



STA'2016

17th International conference on Sciences and Techniques of Automatic control & computer engineering

Program

STA'2016

December 19-21, 2016
Sousse – Tunisia

17th International conference on Sciences and Techniques of Automatic control and computer engineering STA'2016

December 19-21, 2016 Sousse, Tunisia

Media Type Requested	Part Number	ISBN
XPORE COMPLIANT	CFP16STA-ART	978-1-5090-3407-9
USB	CFP16STA-USB	978-1-5090-3406-2

Organized by

**Tunisian Association of Numeric Techniques and Automatic
- ATTNA**



**Laboratory of Sciences and Techniques of Automatic control
& computer engineering (Lab-STA) of National Engineering
School of Sfax, University of Sfax (ENIS)**



Technical Co-Sponsors:

IEEE Tunisia Section



**Tunisia Section CSC (Circuits and Systems Society)
Chapter**



Tunisia Section PES (Power & Energy Society) Chapter



**Tunisia Section RAS (Robotics and Automation Society)
Chapter**



Tunisia Section SPS (Signal Processing Society) Chapter



Tunisia Section SSCS (Solid-State Circuits Society) Chapter



Supported by

Ministry of Higher Education And Scientific Research

University of Sfax



National Engineering School of Sfax



Laboratory of Information technology and Automatic control for the Systems LIAS (Poitiers, France)



Laboratory for Analysis and Architecture of Systems LAAS-CNRS (Toulouse, France)



Research Centre in Information and Communication Science and Technologies CReStIC (Reims, France)



Laboratory Modelling, Information & Systems MIS (Amiens, France)



University of Valladolid (Spain)



[Universidad de Valladolid](#)

Partners:

International Journal on Sciences and Techniques of Automatic control & computer engineering - IJ-STA



International Journal of Automation and Computing - IJAC



Journal of Electrical Systems - JES



Journal of Automation Systems Engineering - JASE



Honory Chairs

Mohamed BOUSSAK, France
Abdelaziz HAMZAOUI, University of Reims, France
Mohamed KAMOUN, University of Sfax, Tunisia

General Chairs

Abdelwaheb AITOUCHE, France
Mohamed CHaabane, University of Sfax, Tunisia
Fernando TADEO, University of Valladolid, Spain

Co-General Chairs

Yassine KOUBAA, University of Sfax, Tunisia
Driss MEHDI, University of Poitiers, France
Ahmed TOUMI, University of Sfax, Tunisia

Program Chairs

Hafedh ABID, University of Sfax, Tunisia
Mondher FARZA, University of Caen, France
Horst SCHULTE, University of Applied Sciences Berlin, Germany

Invited Sessions Chairs

Ridha Ben ABDENOUR, University of Gabes, Tunisia
Khaled BELARBI, University of Constantine, Algeria
Samira KAMOUN, University of Sfax, Tunisia

Special Session Chairs

Kamel ABDERRAHIM, ISSI-Gabes, University of Gabes, Tunisia
Samir LADACI, University of Constantine, Algeria
Larbi CHRIFI-ALAOUI, University of Picardie Jules-Verne, France

Tutorials Chairs

Said DRID, University of Batna, Algeria
Tarak DAMAK, University of Sfax, Tunisia
Ahmed EL HAJJAJI, University of Picardie Jules-Verne, France

Workshops Chairs

Mohamed N. ABDELKRIM, Tunisia
Abdessattar CHAARI, University of Sfax, Tunisia
Mansour SOUSSI, University of Sfax, Tunisia

Organization Chairs

Karim DAHECH, University of Gabes, Tunisia
Maher KHARRAT, University of Sfax, Tunisia
Badreddine LOUHICHI, University of Sfax, Tunisia

Publicity Chairs

Youssef AGREBI ZORGANI, University of Sfax, Tunisia
Hamdi GASSARA, University of Sfax, Tunisia

Sofien HAJJI, University of Sfax, Tunisia

Industrial relations chairs

Moez ALLOUCHE, University of Gabes, Tunisia
Khaled ELLEUCH, University of Sfax, Tunisia
Tarek MAATOUG, University of Sfax, Tunisia

International Advisory Reviewer

ABDELKRIM Mohamed Naceur, MACS/ENI-Gabes, Tunisia
ALVAREZ Teresa, University of Valladolid, Spain
BEN AMAR Chokri, REGIM/ENI-Sfax, Tunisia
BENHADJ BRAIEK Naceur, University of Tunis, Tunisia
BENNOUNA Ouadie, University of Rouen, France
BENREJEB Mohamed, University of Tunis, Tunisia
BENSALAH Boujema, ENI-Tunis, Tunisia
BENSRAIR Abdelaziz, University of Rouen, France
BENZAOUIA Abdallah, University of Marrakech, Marroco
BERNUSSOU Jacques, University of Toulouse, France
BLOCH Gérard, University of Nancy, France
BOUKTIR Tarek, U-Oum El Bouaghi, Algeria
BOZED Kenz A., Benghazi University, Lybia
CHAARI Abdelkader, University of Tunis, Tunisia
CHADLI Mohammed, University of Picardie Jules Verne, France
CHAMPENOIS Gérard, University of Poitiers, France
CHTOUROU Mohamed, University of Sfax, Tunisia
COQUEMPOT Vincent, University of Lille, France
DAHHOU Boutaieb, University of Toulouse, France
DERBEL Nabil, University of Sfax, Tunisia
DHIFAOUI Rachid, University of Tunis, Tunisia
DJEMAI Mohamed, University of Valenciennes, France
ELLOUZE Noureddine, University of Tunis, Tunisia
ESSOUNBOULI Najib, CReSTIC-Troyes, France
FAKHFAKH Mourad, University of Sfax, Tunisia
FARZA Mondher, University of Caen, France
FAVIER Gérard, University of Nice, France
FNAIECH Farhat, University of Tunis, Tunisia
GAUBERT Jean Paul, University of Poitiers, France
GASMI Moncef, University of Tunis, Tunisia
HAMERLAIN Mustapha, University of sciences and technology Algeria
HASNAOUI Othman, University of Tunis, Tunisia
KAMMOUN Habib, University of Sfax, Tunisia
KAMOUN Lotfi, University of Sfax, Tunisia
KAMOUN Mohamed Ben Ali, University of Sfax, Tunisia
KAMOUN Samira, University of Sfax, Tunisia
KHEDHER Adel, University of Sousse, Tunisia
KSOURI Mekki, University of Tunis, Tunisia
M'SAAD Mohamed, University of Caen, France
M'SAHLI Faouzi, University of Monastir, Tunisia
MANAMANI Noureddine, University of Reims France

MAQUIN Didier, University of Nancy, France
MASMOUDI Nouri, University of Sfax Tunisia
MENDOZA Ricardo A.R., University of Guadalajara, Mexico
MESQUINE Fouad, University of Cadi Ayyad – Marrakech, Morocco
MEZGHANI Brahim, University of Sfax Tunisia
MHIRI Radhi, ÉTS. U-Québec (LAD), Canada
MIMOUNI Mohamed Faouzi, ENI-Monastir, Tunisia
MTIBAA Abdellatif, ENI-Monastir, Tunisia
OUHROUCHE Mohand, University of Québec, Canada
POPESCU Dumitro, University of Politehnica of Bucharest, Romania
QUEVEDO Joseba, University of Catalonia, Spain
RAGOT José, CRAN-Nancy, France
ROKBANI Nizar, University of Sousse Tunisia
SAID Ahmed Nouri, ENI-Gabes, Tunisia
SOUDANI Dhaou ENI-Tunis, Tunisia
THIRIET Jean Marc, University of Grenoble, France
RAHMANI Lazhar, University of Ferhat Abbas, Algeria
TEBBIKH Hicham, University of Guelma, Algeria
ZEREK Amer R., Zawia University, Libya
ZERIKAT Mokhtar, E.N.S.E.T-Oran, Algeria

Scientific Committee

ABBES Dhaker, University of Lille, France
ABBES Hanen, University of Sfax, Tunisia
ABBES Tarek, University of Sfax, Tunisia
ABDELKAFI Achraf, University of Sfax, Tunisia
ABDELLAOUI Mahmoud, ISEC- Sfax, Tunisia
ABDELMOULA Chokri, ISEC-Sfax, Tunisia
ABDELOUAHAB Moussaoui, University of Ferhat Abbas, Algeria
ABED Mourad, LAMIH-Valenciennes, France
ABID Aymen, University of Sfax, Tunisia
ABID BEN HALIMA Donia, University of Sfax, Tunisia
ABID Hafedh, University of Sfax, Tunisia
ABID Mohamed, ENI-Sfax, Tunisia
ABOUDA Salim, University of Gafsa, Tunisia
AFILAL Lissan, University of Reims, France
ALLOUANI Fouad, University of Khenchela, Algeria
ALLOUCH Moez, University of Gabes, Tunisia
ALMRABET Meftah M., University of 7 april, Libya
ALOUI Helmi, University of Sfax, Tunisia
ALOUI Sinda, University of Sfax, Tunisia
ALOUI Thameur, University of Sfax, Tunisia
ALYAOUI Nouha, University of Sfax, Tunisia
AMER Hassanein, University of America in Cairo, Egypt
AMOUS Anis, University of Sfax, Tunisia
AMOUS Kaiser, University of Sfax, Tunisia
AOUDNI Yassine, University of Sfax, Tunisia
AROUI Tarek, University of Sousse, Tunisia

