



# STA'2015

## 16th International conference on Sciences and Techniques of Automatic control & computer engineering

### Program

**STA'2015**

**December 21-23, 2015**  
**Monastir – Tunisia**



# **Sixteenth International conference on Sciences and Techniques of Automatic Control & computer engineering**

**STA'2015**

*Organized by*

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



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**International Journal on Sciences and Techniques of Automatic control & computer  
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## Preface

The sixteenth international conference on *Sciences and Techniques of Automatic control & computer engineering* (STA'2015) will take place in Monastir-Tunisia on December, 21-23, 2015. 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) and in Hammamet (December 2014). This conference unites several participants descended of various national and international academics and industrial enterprises.

The sixteenth international conference STA'2015 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, three plenary lectures, four special sessions 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 fifteenth international conference STA 2015, while wishing them an agreeable stay in Hammamet-Sousse- Tunisia.

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

Presidents of the international conference STA'2015



## **Avant-propos**

La seizième conférence internationale des *Sciences et Techniques de l'Automatique et de l'ingénierie informatique* (STA'2015), qui se déroulera du 21 au 23 décembre 2015 à Monastir, 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) et à Hammamet (décembre 2012) qui avaient réuni plusieurs participants issus de diverses institutions universitaires nationales et internationales, et entreprises industrielles.

La conférence internationale STA'2015 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'2015 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'2015 trois conférences plénières et quatre sessions spéciales 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 seizième conférence internationale STA'2015 tout en leur souhaitant de passer un agréable séjour à Hammamet Sousse, Tunisie.

**Abdelwaheb AITOUCHÉ, Mohamed CHaabane et  
Fernando TADEO**

Présidents de la conférence internationale STA'2015



## توظئة

المؤتمر الدولي السادس عشر للعلوم والتقنيات 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) 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.

وتجدر 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 حديثاً 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 خلاله 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 والتقنيات في 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 الجامعة والمحيط و من جمعية التقنيات الرقمية والتحكم الآلي وعدة مخابر ووحدات بحث من تونس و من الخارج و أطراف أخرى.

**رؤساء المؤتمر الدولي السادس عشر للعلوم والتقنيات في التحكم الآلي والهندسة الإعلامية**

فرنندو تدايو

عبد الوهاب عيتوش

محمد شعبان

# 16th international conference on Sciences and techniques of automatic control & computer engineering - STA 2015

December 21-23, 2015, Monastir, TUNISIA

## Program at a Glance

### STA 2015 Technical Program Monday December 21, 2015

STA 2015 Technical Program Monday December 21, 2015			
Track T1	Track T2	Track T3	Track T4
	08:45-09:15 Room A Inscription for the conference		
09:15-10:15 Room A <b>MonPS1 (Pr. Horst Schulte)</b>			
10:15-10:35 Coffee break			
10:35-12:35 Room A Regular Session <b>MonA1</b>  <b>S1 : SMC (8)</b>	10:50-12:35 Room B Regular Session <b>MonA2</b>  <b>S2 : DEM (8)</b>	10:50-12:35 Room C Regular Session <b>MonA3</b>  <b>S3 : TCE (8)</b>	10:50-12:35 Room D Regular Session <b>MonA4</b>  <b>S4 : BSP (8)</b>
12:35-15:00 Lunch			
15:00-16:30 Room A Regular Session <b>MonB1</b>  <b>S5 : ACS (6)</b>	15:00-16:30 Room B Regular Session <b>MonB2</b>  <b>S6 : CES &amp; CEV (6)</b>	15:00-16:30 Room C Regular Session <b>MonB3</b>  <b>S7 : TDS &amp; PSE (6)</b>	15:00-16:30 Room D Regular Session <b>MonB4</b>  <b>S8 : PEC &amp; REC (6)</b>
16:30-16:50 Coffee break			
16:50-18:05 Room A Regular Session <b>MonC1</b>  <b>S9 : IFR (5)</b>	16:50-18:05 Room B Regular Session <b>MonC2</b>  <b>S10 : CEM &amp; MES (5)</b>	16:50-18:05 Room C Regular Session <b>MonC3</b>  <b>S11 : CRS &amp; MRN (5)</b>	16:50-18:05 Room D Regular Session <b>MonC4</b>  <b>S12 : NFC &amp; SIS (5)</b>

**STA'2015 Technical Program Tuesday December 22, 2015**

<b>STA 2015 Technical Program Tuesday December 22, 2015</b>			
<b>Track T1</b>	<b>Track T2</b>	<b>Track T3</b>	<b>Track T4</b>
08:45-10:15 Room A <b>TuePS2 (Pr. Mondher Farza)</b> & <b>TuePS3 (Pr. Mohamed Boudour)</b>			
10:15-10:35 Coffee break			
10:35-12:35 Room A Regular Session <b>TueA1</b>  <b>S13 : IFR</b> (8)	10:35-12:35 Room B Regular Session <b>TueA2</b>  <b>S14 : REC</b> (8)	10:35-12:35 Room C Regular Session <b>TueA3</b>  <b>S15 : DFC</b> (8)	10:35-12:35 Room D Regular Session <b>TueA4</b>  <b>S16 : NEM</b> (8)
12:35-15:00 Lunch			
15:00-17 Room A Regular Session <b>TueB1</b>  <b>S17 : PSE</b> (8)	15:00-17 Room B Regular Session <b>TueB2</b>  <b>S18 : CEM</b> (8)	15:00-17 Room C Regular Session <b>TueB3</b>  <b>S19 : PEC</b> (8)	15:00-17 Room D Regular Session <b>TueB4</b>  <b>S20 : RAC &amp; IAA</b> (8)

**STA 2015 Technical Program Wednesday December 23, 2015**

<b>STA 2015 Technical Program Wednesday December 23, 2015</b>			
Track T1	Track T2	Track T3	Track T4
08:45-10:15 Room A Regular Special Session <b>WedA1</b>  <b>SS1 : REC (6)</b>	08:45-10:15 Room B Regular Special Session <b>WedA2</b>  <b>SS1 : IFR (6)</b>	08:45-10:15 Room C Regular Special Session <b>WedA3</b>  <b>SS3 : DFC (6)</b>	08:45-10:15 Room D Regular Special Session <b>WedA4</b>  <b>SS4 : FSC (6)</b>
10:00-10:20 Coffee break			
10:20-12:05 Room A Regular Special Session <b>WedB1</b>  <b>SS5: PEC (6)</b>	10:20-12:05 Room B Regular Special Session <b>WedB2</b>  <b>SS6: CEM (6)</b>	10:20-12:05 Room C Regular Special Session <b>WedB3</b>  <b>SS7 : PSE (6)</b>	10:20-12:05 Room D Regular Special Session <b>WedB4</b>  <b>SS8 : ACS (6)</b>
<b>12:05-12:35</b> <b>Conference close</b>			
12:35-15:00 Lunch			

