



2019 IEEE International Conference on
Signal, Control and Communication
SCC 2019

SCC 2019

Monday 16 December 2019 (08:00 - 11:20)

Time	Presentations
08:00 – 09:30	Registration
09:30 – 10:00	Opening Ceremony <i>Amphitheater Carthage</i>
10:00 - 10:20	Coffee Break
10:20 – 11:20	Plenary Lecture (Amphitheater Carthage) Recent Advances in Motion Control of High-Speed Parallel Manipulators Presented by: Prof. Ahmed CHEMORI IEEE Senior Member, Senior CNRS Research Scientist, LIRMM CNRS/University of Montpellier, France

TIME 11:20 – 13:00		Technical session 1			
		Room DOUGA		Room BULLA-REGIA	
Sessions 1 and 2	Paper ID	Topic 1 Predictive control Chairs: A. Chemori	Paper ID	Topic 2 Robot Design, Development and Control Chairs: A. Said Nouri	
11:20-11:40	21	Distributed MPC control with dual decomposition and accelerated gradient methods: Application for wind-solar systems Dine El Houda Hammami , Saber Maraoui and Kais Bouzrara	06	Design, modelling and control of an owl-inspired robot in a standing posture Rahma Boucetta	
11:40-12:00	22	A New Fast NMPC Scheme for Parallel Kinematic Manipulators: Design and Real-Time Experiments Rihab Kouki , Ahmed Chemori and Faouzi Bouani	15	Force/Position Control for Flexible Joint Robot Using Super-Twisting Algorithm Rafik Amaini , Farid Ferguene and Redouane Toumi	
12:00-12:20	48	PID Controller Design for Trajectory Tracking of Veloce Robot Hela Sahnoun , Imen Saidi and Zied Hajaiej	75	Towards an Effective Robotic Device for Gait Rehabilitation of Children With Cerebral Palsy Boutheina Maalej , Ahmed Chemori and Nabil Derbel	
12:20-12:40	93	Design of Robust Fractional Predictive Control using Global Optimization Approach Aymen Rhouma , Sami Hafsi and Mohamed Lazhar Wardi	82	Legged Robots with Human Morphology: Design and Control Riadh Zaier and Omer Dirdiry	
12:40-13:00	-	-	90	Robot-assisted remote rehabilitation Yassine Bouteraa and Ismail Ben Abdallah	
13:00 – 14:00	Lunch Time				

TIME 14:00 – 15:40		Technical session 2			
		Room DOUGA		Room BULLA-REGIA	
Sessions 3 and 4		Topic 3 Sliding mode control and fuzzy logic Chairs: A. Messaoud A. Sellami		Topic 4 Electric vehicle application Chairs: F. Bacha A. Khedher	
14:00-14:20	19	Robust L2 Disturbance Attenuation for Quasi-One-Sided Lipschitz Nonlinear Systems via Sliding Mode Control Wajdi Saad, Anis Sellami and Germain Garcia	38	A Robust Nonlinear Control Based on SMC Approach for Doubly-Fed Induction Motor Drives Used in Electric Vehicles Mouna Zerzeri, Faïçal Jallali and Adel Khedher	
14:20-14:40	25	Stabilization of Neuro-Control Structure using Lyapunov Functional Based Approach Ameni Jouila and Khaled Nouri	86	Modelling and Control of Floating Interleaved Boost Converter for Electric Vehicle Nassira Barhoumi, Hajer Marzougui, Slah Farhani and Faouzi Bacha	
14:40-15:00	50	Sliding Mode Control for a Pendulum based on Reaching Laws Majdi Boussoffara, Ikbel Ben Cheikh Ahmed and Zied Hajaiej	87	Study and Experimentation a PEM Fuel Cell for Electric Vehicle Farhani Slah, Djerdir Abdeslam and Bacha Faouzi	
15:00-15:20	52	Higher order sliding mode controller of three-phase asynchronous motor Yousra Yahia and Anis Sellami	67	Robust FOC Analysis of a DFIM using an SMFO: Application to Electric Vehicles Mouna Zerzeri, Faïçal Jallali and Adel Khedher	
15:20-15:40	89	Cuckoo Search Algorithm and TS Fuzzy Models for PID Control Adel Taieb, Hichem Salhi and Abdelkader Chaari	91	Comparative study between fuel cell and battery based power trains for light weight electric vehicle Laid Degaa, Bachir Bendjedia, Nassim Rizoug, Abdelkader Saidane, Cherif Larouci and Abdelkader Belaidi	
15:40 – 16:00	Coffee Break				