AUBRUN Christophe, FST-Nancy, France
AYADI Assil, University of Sfax, Tunisia
AYADI Moez, ISEC-Sfax, Tunisia
BACHELIER Olivier, LAII/ESI-Poitiers, France
BAHI Tahar, University of Annaba, Algeria
BAHLOUL Mohamed, University of Sfax, Tunisia
BAHRI Nejmeddine, University of Sousse, Tunisia
BAKLOUTI Faten, University of Sfax, Tunisia
BAKLOUTI Mouna, University of Sfax, Tunisia
BAYART Mireille, LAGIS/UMR-Lille, France
BEDOUI Mohamed Hedi, University of Monastir, Tunisia
BELGHITH Aymen, University of Sfax, Tunisia
BEL HADJ ALI Saloua, University of Gabes, Tunisia
BELHADJ Jamel, University of Tunis, Tunisia
BEL HADJ Naourez, University of Sfax, Tunisia
BELHANI Ahmed, Oum El Bouaghi University, Algeria
BELMEHDI Ali, University of Bejaia, Algeria
BEN AMARA ESSOUKRI Najoua, University of Sousse, Tunisia
BEN AMMAR Mohsen, University of Sfax, Tunisia
BEN AMOR Anouar, University of Gabes, Tunisia
BEN AMOR Mohamed, University of Sfax, Tunisia
BEN AMOR Nader, University of Sfax, Tunisia
BENAMMAR Mohieddine, University of Qatar, Qatar
BEN ATITALLAH Ahmed, University of Sfax, Tunisia
BEN AYED Mohamed Ali, University of Sfax, Tunisia
BEN AYED Mounir, University of Sfax, Tunisia
BEN BOUZID Mohamed, France
BEN HADJ BRAIK Naceur, EP-Tunis, Tunisia
BEN HALIMA Donia, University of Sfax, Tunisia
BENHAYOUN Mohamed, Faculty of Science Semlalia, Morocco
BEN HMIDA Ahmed, University of Sfax, Tunisia
BEN HMIDA Fayçal, ESST-Tunis, Tunisia
BEN JAMAA Maissa, University of Sfax, Tunisia
BEN JEMAA Maher, University of Sfax, Tunisia
BEN MESSAOUD Mohamed, ENI-Sfax, Tunisia
BEN NASR Mounir, University of Sfax, Tunisia
BENNOUNA Ouadie, ESIGELEC, France
BEN OTHMANE Kamel, University of Sousse, Tunisia
BEN SALAH Chokri, University of Gafsa, Tunisia
BEN SELEM Samir, University of Sfax, Tunisia
BEN SLIMA Mohamed, University of Sfax, Tunisia
BEN ZINA Habib, University of Sfax, Tunisia
BENSRAIR Abdelaziz, INSA de Rouen, France
BESBES Kamel, University of Monastir, Tunisia
BESBES Mongi, University of Tunis, Tunisia
BONNIFAIT Philippe, UTC/UMR-Heudiasyc, France
BOSCHE Jerome, MIS-Amiens, France
BOUALLEGUE Kais, University of Sousse, Tunisia
BOUATTOUR Maha, University of Gabes, Tunisia
BOUBAKER Olfa, INSA-Tunis, Tunisia

BOUBZIZI Said, University of Sfax, Tunisia
BOUCHERIT Med Seghir, University of Adrar, Algeria
BOUDABOUS Anis, University of Sfax, Tunisia
BOUGACHA Aymen, University of Sfax, Tunisia
BOUGHARIOU Jihene, University of Sfax, Tunisia
BOUKATTAYA Ghada, University of Sfax, Tunisia
BOUKATTAYA Mohamed, University of Sfax, Tunisia
BOUSSAID Boumedyen, University of Gabes, Tunisia
BOUSSELMI Moncef, University of Sfax, Tunisia
BOUTAMINA Brahim, University of Constantine, Algeria
BOUZID Monia, University of Tunis, Tunisia
CASSAR Jean-Philippe, LAGIS-Lille, France
CAUFFRIEZ Laurent, LAMIH-Valenciennes, France
CHAARI Tarak, University of Sfax, Tunisia
CHADLI Mohamed, MIS-Amiens, France
CHAFOUK Houcine, IRSEEM-Staint Etienne, France
CHARARA Ali, UMR/CNRS-Heudiasyc, France
CHARFI Maher, ESST-Tunis, Tunisia
CHATTI Abderrazak, INSA-Tunis, Tunisia
CHAoui Mondher, University of Sfax, Tunisia
CHEBBI Souad, University of Tunis, Tunisia
CHEIKHROUHOU Omar, University of Sfax, Tunisia
CHERFAOUI Veronique, CNRS/UTC-Heudiasy, France
CHERIET Mohamed, University of McGill, Montréal, Canada
CHERIF Adnan, University of Tunis, Tunisia
CHIBANI Bilgacem Rhaimi, University of Gabes, Tunisia
CLAUDE MARCHAND, LGE-Paris, France
CLERC Guy, CEGELY-Lyon, France
DAMAK Nawel, University of Gabes, Tunisia
DAROUACH Mohamed, CRAN-Longwy, France
DAHECH Karim, University of Gabes, Tunisia
DAYA Bassam, University of Lebanese in Beirut, Lebanon
DJEFFAL Faycal, University of Batna, Algeria
DJEMAL Mohamed, ICOS/ENI-Sfax, Tunisia
DRID Said, University of Batna, Algeria
ELFIRJANI Amel, University of Sfax, Tunisia
ELLEUCH Dorsaf, University of Gabes, Tunisia
ELLEUCH Khaled, University of Sfax, Tunisia
ELLITHY Khaled, University of Qatar, Qatar
ELLOUMI Mourad, University of Sfax, Tunisia
ELLOUMI Salwa, University of Tunis, Tunisia
ELLOUMI Wafa, University of Sfax, Tunisia
ELLOUZE Mariem, University of Sfax, Tunisia
ENEA Gilles, UTV-Toulon, France
EZZINE Jelal, ENI-Tunis, Tunisia
FADEL Maurice, LEEI-Toulouse, France
FARAH Wafa, University of Gabes, Tunisia
FEKI Moez, University of Sousse, Tunisia
FOURATI Hassen, GIPSA-lab University of Grenoble, France
FOURATI Fathi, University of Sfax, Tunisia

FRIEDRICH Guy, U T- Compiègne, France
FRIKHA Mondher, University of Sfax, Tunisia
GANOUN Ali, University of Tripoli, Libya
GARGOURI Abderrahmen, University of Sfax, Tunisia
GASSARA Bilel, University of Sfax, Tunisia
GASSARA Hamdi, University of Sfax, Tunisia
GENTIL Sylviane, LAG UMR, ENSIEG, France
GHAMGUI Mariem, University of Gabes, Tunisia
GHARIANI Hamadi, University of Sfax, Tunisia
GHARIANI Moez, ISEC-Sfax, Tunisia
GHODHBANE Fathi, ENI-Tunis, Tunisia
GHORBEL Hana, University of Sfax, Tunisia
GHORBEL Mohamed, University of Sfax, Tunisia
GHOZZI Fahmi, University of Sfax, Tunisia
GHRIBI Olfa, University of Sfax, Tunisia
GUEDDAH Naoufel, University of Sfax, Tunisia
GUERMAZI Abdessattar, ENI-Sfax, Tunisia
GUESMI Tawfik, University of Sfax, Tunisia
GUIZANI Sami, University of Tunis, Tunisia
HACHICHA Fatma, University of Sfax, Tunisia
HAMERLAIN Mustapha, University of Houari Boumediene, Algeria
HAMDI Habib, University of Tunis, Tunisia
HADDADI Mourad, ENP, University of Algiers, Algeria
HADDOUK Amira, University of Tunis, Tunisia
HADJ HSSEN Abdallah, ENI-Sfax, Tunisia
HADJ KACEM Ahmed, University of Sfax, Tunisia
HADJ-MABROUK Habib, INRETS-Paris, France
HAJJI Sofien, University of Gabes, Tunisia
HAJ SALEM Habib, INRETS/GRETIA, Marne La Vallée, France
HARRABI Naziha, University of Sfax, Tunisia
HERAUD Nicolas, University of Corse, France
HMAMED Abdelaziz, FS-Marrakech, Marocco
JAMOUSSI Kais, University of Sfax, Tunisia
JELASSI Khaled, University of Tunis, Tunisia
JEMLI Mohamed, ESST-Tunis, Tunisia
JMAIEL Mohamed, University of Sfax, Tunisia
JMAL Wassim, University of Sfax, Tunisia
JOLLY Daniel, LGI2-Artois, France
KACEM Walid, University of Sfax, Tunisia
KACHOURI Abdennaceur, University of Sfax, Tunisia
KADDOURI Azeddine, University of Moncton, Canada
KAHOULI Omar, University of Sfax, Tunisia
KALLEL Abdelaziz, University of Sfax, Tunisia
KALLEL Hichem, University of Monastir, Tunisia
KAMEL Mohamed, University of Gabes, Tunisia
KAMOUN Fahmi, University of Sfax, Tunisia
KAMOUN Samira, University of Sfax, Tunisia
KARRY Amal, University of Sfax, Tunisia
KHARRAT Maher, University of Sfax, Tunisia
KHERALLAH Monji. University of Sfax, Tunisia

KRICHEN Najla, University of Sfax, Tunisia
KSANTINI Mohamed, University of Sfax, Tunisia
KSOURI-LAHMARI Moufidha, ACS/ENI-Tunis, Tunisia
KTARI Jalel, University of Sfax, Tunisia
LAABIDI Kaouther, University of Tunis, Tunisia
LADACI Samir, University of Skikda, Algeria
LAFONT Frédéric, LSIS, University of Toulon, France
LAHIANI Mongi, LETI, ENIS, University of Sfax, Tunisia
LAMAMRA kheireddine, University of Mentouri, Constantine, Algeria
LARGUECH Samia, University of Sfax, Tunisia
LOISEAU Jean Jacques, IRCCyN, Ecole Centrale de Nantes, France
LOUKIL Hassen, University of Sfax, Tunisia
LOUKIL Kais, University of Sfax, Tunisia
LTAIEF Ali, University of Sfax, Tunisia
MAAMRI Nezha, University of Poitiers, France
MAMI Abdelkader, LACS/ ENI-Tunis, Tunisia
MANAMANNI Noureddine, University of Reims, France
MAHFOUDHI Adel, University of Sfax, Tunisia
MAKHLOUFI Achraf, University of Sfax, Tunisia
MARCHAND Claude, LGE-Paris, France
MARTIN Agular, LAAS/CNRS-Toulouse, France
MASMOUDI Abdelkarim, University of Sfax, Tunisia
MASMOUDI SELLEMI Dorra, University of Sfax, Tunisia
MASMOUDI Mohamed Slim, University of Sfax, Tunisia
MASMOUDI Sabeur, University of Sfax, Tunisia
MASSAOUDI Yosra, University of Sfax, Tunisia
MEDHAFFAR Hanene, University of Sfax, Tunisia
MEKKI Hassen, University of Sousse, Tunisia
MERCERE Guillaume, LAII/ESI-Poitiers, France
MESQUINE Fouad, FS-Marrakech, Marocco
MESSAOUD Hassani, ENI-Monastir, Tunisia
MEZGHANI Brahim, University of Sfax, Tunisia
MEZGHANI Dhafer, University of Tunis, Tunisia
MEZGHANI Mahmoud, University of Tunis, Tunisia
MEZGHANI Neila, University of Gabes, Tunisia
MIBAR Hassen, ENI-Tunis, Tunisia
MILLERIOUX Gilles, CRAN/ESSTIN-Nancy, France
MNIF Fayçal, ICOS/ENI-Sfax; University of Oman, Oman
MNIF Kais, University of Sfax, Tunisia
MOUROT Gilles, University of Nancy, France
MOREAU Sandrine, University of Poitiers, France
MSIRDI Kouider Nacer, LSIS, University of St Jérôme Marseille, France
NAAMANE Aziz, LSIS, University of St Jérôme Marseille, France
NABLI Lotfi, University of Monastir, Tunisia
NACEUR Mongi, University of Tunis, Tunisia
NAJAR Slaheddine, University of Gabes, Tunisia
Nayli Abdelmonoem, University of Gabes, Tunisia
NEJI Rafik, ENI-Sfax, Tunisia
NJAH Ines, University of Sfax, Tunisia
NJEH Mohamed, University of Sfax, Tunisia

