

CommNet'21 Program

(* Note: All times are Morocco local time (GMT+01))

Friday December 3 rd , 2021	
08:00-08:30	<p style="text-align: center;">Opening Speech</p> <ul style="list-style-type: none"> Prof. Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia (Steering Committee Chair) Prof. Faissal El Bouanani, ENSIAS, Mohammed V University of Rabat, Morocco (General Chair) Prof. George K. Karagiannidis, Aristotle University of Thessaloniki, Greece (Steering Committee Chair) Prof. Sami Muhaidat, Khalifa University, Abu Dhabi, UAE (TPC Chair) Prof. Ilham Berrada, ENSIAS, Mohammed V University of Rabat, Morocco (ENSIAS College Dean)
08:30-12:00	<p style="text-align: center;">Panel: “THz Meets Reconfigurable Intelligent Surfaces: Challenges and Developments towards 6G Systems”</p> <ul style="list-style-type: none"> Panel Moderator: Prof. Mohamed-Slim Alouini, KAUST, Kingdom of Saudi Arabia
12:00-12:45	<p style="text-align: center;">Plenary Speaker 1</p> <ul style="list-style-type: none"> Speaker: Prof. Emil Björnson, KTH Royal Institute of Technology, Sweden. Title: “<i>Physically Large Antenna Arrays: When the Near-Field Becomes Far-Reaching</i>” Session Chair: Prof. Zhiguo Ding, The University of Manchester, UK.
12:45-13:30	Break
13:30-15:20	<p>Technical Sessions</p> <p style="text-align: center;">Session I: Networking & Security 1</p> <ul style="list-style-type: none"> Session Chair: Prof. Sami Muhaidat, Khalifa University, Abu Dhabi, UAE.
15:20-16:05	<p style="text-align: center;">Plenary Speaker 2</p> <ul style="list-style-type: none"> Speaker: Prof. Halim Yanikomeroglu, Carleton University, Ottawa, ON, Canada Title: “<i>Wireless Infrastructure of 2040s towards Sustainable and Smart Cities and Societies</i>” Session Chair: Prof. Gunes Karabulut Kurt, Polytechnique Montreal, Montreal, Canada

16:05-16:20	Break
16:20-17:50	Technical Sessions
	<p>Session II : Networking & Security 2</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Prof. Mohamed Chergui, CRMEF, Kenitra, Morocco
17:50-18:35	<p>Plenary Speaker 3</p> <ul style="list-style-type: none"> • Speaker: Dr. Xingqin Lin, Ericsson Research, Santa Clara, CA, USA • Title: <i>“6G: Limitless Possibilities with Limitless Connectivity”</i> • Session Chair: Dr. Hayssam Dahrouj, KAUST, KSA,

<i>Saturday December 4th, 2021</i>	
08:00-08:45	<p>Plenary Speaker 4</p> <ul style="list-style-type: none"> • Speaker: Prof. Ioannis Krikidis, University of Cyprus • Title: <i>“Wireless Information and Energy Transfer in the Era of 6G Communications”</i> • Session Chair: Prof. Amine Bermak, Hamad Bin Khalifa University, Qatar.
08:45 -09:30	<p>Plenary Speaker 5</p> <ul style="list-style-type: none"> • Speaker: Prof. Georgios Z. Papadopoulos, IMT Atlantique, Nantes, France • Title: <i>“Reliable and Available Low-Power Wireless Mesh Networks”</i> • Session Chair: Prof. George K. Karagiannidis, Aristotle University of Thessaloniki, Greece
09:30-11:20	Technical Sessions
	<p>Session III: PHY & Performance Analysis 1</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Dr. Elmehdi Illi, Khalifa University, Abu Dhabi, UAE.
11:20-13:10	Technical Sessions
	<p>Session IV: PHY & Performance Analysis 2</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Prof. Mouhsen Khdissi, FST Settlat, Mohammed I University, Settlat

	Morocco
13:10-14:00	Break
14:00-16:05	Technical Sessions
	<p style="text-align: center;">Session V: PHY & Performance Analysis 3</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Prof. Faissal El Bouanani, ENSIAS, Mohammed V University of Rabat, Morocco.
16:05-16:20	Break
16:20-18:25	Technical Sessions
	<p style="text-align: center;">Session VI: Smart Applications 1</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Prof. Fouad Ayoub, CRMEF, Kenitra, Morocco

<i>Sunday December 5th, 2021</i>	
09:30-11:35	Technical Sessions
	<p style="text-align: center;">Session VII: PHY & Performance Analysis 4</p> <ul style="list-style-type: none"> • <u>Session Chair:</u> Prof. Marwa Qaraqe, Hamad Bin Khalifa University, Qatar.
11:35-11:50	Closing Speech

