



2nd IEEE International Conference on
Signal, **C**ontrol and **C**ommunication
SCC 2021

CONFERENCE PROGRAM

20 – 22 December 2021, Hammamet, Tunisia



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2nd IEEE International Conference on **S**ignal,
Control and **C**ommunication
SCC 2021

December 20-22, 2021 Hammamet, Tunisia

SCC 2021

Monday 20 December 2021 (08:00 - 11:20)

Time	Presentations
08:00 – 09:30	Registration
09:30 – 10:00	Opening Ceremony <i>Amphitheater Dougga</i> https://meet.google.com/tpr-ajnr-bdi
10:00 - 10:20	Coffee Break
10:20 – 11:20	Plenary Lecture (Amphitheater DOGGA) DSP-Based Hybrid H_∞ Adaptive Fuzzy Tracking Control Structure for High Performance Drives A Real-Time Implementation Presented by: Prof. Ahmed RUBAAI Fellow IEEE, Professor and Chairperson Electrical Engineering and Computer Science Howard University, Washington, DC, USA. https://meet.google.com/fjd-nsck-syo

TIME 11:20 – 12:20		Technical session 1			
		Room DOUGGA https://meet.google.com/esq-ggwj-vfb		Room BULLAREGIA https://meet.google.com/cnh-krvb-sxk	
Topics 1 and 2	Paper ID	Topic 1 Robust control Chairs: Mr. Hassène Gritli Mr. Tarek Garna		Paper ID	Topic 2 Microelectronics Chairs: Mr. Lazhar Fekih-Ahmed Mr. Gharbi Rached
11:20-11:40	52	A robust Nonlinear Controller Approach of a Wind Energy Conversion System Based on a DFIG. Hamdi Hichem , Ben Regaya Chiheb and Zaafouri Abderrahmen		37	Dynamic Characteristics of Normally-OFF Silicon Carbide JFET K. Shili , R. Gharbi and Ben Karoui
11:40-12:00	60	Robust multiple model-based control proposed for a SISO CSTR Benchmark Marwa Yousfi , Tarek Garna and Hassani Messaoud		47	A Low-Power Maximally-Flat Transconductor in Subthreshold CMOS Lazhar Fekih-Ahmed
12:00-12:20	80	Model Reference Adaptive Control for Temperature Regulation of Continuous Stirred Tank Reactor. Ahmed J. Abougarair and Nasar Aldian Ambark Shashoa			
12:30-14:00	Lunch Time				

SCC 2021 Monday 20 December 2021 (14:00-15:40)

TIME 14:00 – 15:40		Technical session 2			
		Room DOUGGA https://meet.google.com/dab-rpjq-dnd		Room BULLAREGIA https://meet.google.com/prv-wqic-jpx	
Topics 3 and 4		Paper ID	Topic 3 Predictive control Chairs: Mrs. Chagra Wassila Mr. Tarek Garna	Paper ID	Topic 4 Communication Chairs: Mr. Amer Ragab Zerek Mrs. Kenz Bozed
14:00-14:20	28	Robust predictive control for uncertain nonlinear MIMO systems based on MISO Volterra expansion on generalized orthonormal bases. Tarek Garna , Achraf Jabeur Telmoudi and Hassani Messaoud	35	Energy optimization in a D2D communication based on a fuzzy system Anouar Ben Abdennour , Mohamed Ouweis Kabaou and Belgacem Chibani Rhaimi	
14:20-14:40	36	Multimodel Predictive control law for Discrete-Time Nonlinear Singularly Perturbed System Asma Ben Rajab , Nesrine Bahri and Majda Ltaief	51	Performance analysis of multi-user mixed RF and hybrid RF/FSO cooperative systems with buffers based on GC-LDPC codes Ibrahima Gueye , Idy Diop and Ibra Dioum	
14:40-15:00	45	Design and control of an Upper-Limb Orthosis Simulator for a passive rehabilitation Hmaied Hmida , Sami Hafsi and Faouzi Bouani.	58	Emotion Recognition using Speech Data with Convolutional Neural Network Minh H. Pham, Farzan M. Noori and Jim Torresen	
15:00-15:20	71	Fractional Predictive Control of Multi-Input Multi-Output Systems Chouaibi D. and Chagra W	65	Impact of hot carrier on RF N-LDMOS reliability for radar application after pulsed life test Mohamed. A. Belaid Mohammed Almatrafi	
15:20-15:40			88	FPGA Implementation of Short Frame OFDM System for Sensors Networks Lucas Lebailly, Raouia Masmoudi Ghodhbane	
15:40-16:00	Coffee Break				