16:00 – 17:40		Technical session 3		
		Room DOUGA		Room BULLA-REGIA
Sessions 5 and 6	Paper ID	Topic 5 Optimization: Techniques and applications Chairs: A. Zaafouri	Paper ID	Topic 6 Signal processing Chairs: A. Said Nouri
16:00-16:20	24	Maximum power point tracking of wind turbine equipped by PMSG with On-Off control based particle swarm optimization Marwa Hannachi , Omessad Elbeji, Mouna Benhamed and Lassaad Sbita	27	Expansion of the switched FIR model parameters on Laguerre bases Ibtissem Bengharat , Abdelkader Mbarek and Hedi Dhouibi
16:20-16:40	40	Optimization-based tuning of a Robust PI current controller for a three phase grid connected PV system Asma Dkhil , Manel Chetoui and Messaoud Amairi	28	Audio Surveillance System (ASS): Merging of Acoustic Events Recognition and Classification through Deep Learning Safiah Endargiri , Ahad Alkabsani, Sara Alsubhi and Kaouther laabidi Omri
16:40-17:00	42	Performance improvement of a photovoltaic system with a radial basis function network based on particle swarms optimization Hamdi Hichem , Ben Regaya Chiheb and Zaafouri Abderrahmen	63	CNN-SVM approach for EEG-Based Person Identification using Emotional dataset Soumaya Ben Salem and Zied Lachiri
17:00-17:20	78	Comparing inertia weights in Multi- swarm Particle Swarm Optimization Jaouher Chroua , Zdiri Sami, Fethi Farhani, Abderrahmen Zaafouri and Mohamed Jemli	76	Impact of emotion type on emotion recognition through vocal channel Farah Chenchah and Zied Lachiri
17:20-17:40			84	Recognition Emotions in Speech Based on Prosodic and MFCCs Parameters Houari Horkous and Guerti Mhania

TIME 08:30 – 10:10		Technical session 4		
		Room DOUGA		Room BULLA-REGIA
Sessions 7 and 8	Paper ID	Topic 7 Embedded Systems Chairs: W. Naour	Paper ID	Topic 8 Surveillance, Fault detection and Diagnosis Chairs: K. Bacha
08:30-08:50	58	Efficient corner detection algorithm on GPU Afef Bettaieb , Nabila Filali, Taoufik Filali and Habib Ben Aissia	13	Stability and Active Fault-Tolerant Control design for a class of neutral time-delay systems. Rabeb Benjemaa , Aicha Elhsoumi and Saloua Belhadj Ali Naoui
08:50-09:10	59	A VHDL-AMS voltage controlled oscillator synthesis approach Sonia Eloued and Jaleleddine Ben Hadj Slama	51	Fast Fault Estimation and Fault Tolerant Control using Adaptive Observer Fatma Ezzahra Oueslati , Manel Allous and Nadia Zanzouri
09:10-09:30	68	Bidirectional Speed Control of two DC Motors Based on Pulse Width Modulation using Arduino board and L293D circuit Sameh Khmailia , Jilani Rouabah and Abdelkader Mami	54	Combined Degradation Process and Remaining Useful Life Improvement in an Actuat Nabila Mabrouk , Med Hedi Moulahi and Fayçal Ben Hmida
09:30-09:50	72	Hybrid PV/WT/Batteries system management using VLSI and Pic microcontroller Issiaka Stephane , Raouph Bini and Malek Belouda	79	Fault tolerant feedback control and diagnosis for lipschitz nonlinear system Riadh Hmidi , Ali Ben Brahim, Fayçal Ben Hmida and Anis Sellami
09:50-10:10	92	A new approach of staff lines removal technique for manuscript documents Mekhaznia Tahar and Chawki Djeddi	96	Robust State and Fault Estimation for Nonlinear Descriptor Stochastic Systems with Unknown Disturbances Bessaoudi Talel and Ben Hmida Fayçal
10:10 – 10:30	Coffee Break			

