IEEE 3rd International Conference on

Signal, Control and Communication

SCC 2023

CONFERENCE PROGRAM

December 1-3, 2023, Hammamet, Tunisia

https://scc.ieee.tn/

3rd IEEE International Conference on Signal, Control and Communication SCC 2023

December 1-3, 2023 Hammamet, Tunisia

SCC 2023	Friday, December 1, 2023 (08:00 - 11:30)

Time	Presentations
08:00 – 09:30	**Registration**
09:30 – 10:00	**Opening Ceremony** *Amphitheater Paradis I* *Google Meet Link:* **meet.google.com/sxp-jids-baf**
10:00 - 10:30	**Coffee Break**
10:30 – 11:30	**Plenary Lecture 1** **Amphitheater Paradis I** **Control and Informatics for Smarter Cities and Smarter Energy** **Prof. Michael SHORT** Professor of control engineering and systems informatics at Teesside University in the UK *Google Meet Link:* **meet.google.com/qnc-bazv-nrx**

SCC 2023	Friday, December 1, 2023 (11:30 - 12:30)			
TIME **11:30 – 12:30**	**Technical session 1**			
	Amphitheater Paradis I Google Meet Link: **meet.google.com/xdz-xnqb-esd**		**Room Paradis II** Google Meet Link: **meet.google.com/mdk-btex-cmr**	
Topics 1 and 2	**Paper ID**	**Topic 1** *Control Systems* Chairs: Mrs. Wassila CHAGRA	**Paper ID**	**Topic 2** *Electronics and Communication Engineering* Chairs: Mr. Lazhar FEKIH AHMED
11:30-11:50	12	FOPID corrector tuning with optimization algorithms applied on high order systems **Bilel Kanzari Adel Taieb and Abdelkader Chaari**	04	A Novel CMOS High Frequency Frequency Divider **Yahya Ben Jaoued, Lazhar Fekih-Ahmed and Faouzi Bouani**
11:50-12:10	27	Fuzzy Fractional PI Controller for uncertain Fractional System **Ramzi Bouzaiene, Sami Hafsi and Faouzi Bouani**	85	Design of Compact Dual-Band Smartwatch Antenna for Biomedical Applications. **Rania Rabhi, Hamid Akbari-Chelaresi, Ali Gharsallah and Omar M. Ramahi**
12:10-12:30	99	Design of Robust PID Controllers Based on the Scenario Approach **Ahcene Triki, Ahmed Maidi and Jean-Pierre Corriou**	16	On The Performance of Beamforming Techniques Based On 3D Predefined Codebook Designs in 3GPP Mobile Communication Systems **Sameh Mabrouki, Iyad Dayoub and Marion Berbineau**
12:30-14:00	**Lunch Time**			

SCC 2023	Friday, December 1, 2023 (11:30 - 12:30)	

TIME 11:30 – 12:30	**Technical session 1**	
	Room Firdaws **Google Meet Link :** **meet.google.com/bpv-wyuo-fnf**	
Topic 3	Paper ID	*Computational Intelligence and Machine Learning* Chairs: Mr. Nizar ROKBANI
11:30-11:50	03	Gastrointestinal Endoscopic Image Classification using Transfer Learning **Surajsingh Dookhee**
11:50-12:10	34	Automatic Breast Cancer Exploration using Pre-trained deep Convolutional Neural Networks (CNNs) **Marwa Naas, Hiba Mzoughi, Ines Njeh and Mohamed Ben Slima**
12:10-12:30	44	Optimization Techniques for Indoor Localization: A Multi-Objective Approach to Sampling Time and Error Rate Trade-off **Hamaad Rafique, Davide Patti, Maurizio Palesi, Gaetano Carmelo La Delfa, Vincenzo Catania**
12:30-14:00	**Lunch Time**	

SCC 2023	Friday, December 1, 2023 (14:00 - 16:00)			