NOURI Khaled, University of Tunis, Tunisia
OSMAN Hasan, University of Concordia, Canada
OUAHI Mohamed, LISA, ENSAF, Morocco
OUALHA Abdelmajid, ENI-Sfax, Tunisia
OUALI Abderrazak, ENI-Sfax, Tunisia
OUALI Mohamed, ENI-Sfax, Tunisia
OULADSINE Mustapha, LSIS, Marseille, France
OUVRARD Régis, University of Poitiers, France
PAGES Olivier, University of Picardie Jules Verne, France
POINOT Thierry, LAII/ESI-Poitiers, France
POPIEUL Jean-Christophe, LAMIH/UMR-Valeciennes, France
PREVOST LIONEL, University of the Antilles and Guyana, France
RABHI Abdelhamid, MIS-Amiens, France
RACHID Ahmed, University of Picardie, France
RAHAOULIA Habib, University of Tunis, Tunisia
RAHMANI Salem, University of Tunis, Tunisia
REKIK Chokri, University of Sfax, Tunisia
RICARDO A. Ramirez Mendoza, ITES-Mexique, Mexique
RIERA Bernard, U-REIMS, France
RODRIGUEZ Joaquin, INRETS/ESTAS, France
RONDEAU Eric, University of Nancy, France
ROUX Gilles, LAAS/CNRS-Toulouse, France
RUAN Su, University of Rouen, France
SAAD Maarouf, University of McGill, Montréal, Canada
SAHNOUN Mouna, University of Sfax, Tunisia
SAID Salwa, University of Sfax, Tunisia
SALLAMI Anis, ESST-Tunis, Tunisia
SALLEMI Noura, University of Sfax, Tunisia
SAMET Amine, University of Sfax, Tunisia
SAMET-CHARFEDDINE Hekmet, University of Sfax, Tunisia
SAMET Mounir, University of Sfax, Tunisia
SAMET Hekmet, University of Sfax, Tunisia
SAKLY Anis, University of Monastir, Tunisia
SALHI Houda, University of Sfax, Tunisia
SBITA Lassaad, University of Gabes, Tunisia
SELLAMI Anis, ESST-Tunis, Tunisia
SIALA Fatma, University of Sfax, Tunisia
SMAOUI Soulaimen, University of Sfax, Tunisia
SOLTANI Moez, University of Sfax, Tunisia
SOUFI Youcef, University of Tébessa, Algeria
THELJANI Foued, University of Tunis, Tunisia
THIRIET Jean-Marc, LA-Grenoble, France
TLEMCANI Abdelhalim, University of Medea, Algeria
TOUAFEK Khaled, University of Ghardaïa, Algeria
TOUNSI Souhir, University of Sfax, Tunisia
TOURKI Rached, University of Monastir, Tunisia
TORCHANI Bourhen, University of Tunis, Tunisia
TRABELSI Hafedh, ENI-Sfax, Tunisia
TRABELSI Hatem, University of Sfax, Tunisia
TRIGEASSOU Jean Claude, University of Poitiers, France

TRIKI Moncef, University of Sfax, Tunisia
TRIKI Slim, University of Sfax, Tunisia
VANDERHAEGEN Frederic, LAMIH-Valenciennes, France
YANGUI Abderrazak, ENI-Sfax, Tunisia
ZIANI Salim, University of Mentouri Constantine, Algeria
ZRIBI Ali, University of Gabes, Tunisia
ZRIDA Jalel, ESST-Tunis, Tunisia

Preface

The Seventeenth international conference on *Sciences and Techniques of Automatic control & computer engineering* (STA'2016) will take place in Sousse-Tunisia on December, 19-21, 2016. The previous STA conferences have been held in Kerkennah (November 2000), in Douz (November 2001), in Monastir (December 2002), in Sousse (December 2003), in Hammamet (December 2004), in Sousse (December 2005), in Hammamet (December 2006), in Monastir (November 2007) in Sousse (December 2008), in Hammamet (December 2009) in Monastir (December 2010), in Sousse (December 2011), in Monastir (December 2012), in Sousse (December 2013), in Hammamet (December 2014) and in Monastir (December 2015). This conference unites several participants descended of various national and international academics and industrial enterprises.

The Seventeenth international conference STA'2016 aims to create a discussion field between academics and industrials implied in the domains of automatic. The conference STA has the ambition to promote research in the *Automatic control, computer engineering* and their industrial applications while publishing the mean research results developed recently. These international conferences unite several national and international participants of universities and industry and give the opportunity of exchanges and interesting communications between the community of the academics and the industrial staff.

Along the international conference, two plenary lectures and many Communications will be presented and discussed, dealing with various themes bound to the automatic, computer engineering and industrial applications. About one hundred eighty communications in scientific and technological domains (electrical machines, agricultural systems, biotechnical processes, heating transfer, transportation, imagery, robotics, mechanical systems and electronic devices etc.), will be presented along the three days of this international conference. The best papers will be selected by theme to be published in one of the four following journals: the "*International Journal on Sciences and Techniques of Automatic control & computer engineering, IJ-STA*", "*Journal of Electrical Systems, JES*", "*Journal of Automation Systems Engineering, JASE*", "*International Journal of Automation and Computing IJAC*" and "*International Journal of Innovative Computing, Information and Control IJICIC*"..

We wish the welcome to all participants of the seventeenth international conference STA 2016, while wishing them an agreeable stay in Sousse- Tunisia.

**Abdelwaheb AITOUCHÉ, Mohamed CHAABANE and
Fernando TADEO**

Presidents of the international conference STA'2016



Avant-propos

La dix-septième conférence internationale des *Sciences et Techniques de l'Automatique et de l'ingénierie informatique* (STA'2016), qui se déroulera du 19 au 21 décembre 2016 à Sousse, Tunisie, fait suite aux autres manifestations STA organisées à Kerkennah (novembre 2000), à Douz (novembre 2001), à Monastir (décembre 2002), à Sousse (décembre 2003), à Hammamet (décembre 2004) à Sousse (décembre 2005), à Hammamet (décembre 2006), à Monastir (Novembre 2007), à Sousse (décembre 2008), à Hammamet (décembre 2009), à Monastir (décembre 2010), à Sousse (décembre 2011), à Monastir (décembre 2012), à Sousse (décembre 2013), à Hammamet (décembre 2014) et à Monastir (décembre 2015) qui avaient réuni plusieurs participants issus de diverses institutions universitaires nationales et internationales, et entreprises industrielles.

La conférence internationale STA'2016 vise à créer une synergie entre les universitaires et les industriels impliqués dans les domaines liés à l'Automatique. Elle se donne comme objectifs de promouvoir la recherche en Automatique et ses applications dans l'industrie et de garantir la diffusion des principaux résultats développés récemment par les chercheurs (automaticiens, électrotechniciens, informaticiens industriels, etc.) de la discipline Génie Electrique et des disciplines apparentées (Génie Mécanique, Génie des Procédés, etc.). En outre, cette conférence internationale STA'2016 est l'occasion d'échanges et de communications fructueuses au sein de la communauté des universitaires et avec le monde industriel.

Au cours de la conférence internationale STA'2016 deux conférences plénières et un workshop seront présentées, en abordant différents thèmes liés à l'Automatique et ses applications industrielles. Aux alentours de cent quatre vingt communications, traitant de divers thèmes de l'Automatique et ses applications dans divers domaines scientifiques et technologiques (machines électriques, serres agricoles, procédés biotechnologiques, souffleries, transport, imagerie, robotique, mécatronique etc.), seront présentées tout au long des trois jours de cette conférence internationale. Les meilleurs papiers seront sélectionnés en vue de leur publication dans "*International Journal on Sciences and Techniques of Automatic control & computer engineering, IJ-STA*", "*Journal of Electrical Systems, JES*", "*Journal of Automation Systems Engineering, JASE*", "*International Journal of Automation and Computing IJAC*" et "*International Journal of Innovative Computing, Information and Control IJICIC*".

Nous souhaitons la bienvenue à tous les participants de la dix-septième conférence internationale STA'2016 tout en leur souhaitant de passer un agréable séjour à Sousse, Tunisie.

**Abdelwaheb ATOUCHE, Mohamed CHAABANE et
Fernando TADEO**

Présidents de la conférence internationale STA'2016



توطئة

المؤتمر الدولي السابع عشر للعلوم والتكنولوجيات في التحكم الآلي والهندسة الإعلامية هو تواصل للملتقيات السابقة المنعقدة بقرقنة (نوفمبر 2000) ودوز (نوفمبر 2001) والمنستير (ديسمبر 2002) وسوسة (ديسمبر 2003) والحمامات (ديسمبر 2004) وسوسة (ديسمبر 2005) والحمامات (ديسمبر 2006) والمنستير (نوفمبر 2007) وسوسة (ديسمبر 2008) والحمامات (ديسمبر 2009) والمنستير (ديسمبر 2010) وسوسة (ديسمبر 2011) والمنستير (ديسمبر 2012) وسوسة (ديسمبر 2013) ، والحمامات (ديسمبر 2014) والمنستير (ديسمبر 2015) والتي جمعت عدة مشاركين من مختلف المؤسسات الجامعية و الصناعية من تونس ومن الخارج. نسعى من خلال هذا المؤتمر الدولي إلى تعزيز صلة التقارب بين الجامعيين والصناعيين في ميدان التحكم الآلي والإعلامية الصناعية حتى يتسعى لهم إمكانية تبادل المعلومات والخبرات في هذا الميدان.

وتتجدر الإشارة بأن هذا المؤتمر الدولي يهدف إلى الارتقاء بالبحث العلمي و التكنولوجيات الحديثة في التحكم الآلي وتطبيقاته في مجال الصناعة و الفلاحة وبالعمل على نشر أهم النتائج المتحصل عليها حديثا من طرف الباحثين في التحكم الآلي والهندسة الإعلامية بالمجلات و النشريات و إدماجها في التدريس عبر دورات التكوين في مجال الهندسة الكهربائية والهندسة الإعلامية.

هذا ويحتوي برنامج المؤتمر الدولي على عدة محاضرات يلقاها أساتذة مدعون من تونس، من المغرب العربي ، من فرنسا، و من عدة دول أخرى ومن المنتظر أن حوالي مائة وثمانون مداخلة تعرض خالله مبينة أهم وأحدث الأعمال العلمية المنجزة من طرف الباحثين المنتسبين إلى عدة مخابر ووحدات بحث من تونس ومن الخارج. يختتم المؤتمر الدولي المذكور بتنظيم مائدة مستديرة حول سبل تثمين نتائج الأبحاث التونسية وتطبيقاتها في ميداني الصناعة و الفلاحة.