10:30 - 11:30	<p>Plenary Lecture (Amphitheater Carthage)</p> <p>State of the art and perspectives of evolution of solar cells technologies</p> <p>Presented by: Prof. Mongi BOUAICHA</p> <p>Laboratoire de Photovoltaïque Centre de Recherches et des Technologies de l’Energie Technopôle de Borj-Cédria, Hammam-Lif, 2050 Tunis, Tunisie</p>
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Tuesday 17 December 2019 (11:30 - 13:10)

TIME 11:30 – 13:10		Technical session 5		
		Room DOUGA		Room BULLA-REGIA
Sessions 9 and 10	Paper ID	Topic 9 Communication Systems Chairs: R. Gharbi	Paper ID	Topic 10 Nanoelectronics Chairs: W. Naour
11:30-11:50	14	A Petri Nets Modeling of Scheduling Policies in Ethernet Switch Farah Khamsa , Karim Chabir and Mohamed Naceur Abdelkrim	08	Simulation of 30 nm Channel Cylindrical GAA Silicon Tunnel FETs with High-k Gate Dielectrics Mohamed Kessi , Arezki Benfdila, Ahcene Lakhelaf, Lounas Belhimer and Mohamed Djouder
11:50-12:10	29	Automation of electrophoresis deposition technique using LabView Hanen Toujeni , Tarek Azizi, Khaoula Amri, Moufida Ben Karoui and Rached Gharbi	18	Design and characterization of a new GaN / AlGaN HEMT Transistor Naji Guedri , Rached Gharbi and Naoufel Ismail
12:10-12:30	41	New Iterative Method for Analyzing Metamaterial CRLH TL Antennas Parameters Mounir Belattar and Mohamed Lashab	37	Analysis of defects created at Si/SiO ₂ interface in a power RF LDMOS device due to temperature effects M. A. Belaid , M. Tlig and A. Almusallam

12:30-12:50	88	Using the Finite Element Method to calculate Parameters for a Detailed Model of Power Transmission Line for Default Diagnosis Hichem Mabrouki and Hsan Hajd Abdallah	46	Effect of TiO ₂ blocking layer on photovoltaic performances of solar cells sensitized with N719 Belhi Maroua , Kaddachi Zouhour and Gharbi Rached
12:50-13:10	-	-	62	Improvement of ZnO Properties by Ga-doping for Flexible Dye-sensitized Solar Cell Application Jamila GHNIMI , Moufida BEN KAROUI and Rached GHARBI
13:10 – 14:00	Lunch Time			