TIME 14:00 – 16:00	Technical session 2			
	Amphitheater Paradis I Google Meet Link: meet.google.com/fpv-pymk-vzr		**Room Paradis II** Google Meet Link: meet.google.com/xoz-surr-xxo	
Topics 4 and 5	**Paper ID**	**Topic 4** *Control Systems* Chair: Mr. Michael SHORT	**Paper ID**	**Topic 5** **Electronics and Communication Engineering** Chair: Mr. Bader FETOURI
14:00-14:20	115	Plug-and-Play MARL for SoC and Power Balance Regulation of Heterogeneous BESSs. **Mudhafar A. H. Al-Saadi and Michael Short**	26	Refinement of the Side Information of Distributed Video Coding with Deep Learning **Djamel Eddine Boudechiche and Said Benierbah**
14:20-14:40	49	Design of a low-cost IoT-based wearable system for cardiovascular disease detection and monitoring in Rwanda. **Kellen Sumwiza, Celestin Twizere, Gerard Rushingabigwi, Pierre Bakunzibake, Farian S. Ishengoma**	53	Underwater Acoustic Channel Enhancement based on Diversity and Coding **Bara'ah T. Hawari, Aser M. Matarneh and Saqer S. Alja'afreh**
14:40-15:00	111	Robust Sliding Mode Control of Uncertain Actuated Exoskeleton Arm Subjected to External Disturbances **Mouna Dali Hassen, Nasreddine Bouguila and Hassani Messaoud**	57	Timestamp Accuracy of 10BASE-T1L for TSN Applications **Kilian Brunner Luis Da Silva Miranda and Martin Ostertag**

15:00-15:20	55	Fuzzy control of mobile robot speed for safe and adaptive navigation **Ahlem Maghzaoui, Emna Aridhi, Abdelkader Mami**	87	Design and analysis of a flexible wristband antenna for the internet of medical things (IoMT) applications. **Rania Rabhi, Hamid Akbari-Chelaresi, Ali Gharsallah and Omar M. Ramahi**
15:20-15:40	56	RISE control of Patient-Upper-Limb-Exoskeleton for Passive Rehabilitation. **Afef Hfaiedh, Nahla Khraief, Safiya Belghith**	76	Wideband Filtering Rectangular Dielectric Resonator Antenna (FDRA) For ModernWireless Applications. **Nisrein M. Mar'ei, Saqer S. Alja'Afreh, Amjaad T Altakhaineh, Aser M. Almatarneh and Eqab Almajali**
15:40-16:00	58	Modeling and speed control of a DC motor using an FPGA circuit for a small robotic prosthesis **Emna Aridhi, Kaouther Laabidi, Abdelkader Mami**		
16:00-16:30	Coffee break			

Friday, December 1, 2023 (14:00 - 16:00)

TIME 14:00 – 16:00		**Technical session 2**	
	Room Firdaws Google Meet Link: **meet.google.com/xcy-wmkd-fjm**		
Topic 6	Paper ID	*Computational Intelligence and Machine Learning* Chair: Mr. Lokman SBOUI	
14:00-14:20	93	A New Approach for Real-Time Camera-Object Distance Measurement through Computer Vision **Boulbaba Guedri, Naji Guedri and Rached Gharbi**	
14:20-14:40	72	Intelligent Visual Tracking Robots Using Cascade PID Controllers. **Rihem Farkh, Ghislain Oudinet, Florian Sananes, Sultan Alzahrani, Saad Alhuwaimel and Thibaut De leruyelle**	
14:40-15:00	32	Detection of Breast Cancer Using Machine Learning Approach **Nagesh Sharma and Sandeep Singh Kang**	
15:00-15:20	41	Adaptive transmit power control as a mitigation technique of rain attenuation in the tropics. **Wafula Herman, Alowo Kelly, Mark Ssemuju, and Abel Kamagara**	

15:20-15:40	94	Enhancing Biometric Authentication Efficiency: A Hybrid Approach Exploiting Iris Modality and Leveraging One-Class SVM. **Hadil Eltaif, Yacine Yaddaden, Raef Cherif and Yacine Benahmed**	8
15:40-16:00	79	Design and Implementation of a Digital Twin Testbed for Smart Warehouse Operations **Sirajeddine Aouani, Dorsaf Daldoul, Lokman Sboui and Amin Chaabane**	
16:00-16:30	Coffee break		

