	Electrocircuit Modeling and Simulation Analysis of a Resonant Acoustic Gas Sensor <i>Ting Zhang (Wuhan Second Ship Design and Research Institute, P.R. China); Wang Shu (HUST, P.R. China)</i>
1569826369	Frequency Corrected Model for Soil Moisture Measurement Based on Magnitude Ratio and Phase Difference Detection Method <i>Lazuardi Umar (University of Riau in Pekanbaru, Indonesia)</i>
1569831401	Integrating Mobile And NN For Monitoring Diabetes In E-Health System <i>Karim Aljebory (Al Isra University, Jordan); Jamal Alyousef (Engineer, Jordan)</i>

Friday, February 14th – 10:00-10:30

Coffee break

Room: 028a

Friday, February 14th – 10:30-11:00

Room: 001

SCI KL 3 Chair	Keynote Lecture Manel Gasulla
Energy harvesting: device, circuit and system co-design and on-chip integration <i>Eduard Alarcon</i>	

Friday, February 14th – 11:00-12:40

Room: 001

SCI 13 Chair	Special Session on Energy Harvesting and Wireless Power Transfer Systems Eduard Alarcon, Manel Gasulla
1569818523	Tunable Interface for Piezoelectric Energy Harvesting <i>Alexander Richter (Technische Universität Dresden, Germany); Axel Strobel (Technische Universität Dresden, Germany); Niko Joram (Technische Universität Dresden, Germany); Frank Ellinger (Dresden University of Technology, Germany); Lars Göpfert (Zentrum Mikroelektronik Dresden AG, Germany); Reimar Marg (Zentrum Mikroelektronik Dresden AG, Germany)</i>
1569830547	Monitoring of Indoor Light Conditions for Photovoltaic Energy Harvesting <i>Martin Kasemann (University of Freiburg, Germany); Jan Kokert (University of Freiburg, Germany); Karola Rühle (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)</i>
1569836775	Design Specifications and Guidelines for Efficient Solar Chargers of Mobile Phones <i>Christian Schuss (University of Oulu, Finland); Bernd Eichberger (Graz University of Technology, Austria); Timo Rahkonen (University of Oulu, Finland)</i>
1569849269	Class E2 Resonant Non-Radiative Wireless Power Transfer Link: A design-oriented joint circuit-system co-characterization approach <i>Elisenda Bou Balust (Universitat Politècnica de Catalunya, Spain); Eduard Alarcon (Technical University of Catalunya, Spain)</i>
1569847109	Investigating the Effects of Parasitic Components on Wireless RF Energy Harvesting <i>Antwi Nimo (University of Freiburg, Germany); Joan Albesa (University of Freiburg, Germany); Leonhard Reindl (IMTEK - Institute for Microsystem Technology, Germany)</i>

Friday, February 14th – 12:40-13:00

Meet the expert

Friday, February 14th – 13:00-14:30

Lunch

Friday, February 14th – 14:30-14:45

Closure

Room: 001

Friday, February 14th – 14:45

Excursion

Looking forward to see you at SSD 2015

Thank you

<http://www.ssd-conf.org/ssd15>

**Program of the 11th International SSD Conference on
Systems, Analysis and Automatic Control (SAC)**

	Tuesday 11th	Wednesday 12th	Thursday 13th	Friday 14th
8:30		Registration	Registration	
9:00		Opening	Plenary Session Dr. Paul Mitcheson	
9:30		Plenary Session Dr. Francisco Falcone	Meet the expert	
10:00			Coffe break	
10:30		Coffe break	Keynote Lecture Dr. Costa	Keynote Lecture Dr. Albó Canals
11:00		Keynote Lecture Dr. De Gea		SAC9 Fuzzy Systems
11:30		SAC1 Robotics & Mechatronics	SAC5 Intelligent Control Systems	SAC10 Adv. Linear Control Theory
12:00				
12:30		Meet the expert	Meet the expert	Meet the expert
13:00		Lunch		
14:30				Closure
15:00		SAC2 System Identification	SAC6 Nonlinear Observers	Excursion Gaudí Tour
15:30				
16:10		Coffe break		
16:40	Registration			
17:00		SAC4 MAV Special Session	SAC8 Nonlinear Control	
17:30	Excursion			
18:00				
18:30				
20:00			Gala dinner	