يسهر مخبر البحث علوم وتقنيات التحكم الآلي و الإعلامية الصناعية علي تنظيم هذا المؤتمر الدولي للعلوم وتقنيات التحكم الآلي والهندسة الإعلامية. إن هذا المؤتمر يحظى بالدعم المادي والمعنوي من وزارة التعليم العالي والبحث العلمي، من جامعة صفاقس، من المدرسة الوطنية للمهندسين بصفاقس، من جمعية التقنيات الرقمية والتحكم الآلي و عدة مخابر و وحدات بحث من تونس و من الخارج و أطراف أخرى.

رؤساء المؤتمر الدولي الرابع عشر للعلوم وتقنيات التحكم الآلي والهندسة الإعلامية

فرنندو تدايو

عبد الوهاب عيتوش

محمد شعبان

17th international conference on Sciences and techniques of automatic control & computer engineering - STA 2015

December 19-21, 2016, Sousse, TUNISIA

Program at a Glance

STA'2016 Technical Program Sunday December 18, 2016

STA' 2016 Technical Program Sunday December 18, 2016

14:0-21:00

Inscription for the conference

16:00-18:00

Workshop (Dr. Ing. Dhaker ABBES and Prof. Abdelouhab AITOUCHÉ, University of Lille, France)

STA'2016 Technical Program Monday December 19, 2016

STA' 2016 Technical Program Monday December 19, 2016

Track T1

Track T2

Track T3

Track T4

08:45-09:15

Room A

Opening

09:15-10:15

Room A

MonPS1: Prof. Abderazek BEN ABDALLAH, University of Aizu, Japon

10:15-10:35

Coffee break

10:35-12:35

Room A

Regular Session MonA1

S1 : ACS (6)

10:50-12:35

Room B

Regular Session MonA2

S2 : PEC (6)

10:50-12:35

Room C

Regular Session MonA3

S3 : TCE (6)

10:50-12:35

Room D

Regular Session MonA4

S4 : DFC (6)

12:35-14:30

Lunch

14:30-16:30

Room A

Regular Session MonB1

S5 : REC (6)

14:30-16:30

Room B

Regular Session MonB2

S6 : WSN (6)

14:30-16:30

Room C

Regular Session MonB3

S7 : TCE (6)

14:30-16:30

Room D

Regular Session MonB4

S8 : IFR (6)

16:30-16:50

Coffee break

16:50-18:10

Room A

Regular Session MonC1

S9 : NFC&PSE (5)

16:50-18:10

Room B

Regular Session MonC2

S10 : RAC (5)

16:50-18:10

Room C

Regular Session MonC3

S11 : CEM (5)

16:50-18:10

Room D

Regular Session MonC4

S12 : MRN (5)

STA'2015 Technical Program Tuesday December 20, 2016

STA'2016 Technical Program Tuesday December 20, 2016			
Track T1	Track T2	Track T3	Track T4
08:30-09:30 Room A			
TuePS2: Prof. Marina S. PERDIGÃO, University of Coimbra, Portugal			
09:30-10:30 Room A Regular Session TueA1 S13 : CRS (3)	09:30-10:30 Room B Regular Session TueA2 S14 : ASC (3)	09:30-10:30 Room C Regular Session TueA3 S15 : IRM (3)	09:30-10:30 Room D Regular Session TueA4 S16 : PEC (3)
10:30-10:50 Coffee break			
10:50-12:30 Room A Regular Session TueB1 S17 : IFR (5)	10:50-12:30 Room B Regular Session TueB2 S18 : REC (5)	10:50-12:30 Room C Regular Session TueB3 S19 : DFC (5)	10:50-12:30 Room D Regular Session TueB4 S20 : NEM (5)
12:35-14:30 Lunch			
14:30-16:30 Room A Regular Session TueC1 S21 : ACS (6)	14:30-16:30 Room B Regular Session TueC2 S22 : CEM (6)	14:30-16:30 Room C Regular Session TueC3 S23 : NEM (6)	14:30-16:30 Room D Regular Session TueC4 S24 : DEM (6)
16:30-16:50 Coffee break			
16:50-18:10 Room A Regular Session MonD1 S25 : TCE (5)	16:50-18:10 Room B Regular Session MonD2 S26 : SMC&TDS&FTC (5)	16:50-18:10 Room C Regular Session MonD3 S27 : REC (5)	16:50-18:10 Room D Regular Session MonD4 S28 : PEC (5)

STA' 2016 Technical Program Wednesday December 21, 2016

STA'2016 Technical Program Wednesday December 21, 2016			
Track T1	Track T2	Track T3	Track T4
08:30-10:30 Room A Regular Session WedA1 S29 : REC (6)	08:30-10:30 Room B Regular Session WedA2 S30 : IFR (6)	08:30-10:30 Room C Regular Session WedA3 S31 : DFC (6)	08:30-10:30 Room D Regular Session WedA4 S32 : FSC (6)
10:30-10:50 Coffee break			
10:50-12:10 Room A Regular Session WedB1 S33: PEC (4)	10:50-12:10 Room B Regular Session WedB2 S34: CEM (4)	10:50-12:10 Room C Regular Session WedB3 S35 : PSE (4)	10:50-12:10 Room D Regular Session WedB4 S36 : ACS (4)
12:10-12:35 Conference close			
12:35-15:00 Lunch			

ACS: Analysis and Control of Systems	MES: Management of Energy Systems
ASC: Adaptive System and Control	MRN: Mobile Robots and Navigation
ANN: Artificial Neural Networks	MRS: Modelling of Robotic Systems
BSP: Biomedical Signal Processing and Control	NEM: Networks and Electrical Machines
CEM: Circuits, Electronics and Micro-electronics	NFC: Neuro Fuzzy Controllers
CES: Control and Embedded System	RAC: Robust and Adaptive Control
CEV: Control of Electrical Vehicles	REC: Renewable Energy Conversion
CRS: Control of Robotics Systems	PEC: Power Electronics and Control
DEM: Diagnostic Electrical Machines	PSE: Parametric and State Estimation
DFC: Diagnosis and Fault tolerant Control	SIS: Supervision and Intelligent Systems
DSI: Description and System Identification	SMC: Sliding Mode Control
FSC: Fractional-order Systems and Controls	TCE: Tele Communications Engineering
IFR: Imagery and Forms Recognition	TDS: Time-Delay Systems
IRM: Imagery, Robotics and Mecatronics	WSN: Wireless Sensor Networks

Sunday, December 18, 2016

Inscription for the conference : 16h00–21h00

Workshop

Presidents: Driss MEHDI & Amer ZEREK

16h00–18h00	Optimization and supervision of complex energy systems Dr. Ing. Dhaker ABBES and Prof. Abdelouhab AITOUCHÉ, University of Lille, France
-------------	---

Monday, December 19, 2016

Inscription for the conference : 7h30-8h45

Opening of the 16th international conference STA'2015 : 08h45–09h15

Plenary Session SP1

Presidents: Abdelwaheb AITOUCHÉ & Horst SCHULTE

09h15–10h15	Adaptive Systems-on-Chip for Smart Autonomous Systems Prof. Abderazek BEN ABDALLAH, University of Aizu, Japan	STA'2016–SP1
-------------	--	---------------------

Coffee break : 10h15–10h35

Session S1 : MonA1: Analysis and Control of Systems (ACS)

Presidents: Maher KHARRAT & Faouzi MSAHLI

10h35–10h55	The Bond Graphs to the study of interactions between the PEM fuel cell and static Converters Wafa BEN SALEM, Dhaia MZOUGHI, Hatem ALLAGUI and Abdelkader MAMI	PID4043–ACS
10h55–11h15	Unknown-Input Observer for Disturbance and State Estimation of an Activated Sludge Waste Water Treatment Process Intissar KHOJA, Taoufik LAHDARI, Anis SAKLY and Faouzi MSAHLI	PID4045–ACS

11h15–11h35	Nonlinear Control of the Doubly Fed Induction Generator used with Wind Turbine for an Isolated Grid Yasser BELKACEM, Said DRID, A. MAKOUF, Larbi CHRIFI-ALAOUI and Bruno MARHIC	<i>PID4053–ACS</i>
11h35–11h55	A comparative study of the output and the state feedback predictive control Asma ACHNIB, Manel CHETOUI, Patrick LANUSSE and Mohamed AOUN	<i>PID4082–ACS</i>
11h55–12h15	GA-based Constrained Optimal Control Of A Hydraulic Two-Tank Switched System Ahmed Anis KAHLOUL and Anis SAKLY	<i>PID4091–ACS</i>
12h15–12h35	A Nonlinear Internal Model Controller for Affine Nonlinear Discrete-time Systems Chakra OTHMAN, I. B. CHEIKH and Hajar BOUZAOUACHE	<i>PID4118–ACS</i>

Session S2: MonA2: Power Electronics and Control (PEC)

Presidents: Med Faouzi MIMOUNI & Mohamed BOUSSAK

10h35–10h55	Implementation of Sensorless Control of an Induction Motor Based on a MRAS Observer on an FPGA Board Narjess SGHAIER, Ramzi TRABELSI and Med Faouzi MIMOUNI	<i>PID3972–PEC</i>
10h55–11h15	A Review of Smart Transformer Architectures and Topologies Hiba HELALI, Adel BOUALLEGUE and Adel KHEDER	<i>PID4038–PEC</i>
11h15–11h35	Decoupled PQ control Applied to a Multicellular Parallel Inverter for Grid-connected Photovoltaic System Mahamat CHABAKATA, Mickael PETIT, Rym MAROUANI, Cyrille GAUTIER, Abdelkader MAMI and François COSTA	<i>PID4041–PEC</i>
11h35–11h55	Design, Modeling and Simulation of Hybrid Power System (Photovoltaic-WIND) Rim BEN ALI, Emna ARIDHI and Abdelkader MAMI	<i>PID4050–PEC</i>

11h55–12h15	<p>Comparative study NN, PI and adaptive PI controllers for the control a synchronous motor with permanent magnets</p> <p>Zaineb FRIJET, Ali ZRIBI and Mohamed CHTOUROU</p>	PID4171–PEC
-------------	---	--------------------

12h15–12h35	<p>A Comparative Study of Performance of Multi-band and Conventional Power System Stabilizers to Improve Transient Stability of Multimachine Power System</p> <p>Bilel DHOUIB, Omar KAHOULI and Hsan HADJ ABDALLAH</p>	PID4195–PEC
-------------	--	--------------------

Session S3: MonA3: Time-Delay Systems (TDS)