SCC 2023	Friday, December 1, 2023 (16:30 - 17:50)			
TIME **16:30 – 17:50**	**Technical session 3** **Online Session**			
	Amphitheater Paradis I meet.google.com/nxn-bhxz-zbs		**Room Paradis II** meet.google.com/jsm-cbdq-ndq	
Topics **7 and 8**	**Paper ID**	**Topic 7** *Computational Intelligence and Machine Learning* Chair: Mr. Sadok BEN YAHIA	**Paper ID**	**Topic 8** *Electronics and Communication Engineering* Chair: Miss. Sana AHMED ABDALJLIL
16:30-16:50	46	Towards a pre-trained Question-Answering language model for Kinyarwanda **Diane Tuyizere, Felicien Ihirwe, Remy Ihabwikuzo, Guda Blessed and Edith Luhanga**	09	Microwave Absorbers Based on Aluminum Shavings **Olga Boiprav, Sana Ahmed Abdaljlil, Amer Zerek and Vladislav Chelyadinsky**
16:50-17:10	81	SVM model-based digital system for malaria screening and parasite monitoring. **Ivanie Stella Umuhoza and Carine Mukamakuza**	116	Novel Approach to Enhance Spectral Width of the Interrogating Signal for Reading Ultrawideband Chipless RFID Tags. **Rajender Rathod, Gabriele Ciarpi and Daniele Rossi**
17:10-17:30	88	Angle-Based Dictionary Learning for Outlier Detection **Denis C. Ilie-Ablachim, and Bogdan Dumitrescu**	75	Smart Anchor Buoy: Design and Implementation **Januš Likozar and Aleš Jaklič**
17:30-17:50	02	Advancing Continuous Authentication Using Smart Real-Time User Activity Fingerprinting **Mehdi Mekni and Charles R. Barone**	108	A Novel Compact Microstrip Antenna for UAV's Real Time Applications Using Millimeter-Waves Band. **Abderraoufe Zerrouk, Mohamed Lamine Tounsi and Mustapha Yagoub**

Friday, December 1, 2023 (16:30 - 17:30)

TIME 16:30 – 17:30	**Technical session 3**		
	Room Firdaws **meet.google.com/oia-hcdv-wfo**		
Topic 9	**Paper ID**	**Topic 9** ***Optimization of Industrial Systems*** Chair: Mr. Lokman SBOUI	
16:30-16:50	52	Forecasting Laptop Prices in the Tunisian Market through Machine Learning Techniques **Balti Ala, Manai Yassin and Lakhoua Mohamed Najah**	
16:50-17:10	77	Schematic Diagnosis Applied on a PV Irrigation System Design Demeanor Optimization **Siwar Bellahirich, Dhafer Mezghani and Abdelkader Mami**	
17:10-17:30	47	Modified hybrid PSO–FL MPPT for Photovoltaic Systems Under Partial Shading Conditions **Mahbouba Brahmi, Chiheb Ben Regaya, Afef Marai Ghanmi, Hichem Hamdi, Abderrahmen Zaafouri**	