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

Sunday, December 20, 2014

Inscription for the conference : 16h00>21h00

Monday, December 21, 2015

Inscription for the conference : 7h30-8h45

Opening of the 16<sup>th</sup>international conference STA'2015 : 08h45>09h15

**Plenary Session SP1**

Presidents: **Abdelwaheb AITOUCHÉ & Amer ZEREK**

09h15>10h15	Fault Diagnosis and Fault-Tolerant Control of Renewable Energy Systems: A Takagi-Sugeno and Sliding Mode Approach Pr. Horst Schulte, University of Applied Science HTW Berlin Germany	STA'2015>SP1
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Coffee break : 10h15>10h35

**Session S1 : MonA1: Sliding Mode Control (SMC)**

Presidents: **Brahim BOUTAMINA & Ahmed NOURI SAID**

10h35>10h50	Sliding mode Multiple Observer for Perturbed Output Nonlinear Systems K. HFAIEDH, K. DAHECH, Y. MASSAOUDI and T. DAMAK	PID3698>SMC
10h50>11h05	Comparison of Adaptive input-output linearization & Fuzzy Sliding-Mode Control for Induction Machine S. BOUBZIZI, H. ABID, M. KHARRAT, A. El HAJJAJI and M. CHaabane	PID3716>SMC
11h05>11h20	Chattering-Free Adaptive Sliding Mode Control for Pneumatic System Position Tracking A. AYADI, S. HAJJI, M. SMAOUI and A. CHAARI	PID3730>SMC

<b>11h20&gt;11h35</b>	Sliding mode approach for blade pitch angle control wind turbine using PMSG under DTC <b>M. AYADI, F. BEN SALEM and N. DERBEL</b>	<b>PID3750&gt;SMC</b>
<b>11h35&gt;11h50</b>	Adaptive Fuzzy Sliding Mode Control Based on Linear Matrix Inequalities for Uncertain Nonlinear Systems <b>T. AMIEUR, M. SEDRAOUI, O. AMIEUR and H. GUESSOUM</b>	<b>PID3781&gt;SMC</b>
<b>11h50&gt;12h05</b>	Second order sliding mode observer based on twisting algorithm for induction motor <b>W. HAMMOUDA, T. LADHARI and F. M'SAHLI</b>	<b>PID3889&gt;SMC</b>
<b>12h05&gt;12h20</b>	Simultaneous Actuator and Sensor Faults Estimation for Takagi-Sugeno Nonlinear Systems <b>A. BEN BRAHIM, S. DHAHRI, F. BEN HMIDA and A. SELLAMI</b>	<b>PID3909&gt;SMC</b>
<b>12h20&gt;12h35</b>	Estimation of Flux and Speed of Induction Machine Using High-order Terminal Sliding-Mode Observers <b>A. ZAIDI, K. DAHECH and T. DAMAK</b>	<b>PID3941&gt;SMC</b>

**Session S2: MonA2: Diagnostic Electrical Machines (DEM)**

Presidents: **Moez ALLOUCHE & Mohamed BOUSSAK**

<b>10h35&gt;10h50</b>	Fault tolerant Control strategy of Five-Phase Permanent Magnet Synchronous Motor Drive <b>A. HOSSEYNI, R. TRABELSI, M. F. MIMOUNI and A. IQBAL</b>	<b>PID3602&gt;DEM</b>
<b>10h50&gt;11h05</b>	Study on Condition Pre-warning Method of Power Transformer based on Load Time Series Mode <b>J. DAI, H. WANG, S. DU, M. REN and M. DONG</b>	<b>PID3625&gt;DEM</b>
<b>11h05&gt;11h20</b>	Optimizing Time-Frequency Kernels for stator faults classification in synchronous reluctance motor <b>I. BOUCHAREB and A. LEBAROUD</b>	<b>PID3680&gt;DEM</b>
<b>11h20&gt;11h35</b>	Performance Analysis of FOC and DTC for PMSM Drives using SVPWM Technique <b>M. ABASSI, A. KHALAIEF, O. SAADAOUUI, A. CHAARI and M. BOUSSAK</b>	<b>PID3819&gt;DEM</b>

11h35>11h50	Vibration-Based Gearbox Fault Diagnosis by DWPT and PCA Approaches and an Adaptive Neuro-Fuzzy Inference System I. ATTOUI, A. BOUDIAF, N. FERGANI, B. OUDJANI and N. BOUTASSETA	PID3842>DEM
11h50>12h05	Vibration monitoring based on mems accelerators I. H. AKACHA, T. VUONG, N. M. BELLAAJ, J. DAVID and M. PIETRZAK-DAVID	PID3918>DEM
12h05>12h20	The Use of Non Linear Future Reduction Techniques as a Trend Parameter for State of Health Estimation of Lithium-ion Batteries J. BEN ALI, L. SAIDI, R. KHELIF, B. CHEBEL-MORELLO and F. FNAIECH	PID3938>DEM
12h20>12h35	Sensor fault tolerant control for induction motor H. BEN ZINA, M. ALLOUCHE, M. CHaabane and M. SOUSSI	PID3945>DEM

### **Session S3: MonA3: Tele Communications Engineering (TCE)**

**Presidents:** Mahmoud ABDELLAOUI & Amer ZEREK

10h35>10h50	SINR and Throughput enhancement in LTE-Advanced S. SBIT, M. B. DADI and B. CHIBANI	PID3791>TCE
10h50>11h05	Comparative Study of QoS and Performance of VoIP using MPLS-TE Network M. I. ABOUSED A, K. A. BOZED and A. R. ZEREK	PID3833>TCE
11h05>11h20	Study and Test Performance of the Zigbee Wireless Technology in Some Network Models by Using OPNET Software M. A. MSAAD, A. ABOAISHA and A. ESHOUL	PID3835>TCE
11h20>11h35	Performance Evaluation of the Effect of the Nonlinear Amplifier on Two and Four Levels PSK Modulation Technique Using Simulink G. N. ALKHAWLDY and E. O. ELGMM	PID3873>TCE
11h35>11h50	Antipodal Vivaldi Antenna array with High gain and reduced Mutual coupling for UWB applications R. HERZI, H. ZAIRI and A. GHARSALLAH	PID3876>TCE

11h50>12h05	A survey on MAC Protocols in Wireless Body Sensor Networks B. NASRALLI, R. OUNI and M. ATRI	PID3928>TCE
12h05>12h20	Neural Network Approach to Model the Propagation Path Loss for Great Tripoli Area at 900, 1800, and 2100 MHz Bands T. A. BENMUS, R. ABBOUD and M. KH. SHATER	PID3940>TCE
12h20>12h35	Improve the Phase Error of 90° Hybrid Coupler Using Extended Transmission Line Method B. Moh. KHAMOUDI and Z. S. MANSOR	PID3943>TCE