Presidents: Driss MEHDI & Hamdi GASSARA

10h35–10h55	<p>A New Sliding Mode Approach For Discrete Systems With State And Input Time-Varying Delays</p> <p>Yassine BEN YAZID, Ahmed SAID NOURI and Driss MEHDI</p>	PID4021–TDS
10h55–11h15	<p>Asymptotic stability of discrete-time switched TS fuzzy systems with multiple delays</p> <p>Ahmed JABALLI, Marwen KERMANI, Anis SAKLY and Ahmed EL HAJJAJI</p>	PID4116–TDS
11h15–11h35	<p>New Approach of Stability Analysis for Polynomial Fuzzy Model with Time Delay</p> <p>Imen IBEN AMMAR, Hamdi GASSARA, Mohamed CHaabane and Ahmed EL HAJJAJI</p>	PID4165–TDS
11h35–11h55	<p>Average dwell-time approach to H_∞; control of time-varying delay switched systems</p> <p>Mohamed Amin REGAIEG, Mourad KCHAOU, Hamdi GASSARA, Ahmed El HAJJAJI and Mohamed CHaabane</p>	PID4166–TDS
11h55–12h15	<p>Delay Dependent Faults Estimation for Uncertain Time Delay Systems</p> <p>Hadil SOLTANI, Saloua BEL HADJ ALI NAOUI, Rafika EL HARABI, Abdel AITOUCHÉ and Mohamed Naceur ABDELKRIM</p>	PID4172–TDS

12h15–12h35	<p>Cascade predictors design for a class of nonlinear uncertain systems with delayed state- Application to bioreactor</p> <p>Mondher FARZA, Omar HERNÁNDEZ-GONZÁLEZ, Tomas MÉNARD and Mohamed M'SAAD</p>	PID4193–TDS
--------------------	---	--------------------

Session S4: MonA4: Diagnosis and Fault tolerant Control (DFC)

Presidents: Fernando TADEO & Maha BOUATTOUR

10h35–10h55	<p>Estimation and Compensation of Sensor Fault for Perturbed PWA Systems</p> <p>Salwa YAHIA, Saida BEDOUI and Kamel ABDERRAHIM</p>	PID4036–DFC
10h55–11h15	<p>Accommodation of successive actuator failures with optimal control for a class of nonlinear systems</p> <p>Hajer MLAYEH, Sahbi GHACHEM, Othman NASRI and Kamel BENOTHMAN</p>	PID4114–DFC
11h15–11h35	<p>Faults effects analysis in a photovoltaic array based on current-voltage and power-voltage characteristics</p> <p>Siwar FADHEL, Mohamed TRABELSI, Imen BAHRI, Demba DIALLO and Mohamed Fouazi MIMOUNI</p>	PID4117–DFC
11h35–11h55	<p>Fault Detection of an Air Quality Monitoring Network</p> <p>Raoudha BAKLOUTI, Ahmed BEN HAMIDA Majdi MANSOURI and Mohamed NOUNOU</p>	PID4121–DFC
11h55–12h15	<p>Damage Detection using Enhanced Multivariate Statistical Process Control Technique</p> <p>Marwa CHaabane, Ahmed BEN HAMIDA, Majdi MANSOURI, Hazem N. NOUNOU and Onur AVCI</p>	PID4122–DFC
12h15–12h35	<p>Diagnosis of delayed discrete time singular perturbed systems based on slow subsystem</p> <p>Zina BOUGATEF, Nouceyba ABDELKRIM, Adel TELLILI and Mohamed Naceur ABDELKRIM</p>	PID4132–DFC

Lunch: 12h35–15h00

Session S5: MonB1: Renewable Energy Conversion (REC)

Presidents: Hafedh ABID & Mondher FARZA

14h30–14h50	Design and Development of Spin Coating System Zouhour KHADDACHI, Marwa BELHI, Moufid BEN KAROUI and Rached GHARBI	PID4044–REC
14h50–15h10	Design and Control strategy of Micro-wind Turbine Based PMSM in AC MicroGrid El hassane MARGOUM and Nissrine KRAMI	PID4065–REC
15h10–15h30	Control of the Boost converter by using P&O MPPT technique, PI regulator and PWM approach for optimal adaptation between Photovoltaic panels and DC Load: Simulation of a Photovoltaic Generator on Matlab/Simulink Zeineb Rania LABIDI and Abdelkader MAMI	PID4074–REC
15h30–15h50	Techno-economic energy analysis of solar/wind/diesel generator hybrid system: Case study for Southeast Region of Turkey, Mardin Mehmet Rida TUR and Nouha BOUCHIBA	PID4083–REC
15h50–16h10	Sensor-less Control Strategy on Three Phase Grid Side Converter Fatma BEN YOUSSEF and Lasaad SBITA	PID4174–REC

Session S6: MonB2: Wireless Sensor Networks (WSN)

Presidents: Amer ZEREK & Abderazek BEN ABDALLAH

14h30–14h50	Study of a set of multi hop routing techniques in WSN Noureddine SEDDIKI, Abedsalem BASSOU and Malika SLIMANI	PID4009–WSN
14h50–15h10	Systematic analysis, design and implementation of prioritized VANET in real time application Chinmaya VYAS an Pravin WARARKAR	PID4085–WSN
15h10–15h30	Energy efficiency in WSN: IEEE 802.15.4 Hayfa AYADI, Ahmed ZOUINKHI, Boumedyen BOUSSAID, Mohamed N. ABDELKRIM and Thierry VAL	PID4130–WSN

15h30–15h50	Study and Test Performance of the Zigbee Wireless Technology in Some Network Models by Using OPNET Software Mariam ABOAJELA MSAAD	PID4149– WSN
15h50–16h10	Impact of Link Quality Estimators and Garranted Time Slot in Wireless Sensor Network Mohamed BOUYAHI, Houria REZIG and Tahar EZZEDINE	PID4151– WSN
16h10–16h30	Implementation of a Climate Monitoring System Based on Sensor Network Walid FANTAZI and Tahar EZZEDINE	PID4177– WSN

Session S7: MonB3: *Tele Communications Engineering (TCE)*

Presidents: **Mounir SAMET & Ali GHARSALLAH**

14h30–14h55	Statistical study on the effect of the use of mobile phone technology on human body health Said GHNIMI, Jamel Ben Romdhan HAJRI, Farah HARRATHI and Ali GHARSALLAH	PID4032–TCE
14h55–15h15	Hardware Complexity Reduction of LDPC-CC Decoders Based on Message-Passing Approaches Hayfa BEN THAMEUR, Chaima BOUZOUITA, Nadia KHOUJA, Bertrand LE GAL, Fethi TLILI and Christophe JEGO	PID4042–TCE
15h15–15h35	Performance of a blind equalization algorithm for Rayleigh and Rician channels Ali MOUSSA, M. FRIKEL, M. POULIQUEN, S. BEDOUI, K. ABDERRAHIM and M. M'SAAD	PID4066–TCE
15h35–15h55	A Novel EBG Koch-curve Filter for Mutual H-plane Coupling Reduction in Closely Spaced Antennas Wiem KHALIFA and Jamel BELHADJ TAHAR	PID4096–TCE
15h55–16h15	Migrating Plan for LTT Company Network from WiMAX to LTE Tammam BENMUSA, Hager BENSAIDAN and Mustafa KH. SHATER	PID4112–TCE
16h15–16h30	Simulation Software as a Teaching Aid For Radiation Pattern of Different schemes of Antennas Fareda A. ELMARYAMI	PID3984–TCE

Session S8: MonB4: Imagery and Forms Recognition (IFR)

Presidents: Kenz A. BOZED & Abdellatif MTIBAA

14h30–14h50	Securing Digital Information using the Rakaposhi System Aissa BELMEGUENAI, Khaled MANSOURI and Nadir DEROUICHE	PID3998–IFR
14h50–15h10	Improved performance of PSNR metric using SURF saliency map and CSF filter for standard coding H264/AVC Mohamed BEN AMOR, Fahmi KAMMOUN and Nouri MASMOUDI	PID4002–IFR
15h10–15h30	Re-Identification : Inter-Camera Tracking of People using Biometric Technologies Imed BOUCHRIKA, Zohra MAHFOUF and Nouzha HARRATI	PID4056–IFR
15h30–15h50	Gait Biometrics via Optical Flow Motion Features for People Identification Zohra MAHFOUF, Imed BOUCHRIKA, Hayet Farida MEROUANI and Nouzha HARRATI	PID4057–IFR
15h50–16h10	Image Steganography Approach Based on Straight Line Detection Yasmina M.A. ABDALNOUR, Ashraf SAAD HUWEDI and Kenz A. BOZED	PID4063–IFR
16h10–16h30	Classification Depend on Linear Discriminant Analysis and using Desired Outputs Nasar Aldian AMBARK SHASHOA, Nuredin ALI SALEM, Ibrahim N. JLETA and Omar ABUSAEEEDA	PID4107–IFR

Coffee break : 16h30–16h50

Session S9: MonC1: Neuro Fuzzy Controllers (NFC) & Parametric and State Estimation (PSE)

Presidents: Ahmed TOUMI & Mariem GHAMGUI

16h50–17h10	Enhancing classic IFOC with Fuzzy Logic technique for speed control of a 3~ Ebara Pra-50 Moto-Pump Houssem CHAOUALI, Hichem OTHMANI, Dhafer MEZGHANI and Abdelkader MAMI	PID4001–NFC
-------------	---	-------------

17h10–17h30	A greenhouse compartments extraction using a neuro-fuzzy classifier Fathi FOURATI and Khaled DEHMANI	<i>PID4011–NFC</i>
17h30–17h50	Fuzzy Adaptive Particle Swarm Optimization Based Maximum Power Point Tracking Manel MERCHAOUI, Anis SAKLY and Mohamed Faouzi MIMOUNI	<i>PID4141– NFC</i>
17h50–18h10	A parametric estimation of nonlinear stochastic systems described by Wiener-Hammerstein mathematical models Alef MARAI GHANMI, Houda SALHI, Sofien HAJJI and Samira KAMOUN	<i>PID4113– PSE</i>
18h10–18h30	Linear Algebraic Formalism for State Estimation of Labeled Petri Net Amira CHOUCHENE, Philippe DECLERCK, Othman NASRI, Atef KHEDHER and Anas KAMOUN	<i>PID4131– PSE</i>

Session S10: MonC2: Robust and Adaptive Control (RAC)

Presidents: Dhaker ABBES & Sinda ALOUI

16h50–17h10	Dynamic modeling and Robust Control of a Wind Energy Conversion System Based on a Permanent Magnet Synchronous Generator Youssef KRIM, Dhaker ABBES, Saber KRIM AND Mohamed Faouzi MIMOUNI	<i>PID4015–RAC</i>
17h10–17h30	Robust Constrained Predictive Control using a dual Youla Parameterisation Fas Mohamed LAMINE	<i>PID4076– RAC</i>
17h30–17h50	Robust Control approach for a Turbocharged Diesel Engine: AMESim validation Samia LARGUECH, Sinda ALOUI, Olivier PAGES, Ahmed EL HAJJAJI and Abdessattar CHAARI	<i>PID4175– RAC</i>
17h50–18h10	Robust control of electropneumatic actuator position via adaptive sliding mode approach Assil AYADI, Soufien HAJJI, Mohamed SMAOUI and Abdessattar CHAARI	<i>PID4182– RAC</i>

