

**Program at Glance of the International Conference
on Smart Applications, Communications and Networking
(SmartNets-2019)
December 17-19, 2019 – Sharm El Sheikh, Egypt**

	Time	Event
Day 1 – Tuesday December 17, 2019	8:15 am – 9:00 am	Registration
	9:00 am – 9:30 am	Opening Ceremony Prof. Yassir Higazi (Honorary General Chair) Profs. Nidal Nasser & Walaa Hamouda (General Chairs) Prof. Tarek Bejaoui (Program Chair)
	09:30 am – 10:30 am	Keynote Speaker 1: Prof. Moustafa Youssef (Alexandria University, Egypt)
	10:30 am – 11:00 am	Coffee Break
	11:00 am – 12:00 pm	Keynote Speaker 2: Prof. Ahmed Meddahi (Institut Mines-telecom Lille Douai, France)
	12:00 pm – 1:30 pm	Lunch
	1:30 pm – 3:30 pm	Session A1: Artificial Intelligence & Machine Learning
		Session A2: Internet-of-Things Based Smart Cities & Applications I
		Session A3: Security and Privacy
	3:30 pm – 4:00 pm	Coffee Break
4:00 pm – 5:30 pm	Tutorial 1- Speaker: Prof. Tallal Elshabrawy (German University in Cairo, Egypt)	
Day 2 – Wednesday December 18, 2019	8:15 am – 9:00 am	Registration
	9:00 am – 10:00 am	Keynote Speaker 3: Prof. Haitham Hamza (Cairo University, Egypt)
	10:00 am – 10:30 am	Coffee Break
	10:30 am – 11:30 am	Keynote Speaker 4: Prof. Abdallah Shami (Western University Ontario, Canada)
	11:30 am – 1:30 pm	Lunch & Awards Ceremony
	1:30 pm – 3:30 pm	Session B1: Machine Learning & Data Analytics
		Session B2: Internet-of-Things Based Smart Cities & Applications II
		Session B3: Next Generation Networks and Communications
	3:30 pm – 4:00 pm	Coffee Break
	4:00 pm – 5:30 pm	Tutorial 2- Speaker: Prof. Sharief Oteafy (DePaul University, USA)

	7:00 pm	Gala Dinner
Day 3 – Thursday December 19, 2019	9:00 am – 09:45 am	Keynote Speaker 5: Prof. Ali Idri (Mohamed V University, Morocco)
	09:45 am – 10:15 am	Coffee Break
	10:15 am – 11:00 pm	Keynote Speaker 6: Prof. Abderrahim Benslimane (Avignon University, France)
	11:00 pm – 11:15 pm	Short Break
	11:15 am – 12:45 pm	Session C1: Software-Defined Network-based Vehicular Networks and Communications
		Session C2: Internet-of-Things Based Smart Cities & Applications III
	12:45 pm – 1:00 pm	Closing Ceremony
	1:00 pm	Lunch
		Enjoy Sharm El Sheikh

**Technical Program of the International Conference
on Smart Applications, Communications and Networking
(SmartNets-2019)
December 17-19, 2019 – Sharm El Sheikh, Egypt**

Day 1 – Tuesday December 17, 2019	
Time	Event
8:15am –9:00 am	Registration
9:00 am – 09:30 am	Opening Ceremony Prof. Yassir Higazi (Honorary General Chair) Profs. Nidal Nasser & Walaa Hamouda (General Chair) Prof. Tarek Bejaoui (Program Chair)
09:30 am – 10:30 am	Keynote Speaker 1: Prof. Moustafa Youssef (Alexandria University, Egypt) <i>Title: "Sensor-less Sensing: The Future of Ubiquitous Context-Awareness for the IoT"</i> <i>Chair: Prof. Walaa Hamouda (Concordia University, Canada)</i> <i>Room: Main Conference Room</i>
10:30 am – 11:00 am	Coffee Break
11:00 am – 12:00 pm	Keynote Speaker 2: Prof. Ahmed Meddahi (Institut Mines-Telecom Lille Douai, France) <i>Title: "SDN/NFV for IoT: Challenges and Perspectives"</i> <i>Chair: Prof. Tarek Bejaoui (University of Carthage, Tunisia)</i> <i>Room: Main Conference Room</i>
12:00 pm – 1:30 pm	Lunch
1:30 pm – 3:30 pm	Session A1: Artificial Intelligence & Machine Learning <i>Room: Main Conference Room</i> <i>Chair: Prof. Khalid Elgazzar (Ontario Tech University, Canada)</i> 1. Urban Intelligent Navigator for Drone Using Convolutional Neural Network (CNN) <i>Kamarulafizam Ismail (Universiti Teknologi Malaysia, Malaysia); Ibrahim Gamal Mahmoud Ibrahim Moteir (Universiti Teknologi Malaysia, Saudi Arabia); Fazila Mohd Zawawi (Universiti Teknologi Malaysia, Malaysia)</i>