**Session S4: MonA4: Biomedical Signal Processing and Control (BSP)**

**Presidents: Hikmet SAMET & Amine TRABELSI**

10h35>11h50	A Comparison study of SSVEP Detection Methods using the Emotiv EPOC headset O. TRIGUI, W. ZOUCH and M. BEN MESSAOUD	PID3651>BSP
11h50>12h05	A mobile diabetes educational system for Type 2 Diabetes in Saudi Arabia M. ALOTAIBI and N. ALHARBI	PID3757>BSP
12h05>12h20	Parametric study on the dielectric properties of biological tissues A. BOUAZIZI, G. ZAIBI, M. SAMET and A. KACHOURI	PID3768>BSP
11h20>11h35	Speech Encryption using the Nonlinear Filter Generator A. BELMEGUENAI	PID3780>BSP
11h35>11h50	Design of 3.1-5.1 GHz Pulse Generator for UWB Communications H. WERFELLI, M. CHAOUI, M. LAHIANI and H. GHARIANI	PID3813>BSP
11h50>12h05	Hybrid SVD- DWT watermarking technique using AES algorithm for medical image safe transfer S. AJILI, M. A. HAJJAJI and A. MTIBAA	PID3815>BSP

12h05>12h20	Controlling Muscular Force by Functional Electrical Stimulation Using Intelligent PID A. BEN HMED, T. BAKIR, A. SAKLY and S. BINCZAK	PID3903>BSP
12h20>12h35	New Approach based on Fuzzy Classification of the Serological Tests "ELISA" for the Diagnosis of Cattle Tuberculosis H. SAHLI, M. F. DIOUANI, L. TLIG and M. SAYADI	PID3924>BSP

Lunch: 12h35>15h00

**Session S5: MonB1: Analysis and Systems Control (ACS)**

**Presidents: Maher KHARRAT & Faouzi M'SAHLI**

15h00>15h15	Analytic Study of Static and Dynamic Voltage Stability Methods and Indicators M. K. JALBOUB, A. A. AMAR, A. A. ELHENGARI and S. S. DUGHA	PID3626>ACS
15h15>15h30	On the model-free control of an electropneumatic On the model-free control of an electropneumatic M. HARCHAY, B. LOUHICHI, S. MAALEJ and M. SMAOUI	PID3708>ACS
15h30>15h45	Polynomial Approach to Nonlinear-System Control via the Exact State-Input Linearization Method S. CHARFEDDINE, H. JERBI and L. SBITA	PID3777>ACS
15h45>16h00	Local Stabilizing control with maximization of stability domain for a Magnetic Levitation System via Bilinear Polynomial Modeling M. REZGUI, H. BELKHIRIA AYADI and N. BENHADJ BRAIEK	PID3824>ACS
16h00>16h15	A Robust Stable T-S Fuzzy Model Predictive Control: LMI Approach A. ZAHAF, A. BACHTARZI, S. BOOUOUDEN and M. CHEMACHEMA	PID3852>ACS
16h15>16h30	Two mass Modeling and Nonlinear Dynamic Inversion of Motor Drive Systems S. JEBRI, H. LOUSSIFI and K. NOURI	PID3906>ACS

**Session S6: MonB2: Control and Embedded System (CES) & Control of Electrical Vehicles (CEV)**

Presidents: Faouzi BACHA & Med Faouzi MIMOUNI

15h00>15h15	Continuation Power Flow of Voltage Stability Limits and a Three Dimensional Visualization Approach N. FNAIECH, A. JENDOUBI, M. ZOGHLAMI and F. BACHA	PID3719>CES
15h15>15h30	Wired & Wireless S2A for NCS - A Case Study M. TOUBAR, H. HALAWA, R. DAOUD and H. AMER	PID3798>CES
15h30>15h45	Development of a Programmable Engine Control Unit to Multi-Fuel Capabilities, Progression to Diesel M. FARRUGIA, S. CAMILLERI, M. FARRUGIA and G. FARRUGIA	PID3841>CES
15h45>16h00	Modeling and Simulation of Electric and Hybrid Vehicles for Recreational Vehicle M. YAICH, M. R. HACHICHA and M. GHARIANI	PID3619>CEV
16h00>16h15	Plug-in electric vehicle control in smart grid S. KHEMAKHEM, M. REKIK and L. KRICHEN	PID3844>CEV
16h15>16h30	Model Predictive Control For Hybrid Battery/Ultracapacitor Power Supply Used In Vehicular Applications J. SNOUSSI, S. BEN ELGHALI, R. OUTBIB and M. F. MIMOUNI	PID3885>CEV

**Session S7: MonB3: Time-Delay Systems (TDS) & Parametric and State Estimation (PSE)**

Presidents: Mohamed CHEMACHEMA & Hamdi GASSARA

15h00>15h15	Robust Observer for Multiple Time-Delay Systems with Unknown Inputs O. BOUBAKER and S. BEN WARRAD	PID3609>TDS
15h15>15h30	Exponential stabilization of controlled positive delayed systems under input control constraint : a delay decomposition technique W. ELLOUMI, M. GHAMGUI, D. MEHDI and M. CHAABANE	PID3743>TDS

<b>15h30&gt;15h45</b>	Delay-independent stability criterion for switched T-S fuzzy systems with multiple delays A. JABALLI, A. SAKLY and A. EL HAJJAJI	<b>PID3762&gt;TDS</b>
<b>15h45&gt;16h00</b>	An Improved PID Control Structure for Unstable Processes B. GUEDRI and A. CHAARI	<b>PID3910&gt;TDS</b>
<b>16h00&gt;16h15</b>	On Finite Time Stability: Novel Delay Dependent Criteria I. M. BUZUROVIC, D. LJ. DEBELJKOVIC AND V. H. JANKOVIC	<b>PID3944&gt;TDS</b>
<b>16h15&gt;16h30</b>	Computing the Domain of Attraction of hybrid nonlinear system F. HAMIDI and M. N. ABDELKRIM	<b>PID3916&gt;PSE</b>

***Session S8: MonB4: Power Electronics and Control (PEC) & Renewable Energy Conversion (REC)***

Presidents: Youssef AGREBI & Said DRID

<b>15h00&gt;15h15</b>	Multi observer design for multicell converter A. SMATI, W. CHAGRA, D. BERDJAG, M. KSOURI and M. DEFORT	<b>PID3895&gt;PEC</b>
<b>15h15&gt;15h30</b>	Effect of the base negative drive on the turn-off transient behavior of Si and 4H-SiC power BJTs M. OUESLATI, H. GARRAB, A. JEDIDI, H. MOREL and K. BESBES	<b>PID3896&gt;PEC</b>
<b>15h30&gt;15h45</b>	Analysis of Bifurcation and Route to Chaos in a Dynamic Power System Using MATCONT H. ALOUI, F. BACHA and M. GASMI	<b>PID3897&gt;PEC</b>
<b>15h45&gt;16h00</b>	Advanced topologies of multi-level matrix converter L. RMILI, S. RAHMANI and K. AL-HADDAD	<b>PID3912&gt;PEC</b>
<b>16h00&gt;16h15</b>	Comparison between P&O and PSO Methods Based MPPT Algorithm for Photovoltaic Systems H. CHAIEB and A. SAKLY	<b>PID3891&gt;REC</b>
<b>16h15&gt;16h30</b>	Fuel Cell/Supercapacitors Combination in Uninterruptible Power Supply (UPS) I. BEN AMIRA, A. LAHYANI and A. GUERMAZI	<b>PID3929&gt;REC</b>