18h10–17h30	H2 Optimal Control of a Minimal State Space Realization Model of Coordinated Fingers Movement Maryam IQBAL AND A. MAHMOOD	PID4023–RAC
-------------	--	--------------------

Session S11: MonC3: Circuits, Electronics and Micro-electronics (CEM)

Presidents: Nouri MASMOUDI & Faycal DJEFFAL

16h50–17h10	Voltage Instability Remedy using FACTS, TCSC Compensation Karima HAWISA, Rajab IBSAIM and Amer DAERI	PID3995–CEM
17h10–17h30	Modeling of Boron Nitride-based Nanotube biological Sensor using Neural Networks F. MENACER, A. KADRI, F DJEFFAL, Z. DIBI and Hichem FERHATI	PID4008– CEM
17h30–17h50	Enhancement of the optical performance of ZnO thin-film using metallic nano-particles for optoelectronic applications N. BOUKHENOUFA, H. FERHATI, Faycal DJEFFAL and R. MAHAMDI	PID4047–CEM
17h50–18h10	XSG for Hardware Implementation Of A Robust Watermarking System Mohamed GAFSI, Sondes AJILI, Mohamed Ali HAJJAJI, Hedi YAHIA and Abdellatif MTIBAA	PID4087–CEM
18h10–18h30	A clock gating design for high speed treatment and optimized power of image processing circuit Siwar BEN HAJ HASSINE and Bouraoui OUNI	PID4089–CEM

Session S12: MonC4: Mobile Robots and Navigation (MRN)

Presidents: Tarak DAMAK & Karim DAHECH

16h50–17h10	Geometric Modeling of the Parallel Robot Par4 Using the Modified Denavit Hertanberg Method Sonda MHIRI ABID, Neila BEN RAMDHANE MEZGHANI and Tarak DAMAK	PID4185–MRN
17h10–17h30	Adaptive trajectory tracking of a nonholonomic mobile robot considering actuator dynamics Yasmine KOUBAA, Mohamed BOUKATTAYA and Tarak DAMMAK	PID4064–MRN

17h30–17h50	<p>Modeling and Control of Mobile Platform using Flatness-Fuzzy Based Approach with Gains Adjustment in Real Time Samia KHERANI, Abdelouahab HASSAM, Mabrouk BOUBEZOULA and Fawzi SRAIRI</p>	PID4088–MRN
17h50–18h10	<p>A novel frictional force control of a wheeled robot Radwen BAHRI, Rahma BOUCETTA and Saloua BELHADJALI</p>	PID4111–MRN
18h10–18h30	<p>Bond Graph Modeling of an Anthropomorphic Prosthetic Hand Amna NAEEM, Nimra IRSHAD and Tayyaba QAISAR</p>	PID4013–MRN

Tuesday, December 20, 2016

Plenary Session SP2

Presidents: Driss MEHDI & Abdelwaheb AITOUCHÉ

08h30–09h30	<p>Control Techniques based on Variable Inductors: Application to Power Converters Prof. Marina S. PERDIGÃO, Instituto Politécnico de Coimbra, Portugal</p>	STA'2016–SP2
-------------	---	---------------------

Session S13 : TueA1: Control of Robotics Systems (CRS)

Presidents: Neila MEZGHANNI & Mohamed BOUKATTAYA

09h30–09h50	<p>Structured Uncertainty Modeling, Analysis and Control of a Customized Robotic Arm Tayyaba QAISAR and A. MAHMOOD</p>	PID3961–CRS
09h50–10h10	<p>Vision-Based Velocity Tracking Control For Differential Wheeled Mobile Robot Raouf FAREH, Maarouf SAAD, Mohammed BAZIYAD and Tamer RABIE</p>	PID4020–CRS
10h10–10h30	<p>Minimization time of the robot using Shooting Method Fethi DEMIM Abdelkrim NEMRA, Kahina LOUADJ, Dahmane MERZAK, Mustapha HAMERLAIN and Aidene MOHAMED</p>	PID4030–CRS

Session S14: TueA2: Adaptive System and Control (ASC)

Presidents: Samira KAMOUN & Tarek MAATOUG

09h30–09h50	Adaptive Proportional Multi-Resonant Output Voltage Control Strategy for Parallel Operating Distributed Generation Units Abdelhakim SAIM, Rabah MELLAH, Azeddine HOUARI, Ali DJERIOUI and Mohamed MACHMOUM	PID4040–ASC
-------------	--	--------------------

09h50–10h10	Analysis and Design of rotor MRAS Speed Sensorless with a Novel Approach Idriss BENLALOUI, Said DRID, Larbi CHRIFI-ALAOUI and M. OURIAGLI	PID4059–ASC
-------------	---	--------------------

10h10–10h30	Adaptive tracking control algorithms for large-scale interconnected nonlinear systems Mourad ELLOUMI and Samira KAMOUN	PID4205–ASC
-------------	--	--------------------

Session S15: TueA3: Imagery, Robotics and Mecatronics (IRM)

Presidents: Fayçal BEN HMIDA & Majdi MANSOURI

09h30–09h50	Hardware Implementation of Encryption Image Using Xilinx System Generator Manel DRIDI, Mohamed Ali HAJJAJI and Abdellatif MTIBAA	PID4135–IRM
-------------	--	--------------------

09h50–10h10	CUDA Accelerated Visual Egomotion Estimation for Robotic Navigation Safa OUERGHI, Remi BOUTTEAU, Xavier SAVATIER and Fethi TLILI	PID4170–IRM
-------------	--	--------------------

11h05–11h20	Seizure Detection with Single-Channel EEG using Extreme Learning Machine Sabrina AMMAR and Mohamed SENOUCI	PID4180–IRM
-------------	--	--------------------

Session S16: TueA4: Power Electronics and Control (PEC)

Presidents: Lotfi KRICHEN & Moncef TRIKI

09h30–09h50	A self control strategy for a delta inverter fed BDCM Drive using Xilinx system generator with fixed point/floating point mode Asma ALOUANE, Asma BEN RHOUMA and Adel KHEDHER	PID4090–PEC
-------------	---	--------------------

09h50–10h10	Comparative Evaluation of Carrier-Based PWM Strategies With Zero-Sequence Signal Injection for B6-VSI Fed Induction Motor Drives Imen NOUIRA EL BADSI, Bassem EL BADSI, and Ahmed MASMOUDI	PID4128–PEC
10h10–10h30	Experimental Evaluation of RFOC and DTC Strategies for B6-VSI Induction Motor Drives Imen NOUIRA EL BADSI, Bassem EL BADSI and Ahmed MASMOUDI	PID4129–PEC

Coffee break : 10h30-10h50

Session S17: TueB1: Diagnosis and Fault tolerant Control (DFC)

Presidents: Ahmed EL HAJAJI & Hana GHORBEL

10h50–11h10	Fault Diagnosis for dynamic nonlinear system based on Variable Moving Window KPCA Radhia FEZAI and Okba TAOUALI, Mohamed Faouzi HARKAT and Nasreddine BOUGUILA	PID3974–DFC
11h10–11h30	Fault detection observer design for non-linear T-S fuzzy perturbed system: Descriptor technique Salama MAKNI, Maha BOUATTOUR and Mohamed CHAABANE	PID4167–DFC
11h30–11h50	Inter-Turn Faults Detection Using, An Extended Park's Vector Approach Samir BOUSLIMANI, Said DRID, Larbi CHRIFI-ALAOUI, Pascal BUSSY and M. HAMZAoui	PID4169–DFC
11h50–12h10	Sensor Fault Tolerant Control for Uncertain Linear systems Mouna ASSIDI, Ali Slim DHAHRI and Fayçal BEN HMIDA	PID4176–DFC
12h10–12h30	Performance Analysis of FOC and DTC for Synchronous Reluctance Motor Drives Imen TLILI, A. KHLAIEF, Oussama SAADAOUI, Abdelkader CHAARI and Mohamed BOUSSAK	PID4211–DFC

Session S18: TueB2: Management of Energy Systems (MES)

Presidents: Mondher CHAOUI & Ahmed BEN ATITALLAH

10h50–11h10	Research in the Investment Decision Based on Missing Data Pang YUNCHAO	PID3999–MES
11h10–11h30	On the Contribution of Synchronized Measurement Technology in Power System Monitoring Nesrine MEKKI and Lotfi KRICHEN	PID4078–MES
11h30–11h50	Ant Colony Optimization Based Optimal Energy Management for an FC/UC Electric Vehicle Rayhane KOUBAA and Lotfi KRICHEN	PID4079–MES
11h50–12h10	Optimal Integration of Solar Distributed Generations in Distribution Network Using SPEA2 Imen BEN HAMIDA, Saoussen BRINI SALAH, Faouzi MSAHLI and Mohamed Faouzi MIMOUNI	PID4164–MES
12h10–12h30	A comparative study for optimal replanning of A 30KV Distribution network based on Economic dispatch (ED) and optimal load flow (OPF) with and without DG penetration Abdulkarem H. SALEH and Abdalla IDRIS FADEL	PID4181–MES

Session S19: TueB3: Sliding Mode Control (SMC)

Presidents: Ahmed NOURI SAID & Sofiene HAJJI

10h50–11h10	Flux Observers Design for Induction Motor using Linear Parameter Varying Observer and Sliding mode Observer Idriss BENLALOUI, Dalila KHAMAR, Said DRID, Larbi CHRIFI-ALAOUI and M. HAMZAoui	PID4055–SMC
11h10–11h30	Finite Time Stability of uncertain Second Order systems using Sliding Mode Control Marwa JOUINI, Slim DHAHRI and Anis SELLAMI	PID4127–SMC
11h30–11h50	Double Star Induction Motor under FOC and SMC techniques including a Sliding Mode Flux Observer Rachida KACEM and Adel KHEDHER	PID4156–SMC

11h50–12h10	Robust Sliding Mode Control for Nonlinear Uncertain Discrete-time Systems Amira AYDI, Mohamed DJEMEL and Mohamed CHTOUROU	PID4158–SMC
12h10–12h30	Backstepping vs Sliding Mode Control for Reference Trajectory Tracking of Autonomous Vehicles Kada AKERMI and Samira CHOURAQUI	PID4184–SMC

Session S20: TueB4: Renewable Energy Conversion (REC)