Program of the 11th International SSD Conference on Power Electrical Systems (PES)

	Tuesday 11th	Wednesday 12th	Thursday 13th	Friday 14th
8:30		Registration	Registration	
9:00		Opening	Plenary Session Dr. Paul Mitcheson	PES9 Transformers
9:30		Plenary Session Dr. Francisco Falcone	Meet the expert	
10:00		Coffe break		
10:30		Coffe break	Keynote Lecture Dr. Eric Monmasson	Keynote Lecture Dr. Ramón Blasco
11:00		Keynote Lecture Dr. Juan Vásquez		
11:30		PES1	PES5	PES10
12:00		Optimization in electrical systems	Power Electronics	Energy management
12:30				
13:00		Meet the expert	Meet the expert	Meet the expert
		Lunch		
14:30		PES2	PES6	Closure
15:00		Wind Energy	Machines	Excursion Gaudí Tour
15:30		PES3	PES7	
16:10		Photovoltaics	Microgrids	
16:40	Registration	Coffe break		
17:00		PES4	PES8	
17:30	Excursion	Electrical Grid Applications	Microgrids	
18:00				
18:30				
20:00		Gala dinner		

**Program of the 11th International SSD Conference on
Communications and Signal Processing (CSP)**

	Tuesday 11th	Wednesday 12th	Thursday 13th	Friday 14th
8:30		Registration	Registration	
9:00		Opening	Plenary Session Dr. Paul Mitcheson	
9:30		Plenary Session Dr. Francisco Falcone	Meet the expert	
10:00		Coffe break		
10:30		Coffe break	Keynote Lecture Dr. Correia	Keynote Lecture Dr. Cidronali
11:00		Keynote Lecture Dr. O'Connor		
11:30		CSP1 Technologies for Wireless Communication Systems	CSP5 Highly Linear and Efficient Wireless Transmitters II	CSP9 New Trends in Content-Based Video Retrieval
12:00				
12:30				
13:00		Meet the expert	Meet the expert	Meet the expert
		Lunch		
14:30		CSP2 Communication Systems 1	CSP6 Communication Systems 2	Closure
15:00		CSP3 Biometric & Medical Imaging	CSP7 Data fusion & Pattern Recognition	Excursion Gaudí Tour
15:30				
16:10		Coffe break		
16:40	Registration			
17:00		CSP4 Highly Linear and Efficient Wireless Transmitters I	CSP8 Communication Systems 3	
17:30	Excursion			
18:00				
18:30				
20:00			Gala dinner	

Program of the 11th International SSD Conference on Sensors, Circuits and Instrumentation Systems (SCI)

	Tuesday 11th	Wednesday 12th	Thursday 13th	Friday 14th
8:30		Registration	Registration	
9:00		Opening	Plenary Session Dr. Paul Mitcheson	SCI12 Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions II
9:30		Plenary Session Dr. Francisco Falcone	Meet the expert	
10:00		Coffe break		
10:30		Coffe break	Keynote Lecture Prof. Reindl	Keynote Lecture Dr. Cidronali
11:00		Keynote Lecture Prof. Meijer		
11:30		SCI1 Sensors and Measurement Systems I	SCI6 Sensors and Measurement Systems II	SCI13 Special Session on Energy Harvesting and Wireless Power Transfer Systems
12:00			SCI7 Signal Processing and Parameter Estimation	
12:30				
13:00		Meet the expert	Meet the expert	Meet the expert
		Lunch		
14:30		SCI2 Analog Circuit Design	SCI8 S. Session on Biomedical & Environmental Measurements and Instrumentation II	Closure
15:00		SCI3 Workshop on Wireless Sensor Networks in Industrial Plants I	SCI9 Sensor Design	Excursion Gaudí Tour
15:30				
16:10		Coffe break		
16:40	Registration	SCI4 Special S. on Biomedical & Environmental Measm. and Instrumentation I	SCI10 Data Acquisition & Distributed Measm.	
17:00			SCI11 Special Session on Impedance Spectroscopy for Measurement and Sensor Solutions I	
17:30	Excursion	SCI5 Workshop on Wireless Sensor Networks in Industrial Plants II		
18:00				
18:30				
20:00		Gala dinner		