Coffee break : 16h35>16h50

**Session S9: MonC1: Imagery and Forms Recognition (IFR)**

**Presidents: Nouri MASMOUDI & Kais JAMOUSSI**

16h50>17h05	Real Time Implementation of Numerical Watermarking System Using Xilinx System Generator M. A. HAJJAJI, M. GAFSI, A. BEN ABDELLALI, S. LAAJILI, A. MTIBAA and E. BOURENNANE	PID3875>IFR
17h05>17h20	Automatic Bifurcation Detection in Coronary X-Ray Angiographies A. KERKENI, A. BENABDALLAH and M. HEDI BEDOUI	PID3899>IFR
17h20>17h35	A More Distinctive Representation for 3D Shape Descriptors Using Principal Component Analysis S. NAFFOUTI, Y. FOUGEROLLE, A. SAKLY and F. MERIAUDEAU	PID3900> IFR
17h35>17h50	New Adaptive Vector Median Rational Hybrid Filter for Impulsive Noise Suppression I. ABID, A. BOUDABOUS and A. BEN ATITALLAH	PID3901> IFR
17h50>18h05	Complexity study of the Gamma correction method for text extraction from complex images M. A. BEN ATITALLAH, A. BOUDABOUS, A. BEN ATITALLAH and R. KACHOURI	PID3942> IFR

**Session S10: MonC2: Circuits, Electronics and Micro-electronics (CEM) & Modelling of Robotic Systems (MES)**

**Presidents: Kamel BENOTHMAN & Mounir SAMET**

16h50>17h05	UWB Pulse Propagation in Human Tissue: Comparison Between Gaussian and Square WavesShape M. KETATA, M. DHIEB, G. BEN HMIDA, H. GHARIANI and M. LAHIANI	PID3922>CEM
17h05>17h20	Three-Phase Balancing in a LV Distribution Smart-Grids Using Electrical Load Flow Variation: "L.F.B.M." K. MANSOURI, M. DHAOUI, M. BEN HAMED and L. SBITA	PID3601>MES

17h20>17h35	An Efficient Control Strategy for Hybrid PEMFC /Supercapacitor Power Source Applied for automotive Application <b>S. JAWADI, S. BEN SLAMA and A. CHERIF</b>	<b>PID3614&gt;MES</b>
17h35>17h50	FACTS Devices Modeling in Real-Time Dynamic Control of Power Systems <b>L. DALOUB and M. ABUZEID</b>	<b>PID3770&gt;MES</b>

**Session S11: MonC3: Control of Robotics Systems (CRS) & Mobile Robots and Navigation (MRN)**

**Presidents: Khaled BELARBI & Tarak DAMAK**

16h50>17h05	Optimized Joystick Control Interface for Electric Powered Wheelchairs <b>Y. RABHI, M. MRABET and F. FNAIECH</b>	<b>PID3612&gt;CRS</b>
17h05>17h20	Nonlinear Model Predictive Control of Quadcopter <b>H. MERABTI, I. BOUCHACHI and K. BELARBI</b>	<b>PID3793&gt;CRS</b>
17h20>17h35	Simulation and Command of Adam Robot Arm Subjected to 3D External Force <b>C. ZAOUI, T. JABLI and A. MAALEJ</b>	<b>PID3888&gt;CRS</b>
17h35>17h50	PSO-DVSF2 : A New Method for the Path Planning of Mobile Robots <b>S. ZIADI, M. NJAH and M. CHTOUROU</b>	<b>PID3691&gt;MRN</b>
17h50>18h05	Local minimum solution for the potential fields method in multiple robots motion planning task <b>F. MATOUI, B. BOUSSAID and M. N. ABDELKRIM</b>	<b>PID3914&gt;MRN</b>

**Session S12: MonC4: Supervision and Intelligent Systems (SIS) & Neuro Fuzzy Controllers (NFC)**

**Presidents: Abdelkader CHAARI & Karim DAHECH**

16h50>17h05	A Machine Learning Methods: Outlier detection in WSN <b>H. AYADI, A. ZOUINKHI, B. BOUSSAID and M. N. ABDELKRIM</b>	<b>PID3870&gt;SIS</b>
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17h05>17h20	Smart and Predictive Heating System: Belief model for indoor regulation A. MAKHLOUF, B. MARHIC, L. DELAHOCHE, L. C. ALAOUI and H. MESSAOUD	PID3894>SIS
17h20>17h35	Supervisory Control and Monitoring of an Electric Power Distribution R. F. KHELIFA and K. JELASSI	PID3911>SIS
17h35>17h50	T-S Fuzzy Controller for the Maximum Power Point Tracking of a Wind Generation System N. HARRABI, M. KHARRAT, M. SOUSSI and A. AITOUCHÉ	PID3736>NFC
17h50>18h05	Genetic Algorithm Optimized Adaptive Neural-Fuzzy Controller Based on an Indirect Vector Control of Dual Star Induction Motor Drive K. KOUZI and A. NATOURI	PID3850>NFC
18h05>18h20	TSK Fuzzy Controller of Wind-Turbine Self-Excited Induction Generator for Remote Site Applications M. ALI ZEDDINI, R. PUSCA, M. NAJIB MANSOURI and M. F. MIMOUNI	PID3850>NFC

**Tuesday, December 22, 2015**

#### **Plenary Session SP2 & SP3**

**Presidents: Driss MEHDI & Fernando TADEO**

08h45>09h30	On the extended high gain observer design Pr. MONDHER FARZA, University of Caen Basse-Normandie, France	STA'2015>SP2
09h30>10h15	Computational Intelligence Applied to Power Systems operation and control Pr. Mohamed BOUDOUR, University of Sciences & Technology Houari Boumediene, Algeria	STA'2015>SP3