2. **Google Traces Analysis for Deep Machine Learning Cloud Elastic Model**
Tariq Daradkeh and Anjali Agarwal (Concordia University, Canada); Nishith Goel (Cistel, Canada); Andrew J. Kozlowski (Cistech Ltd., Canada)

3. **Employee Readiness Towards Artificial Intelligence in Sri Lankan Banking Context**
Mathipriya Baskaran and Prashan Chryshanthus Rodrigo (Sri Lanka Institute of Information Technology, Sri Lanka); Mohamed Minhaj Imthiyaz (Sri Lankan Institute of Information Technology, Sri Lanka); Abiylackshmana Prabakaran (Sri Lanka Institute of Information Technology (SLIIT), Sri Lanka); Kahandawa Arachchige Dona Chathurangika Kahandawaarachchi (Sri Lanka Institute of Information Technology, Sri Lanka)

4. **Evaluation of Deep Learning in Detecting Unknown Network Attacks**
Ulya Sabeel (Ontario Tech University, Canada); Shahram Shah Heydari (University of Ontario Institute of Technology, Canada); Harsh Mohanka (Ontario Tech University, Canada); Yasmine Bendhaou (OntarioTech University, Canada); Khalid Elgazzar (Ontario Tech University, Canada); Khalil El-Khatib (University of Ontario Institute of Technology, Canada)

5. **Wireless Sensor Network and Deep Learning for Prediction Greenhouse Environments**
Asmaa Ali (Queen's University School of Computing, Canada); Hossam S. Hassanein (Queen's University, Canada)

Session A2: Internet-of-Things Based Smart Cities & Applications I

Room: Room 1

Chair: Prof. Hatem Ben Sta (University of Carthage, Tunisia)

1. **From IEEE 11073 SDC Device Specializations to Assistive Systems: Rule-based Data Analysis for Minimal Invasive Surgery**
Martin Kasparick and Björn Butzin (University of Rostock, Germany); Frank Golatowski (University of Rostock & Institute of Applied Microelectronics and Computer Engineering, Germany); Jonas Pabst (University of Rostock, Germany); Hans-Joachim Cappius and Peter Westerhoff (WORLD OF MEDICINE GmbH, Germany); Björn Andersen (Universität zu Lübeck, Germany); Dirk Timmermann (University of Rostock, Germany)

2. **Management of Smart Water Treatment Plant Using IoT Cloud Services**
Hatem Yousry (Akhbar El Yom Academy (AYA) & American University in Cairo (AUC), Egypt)

3. **Towards A Smart Farming for Early Detection of Fall Armyworm Pest**
Probus M. A. F Kiki (Université d'Abomey-Calavi, Benin); Kokou Assogba (Ecole Polytechnique d'Abomey-Calavi (EPAC), Benin); Sèmèvo Arnaud R. M. Ahouandjinou (Institut de Formation et de Recherche en Informatique (IFRI), Benin)

4. Predicting Cardiac Anomalies Using Probabilistic Models on Historical Electrocardiogram Data

Asim Darwaish (Paris Descartes University, France); Farid Nait-Abdesselam (University of Missouri Kansas City, USA); Ashfaq Khokhar (Iowa State University, USA)

5. A Secure Blockchain-based Prescription Drug Supply in Healthcare Systems

Bidi Ying (University of Ottawa & Zhejiang Gongshang University, China); Wen Sun (Zhejiang Gongshang University, China); Amiya Nayak (SITE, University of Ottawa, Canada); Nada Radwan Mohsen (University of Ottawa, Canada)

6. A Neural Network Based Visible Light Communication Indoor Positioning System for Moving Users

Wafaa Sayed Ebrahim (Cairo University & Faculty of Engineering, Egypt); Tawfik Ismail and Khaled Elsayed (Cairo University, Egypt)

Session A3: Machine Learning & Data Analytics

Room: Room 2

Chair: Prof. Ahmed Zellou (ENSIAS, Morocco)

1. Addressing Cold Start Challenges in Recommender Systems: Towards A New Hybrid Approach

Nouhaila Idrissi (AMIPS Research Team - EMI, Mohammed V University, Rabat, Morocco); Ahmed Zellou (ENSIAS, Morocco)