Detailed program

Friday December 3rd, 2021

Opening Speech - (08:00-08:30)

- Prof. **Mohamed-Slim Alouini**, KAUST, Kingdom of Saudi Arabia (**Steering Committee Chair**)
- Prof. **Faissal El Bouanani**, ENSIAS, Mohammed V University of Rabat, Morocco (**General Chair**)
- Prof. **George K. Karagiannidis**, Aristotle University of Thessaloniki, Greece (**Steering Committee Chair**)
- Prof. **Sami Muhaidat**, Khalifa University, Abu Dhabi, UAE (**TPC Chair**)
- Prof. **Ilham Berrada**, ENSIAS, Mohammed V University of Rabat, Morocco (**ENSIAS College Dean**)

Panel: “THz Meets Reconfigurable Intelligent Surfaces: Challenges and Developments towards 6G Systems” - (08:30-12:00)

Panel Moderator: Prof. **Mohamed-Slim Alouini**, KAUST, KSA

Panelists:

- Prof. **Zhu Han**, ECE Department and CS Department, University of Houston, USA,
- Prof. **Mehdi Bennis**, University of Oulu, Finland,
- Prof. **Aydin Sezgin**, Ruhr-Universität Bochum, Germany,
- Prof. **Tareq Al-Naffouri**, KAUST, KSA,
- Dr. **Hayssam Dahrouj**, KAUST, KSA,
- Prof. **Anas Chaaban**, University of British Columbia, Canada.

Plenary Speaker 1- (12:00-12:45)

- Speaker: Prof. **Emil Björnson**, KTH Royal Institute of Technology, Sweden.
- Title: “*Physically Large Antenna Arrays: When the Near-Field Becomes Far-Reaching*”
- Session Chair: Prof. **Zhiguo Ding**, The University of Manchester, UK.

Break- (12:45-13:30)

Session I - (13:30-15:20): Networking & Security 1

- **Session Chair:** Prof. **Sami Muhaidat**, Khalifa University, Abu Dhabi, UAE.

1570762836: “Hash Based AS Traceback Against DoS Attack”, Sharmin Aktar and Abdullah Yasin Nur (University of New Orleans, USA)

1570763182: “Distributed Learning over a Wireless Network with FSK-Based Majority Vote”, Alphan Şahin, Bryson Everette and Safi Shams Muhtasimul Hoque (University of South Carolina, USA)

1570763443: “Blockchain-Based Model Against Selfish Attacks in Mobile Ad Hoc Networks”, Nada Mouchfiq, Ahmed Habbani, Chaimae Benjbara, Halim Berradi (Mohammed V University in Rabat, Morocco)

1570765342: “A Time-Bound Continuous Authentication Protocol for Mesh Networking”, Selina Shrestha, Martin Andreoni Lopez and Michael Baddeley (Technology Innovation Institute, United Arab Emirates); Sami Muhaidat (Khalifa University, United Arab Emirates); Jean-Pierre Giacalone (Technology Innovation Institute, United Arab Emirates)

1570764096: “Joint Transmission-Sensing Framework Using Change-point Detection”, Akpaki Steaven Vianney Chédé (Université Catholique de Louvain, Belgium); Michel Dossou (University of Abomey-Calavi, Benin); Jerome Louveaux (Université catholique de Louvain, Belgium)

1570764066: “Bootstrapping a Wireless Localization System”, Norbert Fränzel and Norbert Greifzu (Fraunhofer IOSB, Germany); Andreas Wenzel (University of Applied Science Schmalkalden, Germany)

Plenary Speaker 2- (15:20-16:05)

- **Speaker:** Prof. **Halim Yanikomeroglu**, Carleton University, Ottawa, ON, Canada
- **Title:** “*Wireless Infrastructure of 2040s towards Sustainable and Smart Cities and Societies*”
- **Session Chair:** Prof. **Gunes Karabulut Kurt**, Polytechnique Montreal, Montreal, Canada.