TIME 09:00 – 10:00	Technical session 4			
	Amphitheater Paradis I meet.google.com/dyc-thyr-xox		**Room Paradis II** meet.google.com/fmi-citb-wfd	
Topics 10 and 11	**Paper ID**	**Topic 10** *Electronics and Communication Engineering* Chair: Mr. Ala BALTI	**Paper ID**	**Topic 11** *Control systems* Chair: Mr. Anis SELLAMI
09:00-09:20	134	Field Strength Averaging Schemes Performance Quantification in the Near-field for FM Frequencies **Bader Fetouri**	78	A comparative Study of Energy Control Strategies for Photovoltaic-Battery Systems. **Afef Ghanmi Ben Marai, Brahmi Mahbouba, Ben Regaya Chiheb and Abderrahmen Zaafouri**
09:20-09:40	30	Analyzing BER Performance of 2x2, 3x3 and 4x4 MIMO Concatenated 8-PSK with and without TCM Coding over Fading Channel Using Simulation Method **Sana A. Abdaljlil, Amer Zerek, Olga Boiprav and Albatool Elmezwghi**	80	Output-Feedback Sliding Mode Control for Systems with Uncertainty **Sana Belguith, Borhen Torchani, Anis Sellami and Germain Garcia**
09:40-10:00	114	IoT design and water monitoring of an aquaponic system **Asma Takrouni Hedfi, Mohamed Houmia and Kaouther Laabidi**	84	Predictive control of an orthosis based on the Laguerre model and the Hildreth algorithm. **Hmida Hmaied, Sami Hafsi and Faouzi Bouani**
10:00-10:30	Coffee break			

TIME 09:00 – 10:00	Technical session 4		
	Room Firdaws meet.google.com/wgb-ijkh-ypz		
Topics 12	**Paper ID**	**Topic 12** *Smart Grids and power systems* Chair: Mr. Jamel BELHADJ	
09:00-09:20	65	Islanded Microgrid Frequency Control in Presence of HVDC-Connected Marine Power Plant Coordinated with Optimal Fuzzy-PID and Hybrid Energy Storage Devices. **Nour El Yakine Kouba and Slimane Sadoudi**	
09:20-09:40	66	Technologies and Configuration of Charging infrastructure for battery electric vehicles- An overview. **Yassine Trabelsi, Bilel Touaiti and Hechmi Ben Azza**	
09:40-10:00	100	Behavior of DFIG based Wind Turbine during Symmetric dips with crowbar and sliding mode control solution. **Bechir Fatnassi, Borhen Torchani, Anis Sellami and Germain Garcia**	
10:00-10:30	Coffee break		

Time	Plenary Lecture 2
10:30 - 11:30	**Amphitheater Paradis I** **Resilient Data-Driven enabled Zero-touch framework for urban mobility** **Prof. Sadok BEN YAHIA** Full Professor at the Southern Denmark University (SDU) meet.google.com/ixr-ysak-emh

SCC 2023	Saturday, December 02, 2023 (11:30-12:30)

TIME 11:30 – 12:30	Technical session 5				
	Amphitheater Paradis I meet.google.com/gjf-iefn-oti			**Room Paradis II** meet.google.com/jjp-sufx-fpu	
Topics 13 and 14	**Paper ID**	**Topic 13** *Optimization of Industrial Systems* Chair: Mrs. Imen HARBAOUI	**Paper ID**		**Topic 14** *Computational Intelligence and machine Learning* Chair: Mr. Achraf J. TELMOUDI
11:30-11:50	98	Enhancing State of Charge Estimation in Ni-MH Batteries through a Hybrid Approach Incorporating RRBF and K-means **Jaouher Chrouta, Donya Souidi and Achraf jabeur**	101		Development of a Fall Detection System Based on a Tri-axial Accelerometer **Samer Lahouar, Mounir Mansour and Mohamed Hadj Said**
11:50-12:10	118	Data acquisition system for hydroponic culture: A C omprehensive S tudy and Implementation of Scale Model **Radhwen Ben Kahla, Imen Harbaoui and Feiza Ghzail**	95		Machine Learning-Based Pre-Diagnosis Tools in Emergency Departments: Predicting Hospitalization, Mortality and Triage Acuity **Yacine Yaddaden, Yacine Benahmed, Marc-Denis Rioux and Mariem Kallel**

| 12:10-12:30 | 128 | Multi-Objective Optimization of a Hybrid system feeding a large scale SWRO desalination plant.
Mohamed Hamdi, Oumayma Gtari, Majdi Hazami and Daoued Mihoubi | 96 | A Hybrid Approach based on CNN and Extremely Randomized Trees for the Diagnosis of Alzheimer's Disease Stages from MRI Images.
Mahdi Baccar, Yacine Yaddaden, Mohamed Arbane and Raef Cherif |
| 12:30-14:00 | **Lunch Time** | | | |