2. The Effects of Demographic Variables on Master Data Quality Management to Improve Service Delivery

Tshegofatso Hutang (Pretoria & Tshwane University of Technology, South Africa)

3. Performance Analysis of OpenStack Controller

Priyatosh Mandal (Centre for Development of Telematics, New Delhi, India); Rekha Jain (C-DOT, India); Vaibhav Surwade (CDOT, India)

4. A Novel Data Cleansing Approach for Sensitive Applications of Wireless Sensor Networks

Chafiq Titouna (Paris Descartes University, France); Farid Nait-Abdesselam (University of Missouri Kansas City, USA); Ashfaq Khokhar (Iowa State University, USA)

5. Egyptian Case Study-Sales Forecasting Model for Automotive Section

Karim Adel (Helwan University, Egypt)

	<p>6. Comparison of OpenStack Orchestration Procedures <i>Priyatosh Mandal (Centre for Development of Telematics, New Delhi, India); Rekha Jain (C-DOT, India)</i></p>
3:30 pm – 4:00 pm	Coffee Break
4:00 pm – 5:30 pm	<p>Tutorial 1- Speaker: Prof. Tallal Elshabrawy (German University in Cairo, Egypt)</p> <p><i>Title: "Technical Breadth and Depth of LoRa Technology"</i></p> <p><i>Room: Main Conference Room</i></p>

Day 2 – Wednesday December 18, 2019	
Time	Event
8:15 am–9:00 am	Registration
9:00 am – 10:00 am	<p>Keynote Speaker 3: Prof. Haitham Hamza (Cairo University, Egypt)</p> <p>Title: “A Closer Look at IoT Platforms”</p> <p>Chair: Prof. Nidal Nasser (Alfaisal University, KSA)</p> <p>Room: Main Conference Room</p>
10:00 am – 10:30 am	Coffee Break
10:30 am – 11:30 am	<p>Keynote Speaker 4: Prof. Abdallah Shami (Western University Ontario, Canada)</p> <p>Title: “Leveraging Cloud-based Virtualized Platforms Towards Quality-Driven Next-Generation Mobile Networks”</p> <p>Chair: Prof. Ahmed Zellou (ENSIAS, Morocco)</p> <p>Room: Main Conference Room</p>
11:30 am – 1:30 pm	Lunch& Awards Ceremony
1:30 pm – 3:30 pm	<p>Session B1: Next Generation Networks and Communications</p> <p>Room: Main Conference Room</p> <p>Chair: Prof. Amin Zribi (University of Carthage, Tunisia)</p> <ol style="list-style-type: none"> Arithmetic Coding for Length-constrained Joint Source Compression and Error Detection Zribi Amin (Higher Institute of Communication Technology & Telecom Bretagne, Tunisia) Applying Convolutional Neural Networks for Image Detection Abdel-Fatah Karam Abdel-Fatah (Faculty of Graduate Studies for Statistical Research, Cairo University, Egypt); Mohamed Alsayed Embaby, eng (EGSA); Ammar Mohammed (Cairo University, Egypt); Hazem Elkady (Faculty Of Graduate Studies For Statistical Research Cairo University, Egypt); George Adly (Faculty Of Graduate Studies For Statistical Research Cairo University); Samir Abdel-Hafeez (Faculty of Graduate Studies for Statistical Research, Cairo University, Egypt) Including Nonlinear SPM and XPM Effects on the Optical MIMO Systems Ichraf Chatti (Tunisia Polytechnic School, Tunisia); Faïçal Baklouti (SERCOM Laboratory, Tunisia); Rabah Attia (Enit, Tunis Tunisia, Tunisia) Comparing Energy Efficiency of Spectrum Sharing Paradigms Aaqib Patel (Indian Institute of Technology Hyderabad, India); Mohammed Zafar Ali Khan (Indian Institute of Technology, Hyderabad, India)

5. Modeling and Scheduling with DAG the Tasks in ME with OVP

Afef Salhi (Centre de Recherche en Numérique de Sfax "CRNS", Tunisia & Université de Pierre et Marie & Curie "UPMC", France)

6. GOP Encoding Structure in H264/AVC for Video Transmission over Ultra Wide Band IEEE 802.15.3C

Asma Ben Abdallah (Higher School of Communication of Tunis, Tunisia); Ali Dziri (Le CNAM, France); Zribi Amin (Higher Institute of Communication Technology & Telecom Bretagne, Tunisia)