Presidents: Hsan HADJ ABDALLAH & Abdelmajid OULHA

10h50–11h10	Comparative analysis for various control strategies based MPPT technique of photovoltaic system using DC-DC boost converter Mouna FERCHICHI, Noureddaher ZAIDI and Adel KHEDHER	PID4017–REC
11h10–11h30	A Simplified Mathematical Approach for Magnet Defects Modeling in a PMSG-based Marine Current Turbine Sana TOUMI, Yassine AMIRAT, Elhoussin ELBOUCHIKHI, Mohamed TRABELSI, Mohamed BENBOUZID and Mohamed Faouzi MIMOUNI	PID4027–REC
11h30–11h50	FCS-MPC for Grid Tied Three Level NPC Inverter With Experimental Validation Mohamed HAMDI, Mahmoud HAMOUDA and Lassaad SBITA	PID4100–REC
11h50–12h10	A comparative study of PI and Sliding mode controllers for autonomous wind energy conversion system based on DFIG Asma BARKIA Nouha BOUCHIBA, Souhir SALLEM, Larbi CHRIFI-ALAOUI and MBA KAMMOUN	PID4101–REC
12h10–12h30	Simulation, analysis and experimental validation of BP 380 performance solar photovoltaic module Takwa MANSOURI, Boumedyen BOUSSAID, Med Naceur ABDEKLKrim and Larbi CHRIFI-ALAOUI	PID4179–REC

Lunch: 12h35–15h00

Session S21: TueC1: Analysis and Control of Systems (ACS)

Presidents: Badreddine LOUHICHI & Anis SAKLY

14h30–14h50	New Model of ALTENN Implementation Using Neural Network Ambarka Ali ELGHALI	PID3981–ACS
14h50–15h10	Investigating the effect of GA Based PID Controller Performance Indices with Application to Stirred-tank Heater (Jacket Model) Najeh Ibrahim ALLAFI, Ali S. ZAYED, Mohamed SHTEWI DAW and Wesam M. AHMED	PID4058–ACS
15h10–15h30	Modelling of Water Level System Using Neurofuzzy Tuned by PSO Mourad TURKI and Anis SAKLY	PID4125–ACS
15h30–15h50	Particle Swarm Optimization and Alienor method to constrained multivariable Predictive control Ali THAMALLAH, Anis SAKLY and Faouzi M'SAHLI	PID4140–ACS
15h50–16h10	A Fault Tolerant Distributed Hadoop Cluster for Big Data using SVM Pooja JAIN, Joey PINTO and Tapan KUMAR	PID3973–ACS
16h10–16h30	System Modeling and Identification of Unmanned Quad Rotor Air Vehicle based on subspace and PEM Liu YI	PID4004–ACS

Session S22: TueC2: Control and Embedded System (CES)

Presidents: Nouri MASMOUDI & Abdellatif MTIBAA

14h30–14h50	CPU Scheduling Algorithms: Case & Comparative Study Sonia ZOUAOUI, Lotfi BOUSSAID and Abdellatif MTIBAA	PID4031–CES
14h50–15h10	Performance comparison between Nios II/e and ARM Cortex-M0 soft-core processors for peak detection applications Chun KEAT LIM, Asral Bahari JAMBEK and Uda HASHIM	PID4084–CES

15h10–15h30	HEVC Video Encoder Implementation On Texas Instruments Platforms Nejmeddine BAHRI, Abdessamad EL ANSARI, Mohamed MAAZOUZ, Ali AHAITOUF and Nouri MASMOUDI	PID4155–CES
15h30–15h50	Directed Hypergraph for structural FDI analysis Henda AJEMNI, Rafika EL HARABI and Mohamed Naceur ABDELKrim	PID4183–CES
15h50–16h10	An Intrusion Detection Method for Securing In-Vehicle CAN bus Mabrouka GMIDEN, Mohamed Hedi GMIDEN and Hafedh TRABELSI	PID4191–CES
16h10–16h30	Improvement of IOIOAI Service for external sensors communication between App Inventor and IOIO Slim CHTOUROU, Mohamed KHARRAT, Nader BEN AMOR, Mohamed JALLOULI and Mohamed ABID	PID4203–CES

Session S23: TueC3: Networks and Electrical Machines (NEM)

Presidents: Said DRID & Omar KAHOULI

14h30–14h50	Shunt and short shunt compensation for a stand-alone self-excited induction generator Abdelhamid BARHOUMI, Taoufik MHAMDI and Lassaad SBITA	PID4012–NEM
14h50–15h10	Comparison of Lab work and simulation results for speed control of Single Phase Induction Motor Capacitor Starting Nouri Ali DAW	PID4098–NEM
15h10–15h30	Mono-criterion Electrical Distribution Systems Planning Using Particle Swarm Optimization Hayfa SOUIFI, Yosra Walhezi, Omar KAHOULI and Hsan HADJ ABDALLAH	PID4123–NEM
15h30–15h50	Stabilization of single machine infinite bus by optimal fuzzy control Rim BEN SALAH, Omor KAHOULI and Hsan HADJ ABDALLAH	PID4124–NEM

15h50–16h10	<p>Multi-phase Voltage Source Inverter Driven Multi-Star Induction Machine</p> <p>Thouraya GUENENNA, K. B. SMIDA and Adel KHEDHER</p>	PID4190–NEM
16h10–16h30	<p>Improve the Phase Error of 90° Hybrid Coupler Using Extended Transmission Line Method</p> <p>Bashir Moh. KHAMOUDI and Zuhra SAEED MANSOR</p>	PID4202–NEM

Session S24: TueC4: Diagnostic Electrical Machines (DEM)

Presidents: Abdelkader CHAARI & Tarek AROUI

14h30–14h50	<p>Torque Ripple Reducing in Multiphase GRV Using Three Dimensional FEM Analysis and Winding Function Theory</p> <p>Boubakar FARADJI, Aissa AMEUR, Abdelhalim ZAOUI and Abdellah KOUZOU</p>	PID4035–DEM
14h50–15h10	<p>Spur gearbox mixed fault detection using vibration envelope and motor stator current signatures analysis</p> <p>Walid TOUTI, Mohamed SALAH, Samira BEN SALEM, Khmais BACHA and Abdelkader CHAARI</p>	PID4102–DEM
15h10–15h30	<p>A new contribution for faults prediction in electrical power transformers</p> <p>Abdelaziz LAKEHAL and Fouad TACHI</p>	PID4103–DEM
15h30–15h50	<p>Application of statistical neuronal networks for diagnostics of induction machine rotor faults</p> <p>Sameh MARMOUCH, Tarek AROUI and Yassine KOUBAA</p>	PID4133–DEM
15h50–16h10	<p>Experimental Investigation of the Eccentricity Impact on the Line Current Spectrum for Induction Motors Fault Diagnosis Purposes</p> <p>Samira BEN SALEM, Mohamed SALAH, Khmais BACHA and Abdelkader CHAARI</p>	PID4145–DEM
16h10–16h30	<p>Comparison of techniques based on current signature analysis to fault detection and diagnosis in induction electrical motors</p> <p>Abraho da Silva FONTES, Carlos Alberto VILLACORTA CARDOSO and Levi Pedro BARBOSA DE OLIVEIRA</p>	PID4105–DEM

Coffee break : 16h30–16h50

Session S25: TueD1: Tele Communications Engineering (TCE)

Presidents: Mongi LAHIANI & Amer ZEREK

16h50–17h10	Prediction of Rain Attenuation at the C, X, Ku and Ka Bands for Fixed Satellite System Based on ITU-R Model in Libya Nafaa M. SHEBANI, Zeyad M. ELKWASH and Rowaida K. ALMONEER	PID3994–TCE
17h10–17h30	LAN Simulation Using VMware/Wireshark Anis ABOUSAADA, Mohamed ELFITURI and Youssef AREBI	PID4148–TCE
17h30–17h50	Study of SBD's Sensitivity using for Detection in Radar System Receiver Khadidja REGUIEG and Zeggai SOUAR	PID4150–TCE
17h50–18h10	Feature Model for the Service Provider in the Service Oriented Architecture Akram KAMOUN, Mohamed HADJ KACEM and Ahmed HADJ KACEM	PID4213–TCE
18h10–18h25	Development of the preamble-based FM-OFDM underwater acoustic communication system using high-performance computing Aleksandr RODIONOV, Petr UNRU, Lyubov STATSENKO, Andrey CHUSOV, Alexey KIRYANOV and Alexander SCHERBATYUK	PID4126–TCE
18h25–18h40	E-Shape Patch Microstrip Patch Antenna For Communication System Mehre MUNIR, Shahryar SHAFIQUE, Saad Hassan KIANI and Umar FAROOQ	PID3976–TCE

Session S26: TueD2: Renewable Energy Conversion (REC)

Presidents: Hafedh ABID & Naourez BENHADJ

16h50–17h10	A two-diode model of monocrystalline photovoltaic modules using five parameters models Hanen SALHI, Hekmet SAMET and Mohamed BEN AMAR	PID4072–REC
-------------	--	--------------------

17h10–17h30	Maximum Power Point Tracking for Photovoltaic Systems under Partial Shading Condition: a Comparison Between P&O and PSO Approaches Mondher AMOR, M. Ali ZEDDINI and M. Nejib MANSOURI	PID4137–REC
17h30–17h50	Design simulation and realization of solar battery charge controller using Arduino Uno Wafa MAKNI, Naourez BENHADJ, Hekmet SAMET and R. NEJI	PID4189–REC
17h50–18h10	Management of Energy Produced by a Wind Turbine Connected to the Network in Order to Inject a Constant Power Nahla BEN HALIMA and Abdelmajid OUALHA	PID4192–REC

Session S27: TueD3: Sliding Mode Control (SMC) & Time-Delay Systems (TDS) & Control of Robotics Systems (CRS) & Diagnosis and Fault tolerant Control (DFC)

Presidents: Abdessattar CHAARI & Mohamed KAMEL

16h50–17h10	Sensorless Field Oriented Control of PMSM drives based on Full Order SMO Oussama SAADAOUI, A. KHLAIEF, Moez ABASSI, Abdelkader CHAARI, Mohamed BOUSSAK	PID4207–SMC
17h10–17h30	State and Sensor Fault Reconstruction with H_∞ Performance for Lipschitz Nonlinear Systems with Time Varying Uncertainties Ammar ZEMZEMI, Mohamed KAMEL and Ahmed TOUMI	PID4209–SMC
17h30–17h50	Stability conditions for time delayed Takagi-Sugeno systems Rihab ABDELKRIM, Hamdi GASSARA and Mohamed CHaabane	PID4200–TDS
17h50–18h10	Adaptive Computed Torque Control in Task Space for Nonholonomic Wheeled Mobile Manipulators Mohamed BOUKATTAYA and Tarak DAMAK	PID4139–CRS
18h10–18h30	Hadoop Distributed Computing Clusters for Fault Prediction Pooja JAIN, Joey PINTO and Tapan KUMAR	PID4070–DFC