**Coffee break : 10h15>10h35**

#### **Session S13 : TueA1: Imagery and Forms Recognition (IFR)**

**Presidents: Mounir SAMET & Abdellatif MTIBAA**

10h35>10h50	Unsupervised aerial image classification using fly algorithm and the Parisian approach MOHAMMED. MAIZA and M. BENYETTOU	PID3607>IFR
10h50>11h05	Structured Light Illumination for Imaging Blood and Skin Oxygenation A. J. BOUKAR	PID3617>IFR
11h05>11h20	Scale Invariant Feature Transform Evaluation in Small Dataset A. HASSAN	PID3628>IFR
11h20>11h35	Performance comparison of progressive QIM and DM-QIM using different wavelet families Z. KRICHA, A. KRICHA, A. SAKLY and A. MTIBAA	PID3759>IFR
11h35>11h50	Intelligent selection of embedding locations for reversible watermarking based on 2D-difference expansion A. GHARDALLOU, A. KRICHA, A. SAKLY and A. MTIBAA	PID3760>IFR
11h50>12h05	Image segmentation for defect detection based on level set active contour combined with saliency map M. BEN GHARSALLAH and E. BEN BRAIEK	PID3779>IFR
12h05>12h20	Multimodal data integration of EEG and fMRI S. BELHADJ, A. BEN ALI , B. A. ADNANE , Z. AHMED-FOITIH and A . TALEB-AHMED	PID3784>IFR
12h20>12h35	Image Segmentation with Improved Watershed Algorithm Using Radial Bases Function Neural Networks R. A. HUSAIN, A. S. ZAYED, W. M. AHMED and H. S. ELHAJI	PID3836>IFR

#### **Session S14: TueA2: Renewable Energy Conversion (REC)**

**Presidents: Adel KHEDHER & Mansour SOUSSI**

10h35>10h50	Wind energy return on investment case study R. IBSAIM and A. DAERI	PID3616>REC
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10h50>11h05	<b>Study and Simulation of a Hybrid Photovoltaic-Wind Generator connected to a DC load</b> <b>Z. R. LABIDI and A. MAMI</b>	<b>PID3622&gt;REC</b>
11h05>11h20	<b>Modeling and simulation of DSPMSG power generator connected to grid</b> <b>Y. KADRI, M. BEN AMMAR and H. HAJ ABDALLAH</b>	<b>PID3670&gt;REC</b>
11h20>11h35	<b>Design and Realisation Of a photovoltaic system controlled by the MPPT algorithm</b> <b>R. ABID, F. MASMOUDI, F. BEN SALEM and N. DERBEL</b>	<b>PID3718&gt;REC</b>
11h35>11h50	<b>Control of Photovoltaic Powered Constant Water Pumping System</b> <b>S. LALOUNI</b>	<b>PID3767&gt;REC</b>
11h50>12h05	<b>Grid Stability Study After The Integration of a Wind Farm</b> <b>W. OULED AMOR, H. BEN AMAR and M. GHARIANI</b>	<b>PID3814&gt;REC</b>
12h05>12h20	<b>Validation of wind turbine LPV model</b> <b>H. CHOUIREF, B. BOUSSAID, M. N. ABDELKRIM, V. PUIG and C. AUBRUN</b>	<b>PID3857&gt;REC</b>

**Session S15: TueA3: Diagnosis and Fault tolerant Control (DFC)**

**Presidents: Fayçal BEN HMIDA & Maha BOUATTOUR**

10h35>10h50	<b>Wind Turbine High-Speed Shaft Bearing Degradation Analysis for Run-to-Failure Testing using Spectral Kurtosis</b> <b>L. SAIDI, E. BECHHOEFER, J. BEN ALI and M. BENBOUZID</b>	<b>PID3724&gt;DFC</b>
10h50>11h05	<b>A graphical Active Fault Tolerant Control approach</b> <b>H. NAJARI, R. EL HARABI and M. N. ABDELKRIM</b>	<b>PID3763&gt;DFC</b>
11h05>11h20	<b>Adaptive State Filter Integrated in a Fault Tolerant Control for Networked Control Systems</b> <b>Z. BEN MABROUK, M. BEN HAMED and L. SBITA</b>	<b>PID3806&gt;DFC</b>

11h20>11h35	<b>Robust Fault Tolerant Control of a DC Motor in the presence of Actuator Q. FAZAL and M. LIAQUAT</b>	<a href="#">PID3821&gt;DFC</a>
11h35>11h50	<b>Evaluation of the unavailability of system by using Bayesian network and fuzzy logic W. SNENE, W. MECHRI, H. KESRAOUI and K. BEN OTHMAN</b>	<a href="#">PID3887&gt;DFC</a>
11h50>12h05	<b>Unbiased Minimum Variance State and Fault Estimation for Non- Linear Stochastic Systems with Unknown Disturbances M. HERELLI, T. BESSAOUDI and F. BEN HMIDA</b>	<a href="#">PID3913&gt;DFC</a>
12h05>12h20	<b>Mechanical Fault Detection for Motor-Gear Driving System Using Motor Current Signal Spectrum Analysis M. RGEAI, M. ELHAJ, S. TALHAH and O. MAKLOUF</b>	<a href="#">PID3933&gt;DFC</a>
12h20>12h35	<b>Actuator fault detection identification and isolation via high gain observer for an olive oil waste esterification in a Semi Continuous Stirred Tank reactor A. ABDELKADER, M. BOUSSADA, K. FIATY, H. HAMMOURI and A. SAID NOURI</b>	<a href="#">PID3934&gt;DFC</a>

**Session S16: TueA4: Networks and Electrical Machines (NEM)**

**Presidents: Lotfi KRICHEN & Sofien HAJJI**

10h35>10h50	<b>An Experimental Investigation of a Self-Excited Induction Generator Operating in Stand-Alone D. CHERMITI and A. KHEDHER</b>	<a href="#">PID3645&gt;NEM</a>
10h50>11h05	<b>A 12/8 Non-Linear Model of Switched Reluctance Machine Dynamic Behaviour (MATLAB-Simulink) S. SAIDANI and M. GHARIANI</b>	<a href="#">PID3764&gt;NEM</a>
11h05>11h20	<b>Sensorless Indirect Rotor Flux Oriented Control of a Five-phase Induction Motor Based on Sliding Mode Observer H. ECHEIKH, R. TRABELSI, A. IQBAL, R. ALAMMARI and M. F. MIMOUNI</b>	<a href="#">PID3807&gt;NEM</a>

<b>11h20&gt;11h35</b>	A qualitative characterization of the PMSM dynamics <b>W. SOUHAÏL, H. KHAMMARI and M. F. MIMOUNI</b>	<b>PID3820&gt;NEM</b>
<b>11h35&gt;11h50</b>	Stability Study of a Grid Fault <b>W. OULED AMOR, H. BEN AMAR and M. GHARIANI</b>	<b>PID3823&gt;NEM</b>
<b>11h50&gt;12h05</b>	Indirect Field Oriented Control Applied to DSIM under Mixed Modes Supplied <b>R. KACEM and A. KHEDHER</b>	<b>PID3867&gt;NEM</b>
<b>12h05&gt;12h20</b>	Design of Single Closed Loop Control for Chopper Fed DC Motor Drive using IMC Principles <b>B. GUEDRI and A. CHAARI</b>	<b>PID3908&gt;NEM</b>
<b>12h20&gt;12h35</b>	A Luenberger State Observer for Simultaneous Estimation of Speed and Stator Resistance in Sensorless IRFOC Induction Motor Drives <b>M. JOUILI, Y. AGREBI, Y. KOUBAÄ and M. BOUSSAK</b>	<b>PID3917&gt;NEM</b>