Break- (16:05-16:20)

Session II - (16:20-17:50): Networking & Security 2

- **Session Chair:** Prof. **Mohamed Chergui**, CRMEF, Kenitra, Morocco

1570767899 “Proposed QoE Models Associated with Delay and Jitter Using Subjective Approach and Applications for 4G and 5G Networks”, Therdpong Daengsi (Rajamangala University of Technology, Phra Nakhon, Thailand); Patsita Sirawongphatsara (King Mongkut's University of Technology North Bangkok, Thailand); Pongpisit Wuttidittachotti (Faculty of Information Technology and Digital Innovation, KMUTNB, Thailand)

1570769443: “Communication and Energy Optimization of Local PSO-assisted Multi-UAVs for Moving Targets Exploration”, Hassan Saadaoui and Faissal El Bouanani (Mohammed V University in Rabat, Morocco)

1570769420: “Battery Recharging Time-Based Routing for Power Constrained IoT Networks”, Rawan Derbas (Yarmouk University, Canada); Lina Bariah and Sami Muhaidat (Khalifa University, United Arab Emirates); Paschalis C. Sofotasios (Khalifa University & Tampere University, Finland); Hani Saleh (Khalifa University of Science, United Arab Emirates); Ernesto Damiani (Khalida University, United Arab Emirates)

1570761157: “An SDN Solution for a GEO and LEO Satellite Transceiver Based on GNU Radio Companion”, Bannour Ahmed and Véronique Moeyaert (University of MONS, Belgium)

1570769428: “Dependable Decentralized Reputation Management System for Vehicular Ad Hoc Networks”,

Plenary Speaker 3- (17:50-18:35)

- **Speaker: Dr. Xingqin Lin**, Ericsson Research, Santa Clara, CA, USA
- **Title: “6G: Limitless Possibilities with Limitless Connectivity”**
- **Session Chair: Dr. Hayssam Dahrouj**, KAUST, KSA,

Saturday December 4th, 2021

Plenary Speaker 4- (08:00-08:45)

- **Speaker:** Prof. Ioannis Krikidis, University of Cyprus
- **Title:** “*Wireless Information and Energy Transfer in the Era of 6G Communications*”
- **Session Chair:** Prof. Amine Bermak, Hamad Bin Khalifa University, Qatar.

Plenary Speaker 5- (08:45-09:30)

- **Speaker:** Prof. Georgios Z. Papadopoulos, IMT Atlantique, Nantes, France
- **Title:** “*Reliable and Available Low-Power Wireless Mesh Networks*”
- **Session Chair:** Prof. George K. Karagiannidis, Aristotle University of Thessaloniki, Greece

Session III - (09:30-11:20): PHY & Performance Analysis 1

- **Session Chair:** Dr. Elmehdi Illi, Khalifa University, Abu Dhabi, UAE.

1570768396: “Complexity Analysis on 5G Candidate Waveforms for DVB-T2: A Survey”, Honfoga Anne-Carole (University of Mons, Belgium); Michel Dossou (University of Abomey-Calavi, Benin); Véronique Moeyaert (University of Mons, (UMONS), Belgium)

1570768454: “Statistical Analysis of Uplink Massive MIMO Systems for MRC Linear Receivers over Weibull Fading Channels”, Toufik Chaayra (Mohammed I University, Morocco); Youness El Ansari (Ibn Zohr University, Morocco); Faissal El Bouanani (Mohammed V University in Rabat, Morocco) Hussain Ben-azza (Moulay Ismail University, Meknes, Morocco)

1570768793: “Hybrid-ARQ Protocols Using Iterative Threshold Decoding of OSMLD Product Codes”, Fouad Ayoub (Regional Center of Educational and Training Professions, Kenitra, Morocco); Mustapha Hilia (Ibn Tofail University, Morocco); Faissal El Bouanani (Mohammed V University in Rabat, Morocco); Mohamed Chergui (Regional Center of Educational and Training Professions, Kenitra, Morocco); Khalil Ibrahimi (University of IBN Tofail, Morocco)

1570768891: “On the Performance of NOMA-Enabled V2V Communications Under Joint Impact of Nodes Mobility and Channel Estimation Error”, Neha Jaiswal (Indian Institute of Information Technology, India); Anshul Pandey (Technology Innovation Institute, United Arab Emirates); Suneel Yadav and Neetesh Purohit (Indian Institute of Information Technology, India); Lina Bariah and Sami Muhaidat (Khalifa University, United Arab Emirates)

1570772457: “A Magnetic Coupling-Based Technique for Buried Antenna's Frequency Adjustment in Wet Soil”, Mounir Elmejjati, Ahmed Habbani and Faissal El Bouanani (Mohammed V University in Rabat, Morocco)

1570769416: “Secrecy Analysis of I/Q Imbalance with Hardware Impairments over Fox's H-Fading Channel”, Yassine Mouchtak, Faissal El Bouanani (Mohammed V University in Rabat, Morocco)

Session IV - (11:20-13:10): PHY & Performance Analysis 2

- **Session Chair:** Prof. **Mouhsen Khdissi**, FST Settati, Mohammed I University, Settati, Morocco