16:00 – 17:40		Technical session 3		
		Room DOUGGA https://meet.google.com/iqk-gicr-pgx		Room BULLAREGIA https://meet.google.com/stu-icgi-dpt
Topics 5 and 6	Paper ID	Topic 5 Optimization: Techniques and applications Chairs: Mr. Anis Sallemi Mrs. Nadia Zanzouri	Paper ID	Topic 6 Surveillance and Fault Tolerant Control Chairs: Mr. Bacha Khemaies Mr. Sami Hafsi
16:00-16:20	29	Optimization of the energy performance of a hybrid vehicle Mourad Ali Salah and Naceur Benhadj Braiek	31	Robust stabilization and Fault Tolerant Control for uncertain singular neutral variable time delay systems R. Benjemaa , A. Elhsoumi and S. Bel Hadj Ali Naoui
16:20-16:40	56	Vendor-Independent Software-Defined Networking Santiago Pagola Moledo , Abhimanyu Rawat and Andrei Gurtov	46	Zonotope based Fault Tolerant Control for Discrete-Time Linear Time-Invariant Systems Leila Dadi , Haifa Ethabet and Mohamed Aoun
16:40-17:00	90	Enhancing logistics operations sustainability through resource sharing: The case of French agri-food SMEs Aymen Aloui , Nadia Hamani, Jaouher Chrouta and Laurent Delahoche	118	Detection and Localization of a Supply Voltage Unbalance Using an Improved Park Lissajou's Curves Approach Samira Ben Salem , Neila ouerghemmi, Khmais Bacha and Abdelkader Chaari
17:00-17:20	103	The Solutions of Two Dimensional Finite Square Well Potential Problem Using the Finite Difference Time Domain Method Amal Hamed , Huwaida K. Elgweri and Mohamed Mansor	119	V-belt Fault Detection using Motor Current Signature Analysis in Centrifugal Fan System Neila Ouerghemmi , Samira Ben Salem, Khmais Bacha, Abdelkader Chaari
17:20-17:40	109	Impact of Graph Compression on Solving the Two-Dimensional Strip Cutting Problem Mehdi Mrad , Tamer G. Ali, Ali Balma, Anis Gharbi, Ali Samhan and Mohamed Aly Louly		

TIME 08:30 – 10:10		Technical session 4			
		Room DOUGGA https://meet.google.com/qid-mtcc-hyg		Room BULLAREGIA https://meet.google.com/awn-jqky-rud	
Topics 7 and 8		Paper ID	Topic 7 Modeling and Control design methods Chairs: Mr. Achraf Jebeur Telmoudi Mr. Anis Sellami	Paper ID	Topic 8 Artificial Intelligence And IoT Chairs: Mr. Amer Zerek Mr. Abderrahmen Zaafouri
08:30-08:50	22	Modeling and regulation of the internal climate of an agricultural greenhouse: Tanazefi Asma , Haddouk Amira and Mechergui Hfaiedh	26	A Learning Rate for MIMO Nonlinear System Emulation Farhat Yassin , Atig Asma, Zribi Ali and Ben Abdennour Ridha	
08:50-09:10	69	Modeling and Optimal Classical Control of Blending Tank Level System in Cement Plant Abraham Amole , Daniel Akinyele Oluwatosin Aina and Olakunle Olabode	34	An Electric Wheelchair Monitoring System based on the Internet of Things and Fog computing Hafedh Ben Hassen , Nadia Ayari and Ahmed Maalel	
09:10-09:30	85	Multi-trip Vehicle Routing Problem with pickup and delivery and temporal constraints: Case of a sterilization center in a multi-hospital network Ons Saidi , Alfonso-Lizarazo, Malek Masmoudi, Pascal Albert, Koffi Cobbold	78	Adaptive neural network PID controller for nonlinear systems Ramzi Bouzaiene , Sami Hafsi and Faouzi Bouani	
09:30-09:50	115	Dynamic Modeling and Identification of Two-link robotic manipulator with a Friction Model Depending on Load and Temperature Mouna Dali Hassen , Imen Laamiri and Hassani Messaoud	99	ANFIS vs Scalar control which solution to choose? Siwar Bellahirich , Dhafer Mezghani, Abdelkader Mami	
09:50-10:10			129	Cooperative multi-swarm particle swarm optimization based on adaptive and time-varying inertia weight. Sami Zdiri , Jaouher Chrouta, Abderrahmen Zaafouri	