SCC 2023
Saturday, December 2, 2023   (11:30 - 12:30)

TIME 11:30 – 12:30	**Technical session 5** **Online session**		
	Room Firdaws meet.google.com/wpt-irgw-qyx		
Topic 15	Paper ID	**Topic 15** *Control Systems* Chair: Mr. Jaouher CHROUTA	
11:30-11:50	50	A Hybrid Set-theoretic Method for Guaranteed State Estimation of Nonlinear Discrete-time Systems **Jian Wan**	
11:50-12:10	104	MPC-Based Efficient Energy Control and Cost Estimation of HVAC in Buildings. **Saad Abobakr, Mahmud Alosta, Mohamed Amine Abdelkefi, Amine Elkaouachi and Lokman Sboui**	

12:10-12:30	83	Analysis and Characterization of Electromagnetic Reverberation Chamber with Metamaterial Walls. **Jeudy Kean, Nathalie Raveu, Hamza Kaouach, Sokchenda Sreng and Kosorl Thourn**	5
12:30-14:00	**Lunch Time**		

SCC 2023	Saturday, December 2, 2023 (14:00 - 16:00)

TIME 14:00-15:00	**Plenary Lecture 3** **Amphitheater Paradis I** meet.google.com/mwq-hedy-vap

From the conventional grid towards smart grids: What is the position of Tunisia, what are the challenges and prospects for scientific research?

Prof. Jamel BELHADJ
University of Tunis

TIME 15:00-16:00	**Plenary Lectures 4 and 5** **Amphitheater Paradis I** meet.google.com/mwq-hedy-vap

Recent contributions on Artificial Intelligence in Digital Health

Mr. Bassem BOUAZIZ
University of Sfax

Academic and Industrial Entrepreneurship and Networking in the Field of IoT

Dr. Ali BEHRAVAN
University lecturer, University of Siegen, Germany

16:00-16:30	Coffee break

Saturday, December 2, 2023   (16:30 - 17:50)

TIME 16:30 – 17:50	Technical session 6			
	Amphitheater Paradis I meet.google.com/wuw-ikby-ovh		**Room Paradis II** meet.google.com/jrh-hczj-enh	
Topics 16 and 17	**Paper ID**	**Topic 16** *Control Systems* Chair: Lotfi CHAOUCH	**Paper ID**	**Topic 17** *Computational Intelligence and Machine Learning* Chair: Imen HARBAOUI
16:30-16:50	132	A comparative study between multiple affine models and nonlinear model in Predictive Control. **Houda Mezrigui and Wassila Chagra**	133	Protecting Patient Privacy with Encrypted Federated Learning Models. **Tarhouni Mounira, Fedwa Mansouri, Bechir Alaya and Salah Zidi**
16:50-17:10	131	Metaheuristic methods for determining the low order controller's gain. **Maher Ben Hariz and Faouzi Bouani**	102	Probabilistic Roadmap-Based 3D Path Planning of Autonomous Underwater Vehicles. **Ali Arifi, Soufiene Bouallegue and Julien Lepagnot**
17:10-17:30	117	A Comparative Study Between Fuzzy Logic and Particle Swarm Optimization Based on MPPT Algorithms. **Houssine El Hammedi, Jaouher Chrouta, Khaterchi Hechmi and Abderrahmen Zaafouri**	112	Application of Extreme Learning Machine for Shunt Faults Detection and Classification in Three-phase Transmission Line Systems. **Khaoula Assadi, Jihane Ben Slimane and Salah Salhi**
17:30-17:50	40	Modeling and Simulation of Smart Home Appliances Energy Consumption. **Naziha Labiadhm, Imen Amdouni and Lilia El Amraoui**		

Saturday, December 2, 2023   (16:30 - 17:50)