**Lunch: 12h35>15h00**

**Session S17: TueB1: Parametric and State Estimation(PSE)**

**Presidents: Mondher FARZA & Tarak MAATOUG**

<b>15h00&gt;15h15</b>	High Gain observer for a class of nonlinear systems with sampled measurements: application to a Free-Piston Stirling Engine <b>O. H. GONZALEZ, T. MENARD, M. FARZA, C. MANUEL, A. ZARAGOZA and G. GUERRERO-RAMIREZ</b>	<b>PID3811&gt;PSE</b>
<b>15h15&gt;15h30</b>	Generating an hyper chaotic system from 3D chaotic behavoir <b>H. THABET and H. SEDDIK</b>	<b>PID3827&gt;PSE</b>
<b>15h30&gt;15h45</b>	An Ant Colony Optimization Approach for Parameter Identification of Piezoelectric Resonator Chaotic System <b>F. MAAMRI, S. BOUOUDEN and I. BOULKAIBET</b>	<b>PID3853&gt;PSE</b>

<b>15h45&gt;16h00</b>	<b>Study on the FPGA implementation of high gain observer with sampled measurement for induction machine M. BESBES, S. HADJ SAID and F. M'SAHLI</b>	<b>PID3865&gt;PSE</b>
<b>16h00&gt;16h15</b>	<b>Dynamic Modeling of a Rigid-Flexible Manipulator using Hamilton's Principle S. HAMDI, R. BOUCETTA and S. BEL HADJ ALI NAOUI</b>	<b>PID3869&gt;PSE</b>
<b>16h15&gt;16h30</b>	<b>State feedback robust stabilisation of the decoupled multiple model A. TAHAR and M. N. ABDELKRIM</b>	<b>PID3878&gt;PSE</b>
<b>16h30&gt;16h45</b>	<b>Observers Synthesis via Backstepping for Distributed Parameter System: Application to Chemical Tubular Reactor A. ABDELHEDI, W. SAADI, D. BOUTAT and L. SBITA</b>	<b>PID3884&gt;PSE</b>
<b>16h45&gt;17h00</b>	<b>A comparative study of two kernel methods: Support Vector Machine (SVM) and Regularization Network (RN) and application to a thermal process PT326 I. SAYEHI, O. TAOUALI and R. TOURKI</b>	<b>PID3886&gt; PSE</b>

**Session S18: TueB2: Circuits, Electronics and Micro-electronics (CEM)**

**Presidents: Mondher CHAOUI & Ahmed BEN ATITALLAH**

<b>15h00&gt;15h15</b>	<b>Characteristics of Schottky Diode Detector based on Au/GaAs and Au/InP Application to Radar Detection System K. REGUIEG, Z. SOUAR and R. BECHAREF</b>	<b>PID3618&gt;CEM</b>
<b>15h15&gt;15h30</b>	<b>Investigation of GaAs/Si Solar cell With Interfacial Defects Using ANFIS Technique K. KACHA, F. DJEFFAL, H. FERHATI and H. BENCHERIF</b>	<b>PID3778&gt;CEM</b>
<b>15h30&gt;15h45</b>	<b>Efficient hardware multiplier design for pairing computation C. MASOUD, A. SGHAIER, M. ZEGHID and M. MACHHOUT</b>	<b>PID3826&gt;CEM</b>

<b>15h45&gt;16h00</b>	<b>Nonlinear Amplifier Impact on 8-PSK Modulation Using Simulink</b> <b>F. A. HUSSAIN and A. R. ZEREK</b>	<b>PID3838&gt;CEM</b>
<b>16h00&gt;16h15</b>	<b>Development and Experimental Validation of New Model of Relative Movement Modulus of Vibration Sensor</b> <b>Z. GHEMARI and A. LAKEHAL</b>	<b>PID3846&gt;CEM</b>
<b>16h15&gt;16h30</b>	<b>Graphical Optimization method applied to a 6-GHz single-ended ring oscillators</b> <b>N. GARGOURI, M. HAJRI, D. BEN ISSA, A. KACHOURI and M. SAMET</b>	<b>PID3871&gt;CEM</b>
<b>16h30&gt;16h45</b>	<b>A Hardware optimization of BAT Algorithms implemented on FPGA</b> <b>M. S. BEN AMEUR, A. SAKLY and A. MTIBAA</b>	<b>PID3902&gt;CEM</b>
<b>16h45&gt;17h00</b>	<b>EMC immunity test for capacitive shunt RF-MEMS switch</b> <b>B. JMAI, A. RAJHI and A. GHARSALLAH</b>	<b>PID3907&gt;CEM</b>

#### **Session S19: TueB3: Power Electronics and Control (PEC)**

**Presidents:** **Hsan HADJ ABDALLAH & Mohamed JEMLI**

<b>15h00&gt;15h15</b>	<b>Optimal Power Distribution System Reconfiguration using Genetic Algorithm</b> <b>H. SOUIFI, O. KAHOULI and H. HADJ ABDALLAH</b>	<b>PID3661&gt;PEC</b>
<b>15h15&gt;15h30</b>	<b>Cascaded H-Bridge inverter for an application of active filtering in electric vehicle</b> <b>M. TAYARI, M. GHARIANI and A. GUERMAZI</b>	<b>PID3758&gt;PEC</b>
<b>15h30&gt;15h45</b>	<b>Position Sensorless Vector Control of PMSM Drives Based on Sliding Mode Observer</b> <b>O. SAADAOUI, O. KHLAIEF, M. ABASSI, A. CHAARI and M. BOUSSAK</b>	<b>PID3789&gt;PEC</b>
<b>15h45&gt;16h00</b>	<b>Simple VHDL-AMS PiN Diode Model using bond graph techniques</b> <b>R. ZRAFI, S. GHEDIRA, Y. DHAHRI and K. BESBES</b>	<b>PID3802&gt;PEC</b>

<b>16h00&gt;16h15</b>	<b>Control of Power Flow and Power Losses of Power Systems by FACTS Using PSAT and MATLAB A. SOULI, A. HELLAL, A. KHARAZ and M. MAKHLOUF</b>	<b>PID3877&gt;PEC</b>
<b>16h15&gt;16h30</b>	<b>Modelling, Simulation and Analysis of Three Phase Five Level NPC Inverter for Induction Motor Drive H. DALLAGI</b>	<b>PID3879&gt;PEC</b>
<b>16h30&gt;16h45</b>	<b>A Nonlinear Control Technique of Seven Level NPC Based Shunt Active Power Filter M. HADDAD, S. KTATA, S. RAHMANI and K. Al-HADDAD</b>	<b>PID3883&gt;PEC</b>