Session S28: TueD4: Power Electronics and Control (PEC)

Presidents: Said DRID & Yousef AGREBI

16h50–17h10	Improved DPC-SVM of Three -level PWM Rectifier under Unbalanced and Distorted Grid Conditions Billel KAHIA, A. BOUAFIA, A. CHAOUI and Z. BEN MAHMOUD	PID4003–PEC
17h10–17h30	Fuzzy logic based LUT-DPC for Three-level NPC Rectifier Billel KAHIA, A. BOUAFIA, A. CHAOUI and Z. BEN MAHMOUD	PID4006–PEC
17h30–17h50	Effect of Distribution Generation on Power System Losses & Voltage Regulation Based OPF Salah Eddin MOSTAFA ELGADMSI and Abdalla IDRIS FADEL	PID4060–PEC
17h50–18h10	Used Methods to Wirelessly Power Implanted Devices Yosra BEN FADHEL, Sana KTATA, Salem RAHMANI and Kamal AL-HADDAD	PID4092–PEC
18h10–18h30	Comparative study on the Conducted EMI evolution after aging Si-MOSFET Mohamed TLIG, Shawki DOUZI and Jaleeddine BENHADJ SLAMA	PID4120–PEC

Wednesday, December 21, 2016

Session S29: WedA1: Renewable Energy Conversion (REC)

Presidents: Mansour SOUSSI & Moez ALLOUCHE

08h30–08h50	A MRAS Observer for Sensorless Control of Wind-driven Doubly Fed Induction Generator in Remote Areas Bilel TOUATI, H. BEN AZZA and M. JEMLI	PID3971–REC
08h50–09h10	Remote control and supervision by the GSM network of a Photovoltaic pumping station Mehdi DHAOUI, Ali HAJJI and Lassaad SBITA	PID4019–REC

09h10–09h30	Scheduling optimization with pumped storage hydro plant Jannet JAMII, D. ABBES and M. F. MIMOUNI	PID4024–REC
09h30–09h50	Power System Transient Stability Investigation In The Presence Of Photovoltaic Generation Omar G. MREHEL, A. S. SHAMEK and M. D. HAMOUDA	PID4052–REC
09h50–10h10	A novel Maximum Power Point Tracking algorithm for photovoltaic systems Asma ZAIDI, Karim DAHECH and Tarek DAMAK	PID4069–REC
10h10–10h30	Comparative Study of Different MPPT techniques for a Stand-alone PV System Ameni KCHAOU, Aziz NAAMANE, Yassine KOUBAA and Nacer K M'SIRDI	PID4188–REC

Session S30: WedA2: Circuits, Electronics and Micro-electronics (CEM)

Presidents: Hekmet SAMET & Abdennaceur KACHOURI

08h30–08h50	High Gain Fabry-Perot Cavity Antenna for Ka RFID Applications Omane NECIBI and Ali GHARSALLAH	PID4097–CEM
08h50–09h10	Improvement of energy harvested from the heat of the human body Mariem SAIDA, Ghada ZAIBI, Mounir SAMET and Abdennaceur KACHOURI	PID4147–CEM
09h10–09h30	Low noise amplifier for MB-OFDM UWB receivers Madiha HAJRI, Dalenda BEN ISSA and Hekmet SAMET	PID4157–CEM
09h30–09h50	Performance evaluation of reconfigurable ALU based on DG-CNTFET transistors Houda GHABRI, D. BEN AISSA, H. SAMET and A. KACHOURI	PID4201–CEM
09h50–10h10	Study of body-antenna interaction at 433MHz Khaoula TAYARI, H. WERFELLI, M. CHAOUI, H. GHARIANI and M. LAHIANI	PID4206–CEM

10h10–10h30	An Efficient Iris Texture Analysis Based On HAAR Wavelet 2D Log Gabor and Monogenic Filter Imen TAJOURI, Ahmed GHORBEL, Walid AYDI and Nouri MASMOUDI	PID4210–CEM
-------------	--	--------------------

Session S31: WedA3: Imagery and Forms Recognition (IRF)

Presidents: Anis SAKLY & Kenz A. BOZED

08h30–08h50	3D Face Identification Using Local Binary Pattern and Grey Level Co-occurrence Matrix Samah YAHIA, Yassine BEN SALEM and Mohamed Naceur ABDELKRIM	PID4115–IRF
08h50–09h10	A Comparison Between Different Color Spaces for Watermarking Purpose Zied KRICHA, Anis KRICHA and Anis SAKLY	PID4142–IRF
09h10–09h30	Face recognition System using Bag of Features and Multi-Class SVM Salah NASR, Muhammad SHOAIB, Kais BOUALLEGUE and Hassen MEKKI	PID4143–IRF
09h30–09h50	Adaptive block sized reversible watermarking scheme based on integer transform Amina GHARDALLOU, Anis KRICHA, Anis SAKLY and Abdellatif MTIBAA	PID4144–IRF
09h50–10h10	Shape detection in Radar image using mathematical morphology Asma ELYOUNSI, Hatem TLIJANI and Mohamed Salim BOUHLEL	PID4161–IRF
10h10–10h30	A Computer Aided Breast Cancer Recognition System Maleika HEENAYE, Mamode KHAN and Bhoomita MOTEE	PID4173–IRF

Special Session S32: WedA4: Fractional-order Systems and Controls (FSC)

Presidents: Samir LADACI & Tarak MAATOUG

08h30–08h50	A comparison between the direct and the indirect fractional order closed-loop bias eliminated least squares method Zaineb YAKOUB, Manel CHETOUI, Messaoud AMAIRI and Mohamed AOUN	PID3962–FSC
-------------	--	--------------------

08h50–09h10	Induction Machine: fractional order proportional integral speed control Rahma HAMMAMI, Imène Ben AMEUR and Khaled JELASSI	PID4071– FSC
09h10–09h30	Diagnosis Of Time-Delay Fractional Systems Halima ATTALLAH, Asma ARIBI and Mohamed AOUN	PID4109– FSC
09h30–09h50	Design of fractional PID controller for TITO systems with time delay Wiem AZAIEZ, Manel CHETOUI and Mohamed AOUN	PID4152– FSC
09h50–10h10	Comparison of integer and the fractional controller of battery discharge based DC DC converter Olfa GAM, Riadh ABDELATTI, Mahamadou ABDOU TANKARI, Mohamed Faouzi MIMOUNI and Gilles LEFEBVRE	PID4160– FSC
10h10–10h30	Fractional Adaptive Sliding Mode Control Laws For Fractional-order Chaotic Systems Synchronization Karima RABAH and Samir LADACI	PID4198– FSC

Coffee break: 10h30–10h50

Session S33: WedB1: Renewable Energy Conversion (REC)

Presidents: Adel KHEDHER & Abdelmajid OUALHA

10h50–11h10	Control Design and Operation of Photovoltaic Systems in Low Voltage AC MicroGrid El hassane MARGOUM, Nissrine KRAMI, Luis SECA, Carlos MOREIRA and Fatima Zahra HARMOUCH	PID4054–REC
11h10–11h30	Pitch Angle Control of the variable speed wind turbine Abir AFDHAL, Mehdi DHAOUI and Lassaad SBITA	PID4067–REC
11h30–11h50	Single Phase NPC Inverter Controller with Integrated MPPT for PV Grid Connection Manel HLAILI, Hfaiedh MECHERGUI, Henrique GONÇALVES, Bruno EXPOSTO and Joao L. AFONSO	PID4073–REC
11h50–12h10	Design and Control of a Networked Collaborative PV/wind Power System Sofiane GHERBI and Rochdi BOUCHEBBAT	PID4136–REC

Special Session S34: WedB2: Tele Communications Engineering (TCE)

Presidents: Faycal DJEFFAL & Amer Ragab ZEREK

10h50–11h10	Implementation and Performance Study of the LDPC Coding in the DVB-S2 Link system Using Matlab Lamia Fathi ABUSEDRA, Amer Mohamed DAERI and Amer Ragab ZEREK	PID3983–TCE
11h10–11h30	Design of w-shape Graded Index Few-Mode Fibers With 6-modes and Low Differential Mode Delay Saleh CHEBAANE, Habib FTAHALLAH, Hussein SELEEM and Mohsen MACHHOUT	PID4068–TCE
11h30–11h50	Four spatial modes in a ring core fiber for next generation temperature sensor Saleh CHEBAANE and Mohsen MACHHOUT	PID4104–TCE
11h50–12h10	Caching Advantage in Wireless Small Cell Networks Chedia JARRAY and Belgacem CHIBANI	PID4138–TCE

Special Session S35: WedB3: Control of Electrical Vehicles (CEV) and Description and System Identification (DSI)

Presidents: Abdelwaheb AITOUCH & Khaled ELLEUCH

10h50–11h10	Electric cars -sharing systems modeling and analysis Taha BENARBIA, Karim LABADI, Samir HAMACI, Abdelhafid OMARI and Benoumeur AOUR	PID4022–CEV
11h10–11h30	LPV Unknown Input Observer for Vehicle lateral dynamics Ibrahim ALARIDH, A. AITOUCH, A. ZEMOUCH and B. BOULKROUNE	PID4196–CEV
11h30–11h50	Online Identification of Continuous-Time Systems with Multiple Unknown Time Delays Using Sequential Nonlinear Least Square Method from Sampled Data Yamna GHOUL, Kaouther IBNTAARIT and Moufida KSOURI	PID4080–DSI
11h50–12h10	Implementation and Evaluation of Optimized Algorithm for Software Architectures Analysis through Unsupervised Learning (Clustering) Qadeem KHAN, Usman QAMAR, Wasi HAIDER BUT and Saad REHMAN	PID4099–DSI

Special Session SS8: WedB4: Biomedical Signal Processing and Control (BSP)

Presidents: Fayçal Ben Hmida & Med Naceur ABDELKRIM

10h50–11h10	Probabilistic Fusion in Medical Imaging Habiba KHEMILA and Belgacem Rhaimi CHIBANI	PID4018–BSP
11h10–11h30	Analysis and Extraction Characteristic Parameters of ECG Signal in Real-Time for Intelligent Classification of Cardiac Arrhythmias Saifallah TROUDI, Sana KTATA, Salem RAHMANI, Jawhar GHOMMAM and Kamal AL-HADDAD	PID4146–BSP
11h30–11h50	Wavelet Packet energy and entropy features for classification of stressed speech Salsabil BESBES and Zied LACHIRI	PID4159–BSP
11h50–12h10	Automated Detection of Drusens to Diagnose Age Related Macular Degeneration Using OCT Images Samina KHALID, Usman AKRAM and Amina JAMIL	PID4025–BSP

Conference close: 12h05-12h35

Lunch: 12h35–14h00

كل عام و أنتم بخير



SEE YOU IN STA'2017
DECEMBER, 21-23 2017
MONASTIR, TUNISIA