TIME 14:00 – 15:40		Technical session 6				
		Room DOUGA		Room BULLA-REGIA		
Sessions 11 and 12	Paper ID	Topic 11 Image Processing Chairs: M. Sayadi		Paper ID	Topic 12 Automation and control applications Chairs: A. Chaari	
14:00-14:20	05	Automatic Detection of Weld Defects Based on Hough Transform Chiraz Ajmi , Sabra El Ferchichi, Abderrahmen Zaafour and Kaouther Laabidi		31	Set-membership state estimation approach for discrete-time switched linear systems based on ellipsoidal approximation Monia Dkhil , Messaoud Amairi and Tarek Raissi	
14:20-14:40	17	Particle Filter Based Approach for Wind Turbine High-Speed Shaft Bearing Health Prognosis Sharaf Eddine Kramti , Lotfi Saidi, Jaouher Ben Ali, Mounir Sayadi and Eric Bechhoefer		57	A Novel Discrete Internal Model Control Method for Underactuated System Islem Bejaoui , Imen Saidi and Dhaou Soudani	
14:40-15:00	43	Follow up of the Multiple Sclerosis lesion's evolution in brain MRI by automated registration approach Chaima Dachraoui , Aymen Mouelhi and Salam Labidi		69	Control of a linear actuator dedicated for a biomedical application Imed Mahmoud and Adel Khedher	
15:00-15:20	60	Fast image segmentation for pulmonary lesions using hybrid level set model Sourour Gargouri , Aymen Mouelhi, Mounir Sayadi, Salam Labidi, Leila Ben Farhat, Majdi Mahersi and Saoussen Zayed		74	Synchronization of Chaotic Systems: a survey study Noussaiba Griba , Faical Hamidi, Kamel Menighed, Boumedyen Boussaid and Mohamed Naceur Abdelkrim	
15:20-15:40	-	-		95	Nonlinear adaptive sliding mode control using scalar sign function for a class of T-S fuzzy models Lotfi Chaouech , Moez Soltani and Abdelkader Chaari	
15:40 – 16:00	Coffee Break					

TIME 16:00 – 18:00		Technical session 7		
		Room DOUGA		Room BULLA-REGIA
Sessions 13 and 14	Paper ID	Topic 13 Renewable energy technologies Chairs: M. Bouaicha	Paper ID	Topic 14 Modeling and Control design methods Chairs: A. Messaoud M. Sayadi
16:00-16:20	11	Simplified Electrical Circuit of Inductive Coupled Power Transfer System Based on the Reflected Input Impedance Moustapha Elwalaty , Hechmi Ben Azza and Mohamed Jemli	35	On displacement of decentralized fixed modes by discrete time control Mohammad Abdolmaleki and Mohammad Aldeen
16:20-16:40	44	Identification of a five-parameter model for a photovoltaic module using hybrid particle swarm optimization and pattern search Ines Ben Ali , Mohamed Wissem Naouar and Eric Monmasson	36	Robust controller with time specifications for systems with stochastic uncertainties Amani Added , Maher Ben Hariz and Bouani Faouzi
16:40-17:00	53	The transition to renewable energy in Tunisia: the case of the photovoltaic system connected to the Grid Hedi Trabelsi and Younes Boujelbene	47	Design of fractional order controllers for TITO systems Emna Ouhibi Mahdouani , Maher Ben Hariz and Faouzi Bouani
17:00-17:20	80	A New Diagnosis Method of PMSG for Wind Energy Conversion Systems Based on Direct power control Hedi Ben Mahdhi , Hechmi Ben Azza and Mohamed Jemli	55	Fractional-order Polynomial Wiener System Identification Soumaya Marzougui , Asma Atitallah, Saida Bedoui and Kamel Abderrahim
17:20-17:40	85	Fault Tolerant Converter for DFIG connected to DC-bus based Wind Energy Systems Bilel Touaiti , Hechmi Ben Azza and Mohamed Jemli	77	Stability of Uncertain Linear Discrete System with Time Delay Lobna Barhoumi , Imen Saidi and Dhaou Soudani
17:40-18:00	-	-	99	Design of a low order controller with auto tuning gain Maher Ben Hariz and Faouzi Bouani