**Session S20: TueB4: Robust and Adaptive Control (RAC) & Industrial and Agricultural Applications (IAA)**

**Presidents: Abdessattar CHAARI & Mariem GHAMGUI**

<b>15h00&gt;15h15</b>	<b>Model Reference Adaptive Control Control for Piezoelectric Actuators M. EDARDAR</b>	<b>PID3606&gt;RAC</b>
<b>15h15&gt;15h30</b>	<b>Robust Fractional Control of a Two Time Scale System M. L. WARDI, M. AMAIRI and M. N. ABDELKARIM</b>	<b>PID3739&gt;RAC</b>
<b>15h30&gt;15h45</b>	<b>Fuzzy adaptive control enhancement for non-affine systems with unknown control gain sign K. KHETTAB, Y. BENSAFIA and S. LADACI</b>	<b>PID3771&gt;RAC</b>
<b>15h45&gt;16h00</b>	<b>A Robust Fractionalized Adaptive PI Controller for DC-Motor Y. BENSAFIA, K. KHETTAB and S. LADACI</b>	<b>PID3772&gt;RAC</b>
<b>16h00&gt;16h15</b>	<b>Analysis of Middleware and ADRC based Techniques for Networked Control Systems A. AMMAR, H. A. ULLAH, H. IJLAL, T. UZAIR and H. ATTIQUE</b>	<b>PID3810&gt;RAC</b>
<b>16h15&gt;16h30</b>	<b>New Method for speed sensorless indirect field-oriented control of induction motor drive using LQR-PI controller Y. BEDDIAF, F. ZIDANI and A. LARBI CHRIFI</b>	<b>PID3856&gt;RAC</b>

16h30>16h45	Dynamic model of an agricultural greenhouse using Matlab-Simulink environment <b>R. BEN ALI, E. ARIDHI and A. MAMI</b>	PID3859>IAA
16h45>17h00	Observer-based backstepping liquid level controller for a quadruple tank process <b>H. GOUTA, S. HADJ SAID and F. M'SAHLI</b>	PID3935>IAA

### Wednesday, December 23, 2015

#### **Special Session SS1: WedA1: Renewable Energy Conversion (REC)**

**Presidents: Mansour SOUSSI & Hafedh ABID**

08h45>09h00	Predictive Control For a DC Motor-Based Photovoltaic Pumping <b>S. BOUOUDEN, O. HAZIL and I. BOULKAIBET</b>	PID3604>REC
09h00>09h15	Stability of Output Voltages of Single Stage Three Levels Inverter for PV System under South Algeria Weather Conditions <b>T. ABDELKRIM, K. BENAMRANE, T. BENSLIMANE and O. ABDELKHALEK</b>	PID3756>REC
09h15>09h30	Direct Voltage Control in Autonomous DFIG Based Wind Energy Systems <b>B. TOUAITI, H. BEN AZZA and M. JEMLI</b>	PID3795>REC
09h30>09h45	Min-max lyapunov control for a class of hyperbolic PDE with application to parabolic solar collector <b>C. A. MOSBA, M. TADJINE and M. S. BOUCHERIT</b>	PID3872>REC
09h45>10h00	Development of a MPPT controller for hybrid wind/photovoltaic system based on SOPC and NIOS II <b>M. A. JABALLAH, D. MEZGHANI and A. MAMI</b>	PID3927>REC
10h00>10h15	Optimal sizing design of an isolated microgrid based on the compromise between the reliability system and the minimal cost <b>I. SANSA, R. VILLAFAFILLA and N. M. BELLAJ</b>	PID3936>REC

#### **Special Session SS2: WedA2: Imagery and Forms Recognition (IFR)**

**Presidents: Anis SAKLY & Amer ZEREK**

08h45>09h00	Automated Detection of Similar Human Actions using Motion Descriptors A. LADJAILIA, I. BOUCHRIKA, H. FARIDA MEROUANI and N. HARRATI	PID3620>IFR
09h00>09h15	Automated classification of facial expressions using bag of visual words and texture-based features N. HARRATI, I. BOUCHRIKA, A. TARI and A. LADJAILIA	PID3621>IFR
09h15>09h30	Enhanced Smart Doorbell System Based On Face Recognition A. BEN THABET and N. BEN AMOR	PID3629>IFR
09h30>09h45	An integrates system dynamics model and analysis methodology for HRP using integral controller I. ABURAWI and K. HAFEEZ	PID3696>IFR
09h45>10h00	Age Estimation from Facial Images based on Hierarchical Feature Selection I. BOUCHRIKA, N. HARRATI, A. LAADJAILIA and S. KHEDAIRIA	PID3805>IFR
10h00>10h15	MoCap systems and hand mouvement reconstruction using cubic spline R. HANIFI ELHACHEMI AMAR, L. BENCHIKH and Z. AHMED-FOITIH	PID3932>IFR

**Special Session SS3: WedA3: Diagnosis and Fault tolerant Control (DFC)**

**Presidents: Ahmed ELHAJJAJI & Hana GHORBEL**

08h45>09h00	Fault Tolerant Control of Speed Sensor less Control Three-Phase PMSM Based on DTC-SVM Method with MRAS M. MOUJAHED, H. BEN AZZA, M. JEMLI and M. BOUSSAK	PID3603>DFC
09h00>09h15	Robust sensor faults estimation with $H_\infty$ performance for Lipschitz uncertain nonlinear systems A. ZEMZEMI, M. KAMEL and A. TOUMI	PID3683>DFC

09h15>09h30	Fault Tolerant Control based on Adaptive Observer for Takagi-Sugeno fuzzy descriptor systems D. KHARRAT, H. GASSARA, A. EL-HAJJAJI and M. CHAABANE	PID3726>DFC
09h30>09h45	Performance Tolerant Control of Shunt Active Power Filter Under Unbalanced Nonlinear Load K. FRIFITA, M. BOUSSAK, A. NAAMANE and N. M'SIRRIDI	PID3748>DFC
09h45>10h00	PSO-ELM Application In Electronic System Fault Diagnosis S. CHEN, Y. SHANG and M. WU	PID3790>DFC
10h00>10h15	State and Fault Estimation for Uncertain Nonlinear Systems: an $L_2$ Approach L. MOUSSAOUI and S. AOUAOUDA	PID3905>DFC

**Special Session SS4: WedA4: Fractional-order Systems and Controls (FSC)**

Presidents: Samir LADACI & Ridha BEN ABDENOUR

08h45>09h00	Estimation Technique of Fractional Differential Equations A. KHADHRAOUI, K. JELASSI and J.-C. TRIGEASSOU	PID3624>FSC
09h00>09h15	Identification of fractional order system based on least squares technique and instrumental variables: Hn model A. KHADHRAOUI, K. JELASSI and J.-C. TRIGEASSOU	PID3627>FSC
09h15>09h30	State Feedback with Fractional PI D <sup>n</sup> Control Structure for Genesio-Tesi Chaos Stabilization K. RABAH, S. LADACI and M. LASHAB	PID3666>FSC
09h30>09h45	Design of Fractional Order PID Controller for DC Motor T. AMIEUR, M. SEDRAOUI, D. TAIBI, A. DJEDDI and H. GUESSOUUM	PID3783>FSC
09h45>10h00	Direct Fractional Adaptive Pole Placement Control for minimal phase systems S. LADACI, S. CHETTAH and K. KHETTAB	PID3849>FSC