10:10 – 10:30	Coffee Break
10:30 - 11:30	<p data-bbox="746 293 1129 389" style="text-align: center;">Plenary Lecture (Amphitheater Dougga)</p> <p data-bbox="517 454 1362 555" style="text-align: center;">Industrial Software as Teaching Tool for Communication Systems</p> <p data-bbox="604 595 1273 633" style="text-align: center;">Presented by: Prof. Amer Ragab ZEREK</p> <p data-bbox="520 678 1358 725" style="text-align: center;">Professor of communication engineering</p> <p data-bbox="662 770 1216 817" style="text-align: center;">University of Zawia, Libya</p> <p data-bbox="719 862 1158 904" style="text-align: center;">IEEE senior member</p> <p data-bbox="675 949 1203 985" style="text-align: center;">https://meet.google.com/kio-hpbo-wxx</p>

TIME 11:30 – 12:30	Technical session 5			
	Room DOUGGA https://meet.google.com/jpg-quyf-gob		Room BULLAREGIA https://meet.google.com/szo-uvgu-ixw	
Topics 9 and 10	Paper ID	Topic 9 Robotics and Modeling systems Chairs: Mr. Ahmed Rubaai Mr. Sami Hafsi	Paper ID	Topic 10 Power systems Chairs: Mr. Anis Sellami Mr. Khamaeis Bacha
11:30-11:50	66	Analysis and Control of the Dynamic Walking of the Compass Biped Walker Using Poincaré Maps: Comparison Between Two Design Approaches Wafa Znegui, Hassène Gritli and Safya Belghith	41	DTC-SVM Control for Induction Motor Drives Fed by Sparse Matrix Converter Abdessami Soyed, Ameni Kadri, Kamel Sahayi, Othman Hassnaoui and Faouzi Bacha
11:50-12:10	91	Flow-Loop Testing of Online Oil-in-Water UV-Fluorescence-Based Measurement Stefan Jespersen, Dennis S. Hansen, Zhenyu Yang and Simon I. Andersen	87	Voltage Oriented Control of Three Phase Bidirectional AC/DC Converter Faouzi Tlili and Faouzi Bacha
12:10-12:30	98	Track the finger movements of the human hand through the smart camera to control the Allegro Hand robot. Naji guedri and Rached Gharbi	108	Impact of the MMC level number to reduce THD rate and improve the power quality transmitted to the electrical grid Mansour Baazouzi and Faouzi Bacha
12:30-14:00	Lunch Time			

TIME 14:00 – 15:40		Technical session 6			
		Room DOUGGA https://meet.google.com/hwz-wsdo-rhf		Room BULLAREGIA https://meet.google.com/bpq-zabf-kri	
Sessions 11 and 12		Paper ID	Topic 11 Photovoltaic system Chairs: Mr. Abderrahmen Zaafouri Mr. Khamaeis Bacha	Paper ID	Topic 12 Vehicular Applications Chairs: Mr. Ahmed Rubaai Mrs. Nadia Zanzouri
14:00-14:20	40	Overview and comparatif of maximum power point tracking methods of PV power system Fethi Messaoudi , Fethi Farhani and Abderrahmen Zaafouri	30	Sliding mode control of a Marine Current Turbine driven DFIG-DC conversion system Yosra Smai , Hechmi Ben Azza and Mohamed Jemli	
14:20-14:40	62	Shading effect on the performance of a photovoltaic panel Gharbi Abdelaziz , Ben Regaya Chiheb and Gharbi Rached	38	Improved current Control of Floating Interleaved Boost Converter Dedicated to Vehicular Applications Nassira Barhoumi , Hajer Marzougui and Faouzi BACHA	
14:40-15:00	64	Performance comparison of DC-DC Converters for Photovoltaic System Belgacem Mbarki , Jaouher Chroua, Fethi Farhani and Abderrahmen Zaafouri	39	Rule-Based power sharing strategy for a fuel cell-supercapacitor vehicle Hajer Marzougui , Ameni Kadri and Faouzi Bacha	
15:00-15:20	110	Advanced nonlinear method of a Photovoltaic system connected to the single-phase network Ilhem Bouchriha 1, Ali Ben Ghanem and Khaled Nouri	79	STATCOM/APF Control Using Two Proposed DPC Strategies for Power Quality Improvement Kamel Sayahi and Bacha Faouzi	
15:20-15:40	114	Hydrogen Production Station Using Solar Energy Slah Farhani , El Manaa Barhoumi and Faouzi Bacha			
15:40 – 16:00	Coffee Break				