Session B2: Internet-of-Things Based Smart Cities & Applications II

Room: Room 1

Chair: Prof. Sèmèvo Arnaud R. M. Ahouandjinou (Institut de Formation et de Recherche en Informatique (IFRI), Benin)

1. Enhancing the Capture Capabilities of LoRa Receivers

Phoebe Edward (German University in Cairo, Egypt); Abdullah Muhammad (The German University in Cairo, Egypt); Sondos Elzeiny (German University in Cairo, Egypt); Mohamed Ashour (GUC, Egypt); Tallal Elshabrawy (The German University in Cairo, Egypt); Joerg Robert (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany)

2. LoRa Gateway Placement at the University of Zululand: A Case Study

Smangaliso Mnguni, Pragasen Mudali, Nombuso Sibeko and Matthew Adigun (University of Zululand, South Africa)

3. Sustainable Security for Internet of Things

Michele De Donno, Krzysztof Mateusz Malarski, Xenofon Fafoutis, Nicola Dragoni, Martin Nordal Petersen, Michael S. Berger and Sarah Ruepp (Technical University of Denmark, Denmark)

4. Performance Analysis of Random Access Channel Periodicity in the NB-IoT System

Maha Medhat (Azhar, Egypt); Khaled El-Shafey (Al Azhar University, Egypt); Ali Rashed (Azhar, Egypt)

5. Traffic Sign Recognition Using Neural Networks Useful for Autonomous Vehicles

Jihene Rezgui (College Maisonneuve, Canada); Amal Hbaieb (ISIMS, Tunisia); Lamia Chaari (University of Computer Science and Multimedia of Sfax & Laboratory of Technologies for Smart Systems at Digital Research Center of Sfax (CRNS), Tunisia); Julien Maryland (College Maisonneuve, Canada)

	<p>Session B3: Security and Privacy</p> <p>Room: Room 2 Chair: Prof. Raaed Khalid Ibrahim (Foundation of Technical Education & Engineering, Iraq)</p> <ol style="list-style-type: none"> 1. Efficient Hardware/Software Co-Design of Elliptic-Curve Cryptography for the Internet of Things <i>Ahmad Salman and Samy S. El-Tawab (James Madison University, USA)</i> 2. Securing Document by Digital Signature Through RSA and Elliptic Curve Cryptosystems <i>Nelson Josias Gbetoho Saho (University of Abomey-Calavi, Benin); Eugène C. Ezin (Institut de Formation et de Recherche en Informatique, Université d'Abomey-Calavi, Benin)</i> 3. Detection of False Data Injection Attacks on CPS Using Coded Cosine Similarity Tests <i>Yeshwanth Manchuri (Indian Institute of Technology Hyderabad); Aaqib Patel (Indian Institute of Technology Hyderabad, India); Mohammed Zafar Ali Khan (Indian Institute of Technology, Hyderabad, India)</i> 4. Implementation of Cryptanalysis Based on FPGA Hardware Using AES with SHA-1 <i>Sara AL-Sharea (Altinbas University, Turkey); Raaed Khalid Ibrahim (Foundation of Technical Education & Engineering, Iraq); Oguz Bayat (Altinbas University, Turkey)</i> 5. Privacy-Preserving Smart Parking System Using Blockchain and Private Information Retrieval <i>Wesam Al Amiri (Tennessee Tech University, USA); Mohamed Baza (Tennessee Technological University, USA); Karim A. Banawan (Alexandria University, Egypt); Mohamed M E A Mahmoud (Tennessee Tech University, USA); Waleed Alasmay (Umm Al-Qura University, Saudi Arabia); Kemal Akkaya (Florida International University, USA)</i> 6. Cyber Threats and Policy to Industrial Control Systems <i>Mohamed Mesbah, Consultant (Nile University & ZinadIT, Egypt); Marianne Azer (National Telecommunication Institute + Nile University, Egypt)</i>
3:30 pm – 4:00 pm	Coffee Break
4:00 pm – 5:30 pm	<p>Tutorial 2- Speaker: Prof. Sharief Oteafy (DePaul University, USA)</p> <p>Title: "Towards Convergent IoT proliferation: Standards and Leading Architectures"</p> <p>Room: Main Conference Room</p>
7:00 pm	Gala Dinner