TIME 08:20 – 10:10		Technical session 8		
		Room DOUGA		Room BULLA-REGIA
Sessions 15 and 16	Paper ID	Topic 15 Electrical Machines Chairs: W. Naour	Paper ID	Topic 16 Electronics circuits Chairs: R. Gharbi
08:20-08:40	32	Modelling and electromagnetic characteristics for two mode functions of Switched Reluctance Machine Zeineb Touati , Imed Mahmoud and Adel Khedher	39	Comparative study of some Maximum Power Point Tracking algorithms Belgacem Mbarki , Fethi Farhani and Abderrahmen Zaafouri
08:40-09:00	03	On the overvoltage of three phase induction motor fed by two levels inverter Henda Bouyahi , Khaled Ben Smida and Adel Khedher	56	Modeling of a PMSG based wind turbine driven by a diode rectifier Gannoun Marwa and Naouar Wissem
09:00-09:20	12	Thermal analysis of dual star induction motor using thermal network model Thouraya Guenenna , Khaled Ben Smida and Adel Khedher	73	Fault Tolerant Operational Amplifier Using IDDT Testing Badi Guibane Guibane , Fakhreddine Zayer, Belgacem Hamdi and Abdellatif Mtibaa
09:20-09:40	20	Optimal Multi-Type DG Integration and Distribution System Reconfiguration for Active Power Loss Minimization using CPSO Algorithm Sirine Essallah and Adel Khedher	81	Control Strategy of Modular Multilevel Converter: theoretical investigation and performance Baazouzi Mansour and Faouzi Bacha
09:40-10:00	70	Nonlinear Modelling of Switched Reluctance Machine Zeineb Touati , Imed Mahmoud and Adel Khedher	100	High frequency rectification diode selection criteria for LLC converters in electric vehicle battery chargers Alessio Gillone , Manuel Gómez Gómez, Claudio Damilano and Candido Fabrizio Pirri
10:00 – 10:20	Coffee Break			

10:20 - 11:20	<p>Plenary Lecture (Amphitheater Carthage)</p> <p>Array Processing for non-Stationary Signals: Exploiting Spatial Time Frequency Distributions</p> <p>Presented by: Prof. Adel BELOUHRANI</p> <p>2020 IEEE Fellow Ecole Nationale Polytechnique, Algiers, Algeria Algerian Academy of Science and Technology</p>
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SCC 2019
Wednesday 18 December 2019 (11:30 - 15:00)

TIME	Technical session 9	
11:30 – 13:00	Room DOUGA	
Session 17	Paper ID	Topic 17 Information Systems Chairs: M. Amairi S. Hafsi
11:30-11:50	16	Scalable and Adaptable Diversity/Multiplexing Trade-Off in a Multi-User Massive-MIMO Environment Halima Bergaoui , Yosra Mlayah, Fethi Tlili and Fatma Rouissi
11:50-12:10	26	The Impact of Using Additional Pilots on the Performance of Massive MIMO Systems Abdelfettah Belhabib , Mohamed Boulouird and Moha M'rabet Hassani
12:10-12:30	49	Deep Learning vs Hand-Crafted Features for Face Recognition under Uncontrolled Conditions Laila Ouannes , Anouar Ben Khalifa and Najoua Essoukri Ben Amara
12:30-12:50	65	Modeling and management of human resources in the reconfiguration of production system in industry 4.0 by neural networks Romdhane Ben Khalifa , Khalil Tliba, Thierno M. L. Diallo, Olivia Penas, Noureddine Ben Yahia and Jean-Yves Choley
13:00 – 14:00	Lunch Time	
14:00-15:00	Closing Ceremony Amphitheater Carthage	

NOTES

- ✓ The registration is open during the three days of the conference.
- ✓ **Plenary Talk:** The duration of each presentation is **50** minutes plus **10** minutes for questions.
- ✓ **Oral presentation:** The duration of each oral presentation is **15** minutes plus **5** minutes for questions.
- ✓ The authors of oral presentation are invited to join their room and to copy their presentation on the available computer at least 15 minutes before the start of the session.
- ✓ **IMPORTANT:** Accepted file formats for all presentations are PDF and PPT.