TIME 16:00 – 17:40	Technical session 7			
	Room DOUGGA https://meet.google.com/ksr-nhmk-gvo		Room BULLAREGIA https://meet.google.com/doj-scsy-fkd	
Topics 13 and 14	Paper ID	Topic 13 Energy technologies Chairs: Mr. Achraf Jabeur Telmoudi Mr. Sami Hafsi	Paper ID	Topic 14 Communication II Chairs: Mr. Amer Zerek Mrs. Kenz Bozed
16:00-16:20	18	Electrical Distribution Architecture and Load Curves Analysis of Audiovisual System Saidi Mohamed , Cherif Habib, Hasnaoui Othman and Belhadj Jamel	57	Implementation and Evaluation of the ACE DTLS framework over Internet of Things Devices Jacob Johansson , Ali Hassan Sodhro and Andrei Gurtov
16:20-16:40	44	Energy management based fuzzy-logic of a reverse osmosis desalination powered with hybrid system Abir ZGALMI , Amine Ben Rhouma, Jamel Belhaj and Habib Cherif	59	Authentication and Key Agreement Protocol for Secure Traffic Signaling in 5G Networks Vincent Omollo Nyangaresi and Zaid Ameen Abduljabbar
16:40-17:00	75	Left invertibility of hybrid dynamical systems: a framework for flying capacitor multilevel converters Sana Othman , Lassaad Sbita, Jean-Pierre Barbot, Mohamad Alaa eddin Alali and Malek Ghanes	76	A class of reduced-complexity hybrid precoding algorithms for MU-MISO OFDM transmission Sander Cornelis , Nele Noelsand Marc Moeneclaey
17:00-17:20	81	Modeling switched behavior to monitor energy based dynamical systems Dhaou Garai , Rafika EL Harabi and Faouzi Bacha	104	Performance evaluation of Pilot-based Channel Estimation for Conventional, Cell-Free, and Small-Cell Massive MIMO networks Jamal Amadid and Abdelouhab Zeroual
17:20-17:40	117	Assessment of Induced Potential on Metallic Pipeline Located Nearby to EHV AC OHTL Ahmed S. AlShahri	100	OIL-VCSEL-Based Microwave-Photonics Transceiver for a Millimeter-Wave Fronthaul Mikhail E. Belkin and Leonid Zhukov

TIME 08:30 – 09:30	Technical session 8			
	Room DOUGA https://meet.google.com/ofg-dnnb-erj		Room BULLAREGIA https://meet.google.com/mvc-vwhb-rwu	
Topics 15 and 16	Paper ID	Topic 15 Observer Chairs: Mr. Anis Sellami Mr. Abderrahmen Zaafouri	Paper ID	Topic 16 Communication III Chairs: Mr. Amer Zerek Mrs. Kenz Bozed
08:30-08:50	27	A discrete second order sliding mode observer using LMI approach Khouloud Elghoul Khadija Dehri, Ridha Ben Abdennour	61	Investigation the Performance Effect of QOS in MPLS-TE Network Kenz A. Bozed , Ahlam Mohammed Elbeskri, Jazia R. Ali Zreg and Amer R. Zerek
08:50-09:10	32	A discrete interval observer for linear system: Application on a real process Tahri Fida , Messaoud Anis, Ben Abdennour Ridha	73	Design of a Modular System for Measurement of Ambient Environmental Parameters MSMAEP for indoor environment quality assessment Mehdi Hadj Sassi , Asma Karoui, Mounir Ayadi and Isam Shahrour
09:10-09:30	82	Observer-based controller for systems with time specifications Amani Added , Maher Ben Hariz, Faouzi Bouani	33	Low voltage low power bulk driven quasi floating gate digital to analog converter Mounira Bchir , Imen Aloui, Nejib Hassen and Kamel Besbes
09:30 - 10:30	<p align="center">Plenary Lecture (Amphitheater DOGGA)</p> <p align="center">Computational Intelligence Teaching-Based FNN PI/PD-Like Fuzzy Control for Industrial Drives: Hardware/Software Implementation</p> <p align="center">Presented by: Prof. Ahmed RUBAAI Fellow IEEE, Professor and Chairperson Electrical Engineering and Computer Science Howard University, Washington, DC, USA. https://meet.google.com/xbt-zcwu-yfc</p>			
10:30 – 10:50	Coffee Break			
10:50-11:30	<p align="center">Closing Ceremony Amphitheater DOUGGA https://meet.google.com/zdq-hndw-umj</p>			

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.
- ✓ Please, note that accepted file formats for all presentations are PDF and PPT.
- ✓ The authors that will present their works online are invited to use the corresponding link and join the session 10 minutes before the starting time. They will be invited by the session chairs to present their papers according to the program.