10h00>10h15	<b>Additive fault tolerant control for fractional order model systems</b> <b>R. CHOUKI, A. ARIBI, M. AOUN and M. N. ABDELKARIM</b>	<b>PID3921&gt;FSC</b>
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Coffee break : 10h15>10h35

**Special Session SS5: WedB1: Power Electronics and Control (PEC)**

**Presidents: Adel KHEDHER & Abdelmajid OUALHA**

10h35>10h50	<b>Optimal Placement of PV-Distributed Generation units in radial distribution system based on sensitivity approaches</b> <b>S. ESSALLAH, A. BOUALLEGUE and A. KHEDHER</b>	<b>PID3656&gt;PEC</b>
10h50>11h05	<b>Wind Power Integration Improvement In The Electric Network</b> <b>S. AMMOUS, R. BEN AMMAR, A. OUALHA and H. HADJ ABDALLAH</b>	<b>PID3688&gt;PEC</b>
11h05>11h20	<b>T-S Fuzzy Maximum Power Point Tracking Control of Photovoltaic conversion System</b> <b>H. ZAYANI, M. ALLOUCHE, M. KHARRAT and M. CHAABANE</b>	<b>PID3721&gt;PEC</b>
11h20>11h35	<b>3D Numerical Analysis of Integrated Power Inductor in Silicon for DC / DC Converters</b> <b>Y. DHABRI, S. GHEDIRA, R. ZRAFI and K. BESBES</b>	<b>PID3809&gt;PEC</b>
11h35>11h50	<b>Power Quality Improvement based on shunt active power filter connected to a photovoltaic array</b> <b>R. BELAIDI, M. FATHI, A. HADDOUCHE and M. MAGHZI</b>	<b>PID3880&gt;PEC</b>
11h50>12h05	<b>Implementation of a fast and simple Space Vector Modulation Scheme for a Three-Phase Five-Level Neutral Point Clamped Inverter</b> <b>Z. BEN MAHMOUD, M. HAMOUDA and A. KHEDHER</b>	<b>PID3881&gt;PEC</b>

**Special Session SS6: WedB2: Circuits, Electronics and Micro-electronics (CEM)**

**Presidents: Faycal DJEFFAL & Hamadi GHARIANI**

10h35>10h50	<b>Design of a Network on Chip router based on turn model</b> <b>B. CHEMLI and A. ZITOUNI</b>	<b>PID3613&gt;CEM</b>
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<b>10h50&gt;11h05</b>	Real time implementation of DTC based on Sliding Mode Speed Controller of an Induction Motor S. KRIM, S. GDAIM, A. MTIBAA and M. F. MIMOUNI	<b>PID3769&gt;CEM</b>
<b>11h05&gt;11h20</b>	New Phototransistor Design to Improve the Optoelectronic Performance Using Gate-engineering Aspect H. FERHATI, F. DJEFFAL and D. ARAR	<b>PID3776&gt;CEM</b>
<b>11h20&gt;11h35</b>	Modeling and simulation of 2D-BinDCT based lifting scheme and its integration in a dynamically reconfigurable SOC I. CHATTI, A. BEN ABDELALI, H. BEN AMOR and A. MTIBAA	<b>PID3816&gt;CEM</b>
<b>11h35&gt;11h50</b>	Discuss of Dye Sensitized Solar Cells accurate measuring methods A. E. TOUIHRI, T. AZIZI and R. GHARBI	<b>PID3848&gt;CEM</b>
<b>11h50&gt;12h05</b>	Design of a high performance rectenna for wireless powering 2.45 Ghz RFIDs H. LAKHAL BEN HASSEN, M. DHIEB, H. GHARIANI and M. LAHIANI	<b>PID3898&gt;CEM</b>

**Special Session SS7: WedB3: Parametric and State Estimation (PSE)**

**Presidents:** Kamel ABDERRAHIM & Badreddine LOUHICHI

<b>10h35&gt;10h50</b>	Observer design for a class of nonlinear discrete time systems N. GASMI, A. THABET, M. BOUTAYEB and M. AOUN	<b>PID3600&gt;PSE</b>
<b>10h50&gt;11h05</b>	Decentralized Observers of a large class of nonlinear interconnected systems G. BEL HAJ FREJ, A. THABET, M. BOUTAYEB and M. AOUN	<b>PID3611&gt;PSE</b>
<b>11h05&gt;11h20</b>	High gain observer for a class of hyperbolic PDE with application to parabolic solar collector C. A. MOSBA, M. TADJINE and M. S. BOUCHERIT	<b>PID3874&gt;PSE</b>
<b>11h20&gt;11h35</b>	High gain observer design for a class of MIMO non uniformly observable uncertain systems A. LTAIEF, M. FARZA, T. MENARD and T. MAATOUG	<b>PID3862&gt;PSE</b>

11h35>11h50	High gain adaptive observers for a class of MIMO nonlinear systems I. BOURAOUI, M. FARZA, T. MENARD, R. BEN ABDENOUR and M. M'SAAD	PID3868>PSE
11h50>12h05	A Nonlinear High-Gain Observer for n-link Robot Manipulator With Measurement Noise in a Feed back Control Framework M. A. JAVED and M. LIAQUAT	PID3892>PSE

**Special Session SS8: WedB4: Analysis and Control of Systems (ACS)**

Presidents: Olfa BOUBAKAR & Med Naceur ABDELKRIM

10h35>10h50	Reconfiguration methode of PWA systems H. CHALANDI, Y. HAMMI and M. KSOURI	PID3615>ACS
10h50>11h05	Reliability parameter estimation of the Inverse Flexible Weibull Distribution for Type-I censored samples A. NASR, S. GASMI and F. BEN HMIDA	PID3701>ACS
11h05>11h20	On Bifurcation Analysis of the Predator-prey BB-model with Weak Allee Effect A. BEN SAAD and O. BOUBAKAR	PID3792>ACS
11h20>11h35	Optimization of Switching Instants for Optimal Control of Switched discrete Non linear Systems based on Genetic Algorithm M. SAKLY, A. SAKLY and F. M'SAHLI	PID3799>ACS
11h35>11h50	Optimal Decentralized Output-Feedback Controller for Nonlinear Interconnected Systems A. S. TLILI	PID3818>ACS
11h50>12h05	Minimal and optimal functional state observer for linear time invariant systems R. OUHIBI, R. ALOUI and N. BENHADJ BRAIEK	PID3851>ACS

**Conference close: 12h05-12h35**

**Lunch: 12h35>14h00**

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