TIME 16:30 – 17:50		**Technical session 6** Online Session	
		Room Firdaws meet.google.com/bdw-whwr-yoo	
Topic 18	Paper ID	**Topic 18** *Electronics and Communication Engineering* Chairs: Mr. Amer R. ZEREK	
16:30-16:50	37	A Study Analysis of VoIP Traffic Between RIP and OSPF Using OPNET. **Raja M. Shihoub, Sana A. Abdaljlil, Fatima Laassiri and Amer R. Zerek**	
16:50-17:10	51	Task Offloading and Processing Optimization in Blochchain-Fog Computing Network. **Walaa Abdelatti and Nada Elshiekh**	
17:10-17:30	103	WSN-Based Data-Driven Digital Twin for Energy Efficient HVAC Systems. **Mahmud Alosta, Saad Abobakr, Amine Elkaouachi and Lokman Sboui**	
17:30-17:50	42	EMF Compliance Distance Calculation Enhancement for Multi-Technology Mobile Site **Mohammed S. Elbasheir, Rashid A. Saeed, Salaheldin Edam, Othman Khalifa, Nidhal Odeh and Zeinab E. Ahmed**	

SCC 2023	Sunday, December 03, 2023 (09:00-10:00)			

TIME 09:00 – 10:00	Technical session 7			
	Amphitheater Paradis I meet.google.com/yhs-kcke-kmo		**Room Paradis II** meet.google.com/bfk-ocpw-oum	
Topics 19 and 20	**Paper ID**	**Topic 19** *Control Systems* Chair: Maher BEN HARIZ	**Paper ID**	**Topic 20** *Electronics and Communication Engineering* Chair: Mounir SAYADI
09:00-09:20	54	Energy Management System of the Plug-in Hybrid Electric Vehicle PHEV **Dalinda Dhifaoui, Houda Jouini and Abdelkader Mami**	18	Numerical Investigation of a New SnS absorber film based on back grooves and metallic nanoparticles strategies. **Hichem Ferhati and Fayçal Djeffal**
09:20-09:40	64	Control of Patient-Upper-Limb-Exoskeleton: Stability and Robustness Analysis. **Afef Hfaiedh, Sana Bembli, Nahla Khraief and Safya Belghith**	39	Synergetic Control for DC-Link Voltage Regulator of Three Phase Inverter Grid-Tied PV System **Fethi Messaoudi, Fethi Farhani and Zaafouri Abderrahmen**
09:40-10:00	71	Analyzing and comparative study of the efficiency of Maximum Power Point Tracking (MPPT) techniques in photovoltaic systems under variable irradiance and temperature. **Houssine El Hammedi, Jaouher Chrouta and Abderrahmen Zaafouri**	122	Study and design of an adaptor stage to extract maximum power from a PV module. **Zied Khammassi, Med Hedi Moulehi, Jaouher Chrouta, Abderrahmen Zaafouri**

TIME 09:00– 10:20		Technical session 7	
		Room Firdawes meet.google.com/iad-pdvg-zdh	
Topic 21	**Paper ID**	**Topic 21** *Optimization of Industrial Systems* Chair: Mrs. Sondes HAMMAMI	
09:00-09:20	73	Periodic Vehicle Routing Problem with time windows for Home Dialysis Care. **Haifa Nouira, Sondes Hammami, Gilles Goncalves, Adnen Elamraoui, Hanen Bouchriha**	
09:20-09:40	120	The production tracking process in a real textile company. **Souha Ben Amara, Mariam Hammouda, Nada Kharroubi and Sondes Hammami**	
09:40-10:00	123	Towards baseline sustainability scenario development for the agri-food supply chain in the Mediterranean area. **Safa Chabouh, Lilia Sidhom and Abdelkader Mami**	
10:00-10:20	24	Dynamic Economic Load Dispatch Problems in Microgrid with Renewable Energy Sources Using Tunicate Swarm Algorithm. **Larouci Benyekhlef and Kasdi Merbah**	

	Sunday, December 03, 2023
TIME **10:45-11:15**	**Closing Ceremony** **Amphitheater Paradis I** **meet.google.com/rnc-kibq-syp**

11:15-11:30	Coffee break

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.