Day 3 – Thursday December 19, 2019	
Time	Event
9:00 am – 9:45 am	<p>Keynote Speaker 5: Prof. Ali Idri (Mohamed V University, Morocco)</p> <p><i>Title: “Mobile Applications for Reproductive Health Services”</i></p> <p><i>Chair: Prof. Hatem Ben Sta (University of Carthage, Tunisia)</i></p> <p><i>Room: Main Conference Room</i></p>
9:45 am – 10:00 am	Coffee Break
10:00 am – 10:45 am	<p>Keynote Speaker 6: Prof. Abderrahim Benslimane (Avignon University, France)</p> <p><i>Title: “Monitoring and optimization challenges for Security issues”</i></p> <p><i>Chair: Prof. Eoghan Furey (Letterkenny Institute of Technology, Ireland)</i></p> <p><i>Room: Main Conference Room</i></p>
10:45 am – 11:15 am	Short Break
11:15 am – 12:45 pm	<p>Session C1: Software-Defined Network-based Vehicular Networks and Communications</p> <p><i>Room: Main Conference Room</i></p> <p><i>Chair: Juanita Blue (University of Ulster, UK & ERNACT, Ireland)</i></p> <ol style="list-style-type: none"> <p>1. Vehicles Classification and Brand Recognition Using Convolution Network and Neural Networks</p> <p><i>Jihene Rezgui, Simon Dazé and Gaya Mehenni (College Maisonneuve, Canada)</i></p> <p>2. An SD-WAN Solution Assuring Business Quality VoIP Communication for Home Based Employees</p> <p><i>Damian Radcliffe and Eoghan Furey (Letterkenny Institute of Technology, Ireland); Juanita Blue (University of Ulster, United Kingdom (Great Britain) & ERNACT, Ireland)</i></p> <p>3. Design New Collision Resistant Hash Function for Blockchain in V2V Communication</p> <p><i>Ammar Elsaed (The Arab Academy for Science, Technology and Maritime Transport, Egypt); Mohamed Megahed (University of Ottawa, Egypt); Mohamed Abd El-Azeem (The Arab Academy for Science, Technology and Maritime Transport, Egypt)</i></p> <p>4. Smart Traffic Light Scheduling Algorithms</p> <p><i>Jihene Rezgui (College Maisonneuve, Canada); Mamadu Guennady Barri (Collège de Maisonneuve, Canada); Reiner Gayta (College Maisonneuve, Canada)</i></p>

	<p>5. Downlink Joint Processing for Non Orthogonal Multiple Access <i>Islam Atef (Smouha, 28 tot ankh amon & Faculty Of Engineering, Egypt)</i></p> <hr/> <p>Session C2:Internet-of-Things Based Smart Cities & Applications III</p> <p>Room: Room 1 Chair:Prof. George Shaker (University of Waterloo & Spark Tech Labs, Canada)</p> <p>1. Developing Smart Sustainable Cities: a Validated Transformation Framework <i>Maysoun Ibrahim (Smart Sustainable Cities Researcher, Palestine)</i></p> <p>2. Batteryless Wireless Water Leak Detection System <i>George Shaker (University of Waterloo & Spark Tech Labs, Canada); Oliver Witham, Levi Johnston, Jiayn Feng, Ming Xiao and Norman Zhou (UWaterloo, Canada)</i></p> <p>3. Light in Tiles - IoT Innovative Traditional Ceramic Tiles <i>Fernando D Moita (Instituto Superior de Engenharia de Coimbra & IPC, Portugal); Luis Roseiro (Coimbra Polytechnic - ISEC, Portugal); Victor Daniel Santos and Pedro Amaro (ISEC, Portugal); João Neves (Ideias & Detalhes, Portugal); Nuno Ferreira (Engineering Institute of Coimbra (ISEC), Portugal)</i></p> <p>4. A Validated Model for Citizen Engagement and Smartness of Cities <i>Sukaina Al-Nasrawi (United Nations Economic and Social Commission for Western Asia - UNESCWA, Lebanon)</i></p> <p>5. Breaking Strength of Smart Interconnected Ceramic Elements <i>Luis Roseiro (Coimbra Polytechnic - ISEC, Portugal); Fernando D Moita (Instituto Superior de Engenharia de Coimbra & IPC, Portugal); Pedro Seïça and Fernando Simões</i></p> <p>6. A Smart Autonomous Tour Guide for Museums <i>Abdullah Ayman Hassan and Muhubo Abdilhakiim (MSA University, Egypt); Samy El-Hennawey (MIU University, Cairo, Egypt)</i></p>
12:45 pm – 1:00 pm	Closing Ceremony
1 : 0 0 p m	Lunch
	Enjoy Sharm El Sheikh !