1570769425: “Analysis of Superimposed LoRa in Multi-User Networks”, Khalid AlHamdani, Lina Bariah, Shima Ayman Naser, Sami Muhaidat, Mahmoud Al-Qutayri (Khalifa University, United Arab Emirates); Paschalis C. Sofotasios (Khalifa University & Tampere University, Finland)

1570768835: “Uplink Spectral Efficiency of Cell Free Massive MIMO Based on Stochastic Geometry Approach”, Mohamed Zbairi (Abdelmalek Essaadi University, Morocco), Imad Ez-zazi (University Sidi Mohamed Ben Abdellah, Morocco) and Mounir Arioua (National School of Applied Sciences Abdelmalek Essaadi University Tetouan, Morocco)

1570752296: “SDR Cooperative Spectrum Sensing Using the Non-Overlapping Welch Method”, Jussif Junior Abularach Arnez (Sidia Institute of Science and Technology, Brazil); Luiz da Silva Mello (Pontifical Catholic University of Rio de Janeiro, Brazil) and Rodolfo Souza (National Institute of Metrology, Brazil)

1570763442: “Simulations of Indoor Transmission in 73-142 GHz”, Salim Hanna, Zhihong Hong, Donald McLachlan, Jafar Shaker, Wayne Brett and Matt Basar (Communications Research Centre Canada, Canada)

1570763448: “Simulations of Point-to-Point Outdoor Transmission in 95-110 GHz”, Salim Hanna (Communications Research Centre Canada, Canada), Zhihong Hong, Donald McLachlan, Jafar Shaker, Wayne Brett and Matt Basar (Communications Research Centre Canada, Canada)

1570767820: “Quantum Codes from Cyclic Codes over $F_{\{q\}} + vF_{\{q\}} + v^2F_{\{q\}} + v^3F_{\{q\}} + v^4F_{\{q\}}$ ”. Sabiri Mohammed (Moulav Ismail University, Morocco)

Break - (13:10-14:00)

Session V - (14:00-16:05): PHY & Performance Analysis 3

- **Session Chair:** Prof. **Faissal El Bouanani**, ENSIAS, Mohammed V University of Rabat, Morocco.

1570763886: “Co-Located and Distributed MISO Techniques in DVB-T2 Single Frequency Networks”, Abdoul-Warris Gbadamassi (University of Abomey-Calavi, Benin); Honfoga Anne-Carole and Véronique Moeyaert (Université de Mons, Belgium); Michel Dossou (University of Abomey-Calavi (UAC), Benin)

1570766693: “High Selectivity Dual-Band Bandpass Filter for 5G Mobile Communications”, Rachida Boufouss and Abdellah Najid (National Institute of Posts and Telecommunications, Morocco)

1570768204: “On the Performance of Hybrid RF/UWOC System”, Jinendra Sipani, Debarati Roy and Sanya Anees (Indian Institute of Information Technology Guwahati, India)

1570768236: “Optimal Multi-Stage Clipping for Impulsive Noise Mitigation in OFDM-NOMA Systems”, Bassant Selim (Ericsson AB, Canada); Md Sahabul Alam (Carleton University, Canada); Georges Kaddoum (University of Québec, Canada); Basile L Agba (Hydro Québec Research Institute, Canada)

1570768235: “Impulsive Noise Parameter Estimation: A Deep CNN-LSTM Network Approach”, Alka Isac, Bassant Selim and Zeinab Sobhanigavani (Ericsson AB, Canada); Georges Kaddoum (University of Québec, Canada); Mallik Tatipamula (Ericsson Research, USA)

1570771178: “Performance Analysis of LoRa-Backscatter Communication System in AWGN Channels”, Abubakar Sani Ali and Lina Bariah and Sami Muhaidat (Khalifa University, United Arab Emirates); Paschalis C. Sofotasios (Khalifa University & Tampere University, Finland) and Mahmoud Al-Qutayri (Khalifa University, United Arab Emirates)

1570752379: “A New Transmit Antenna Selection Technique for Physical Layer Security with Strong Eavesdropping”, Gonzalo Javier Anaya-López, Juan Carlos Ruiz Sicilia and Francisco Javier Lopez-Martinez (Universidad de Malaga, Spain)

Break - (16:05-16:20)

Session VI - (16:20 -18:25): Smart Applications 1

- **Session Chair:** Prof. **Fouad Ayoub**, CRMEF, Kenitra, Morocco.

1570763838: “Decentralized Autonomous Underwater Vehicles Distribution for IPv6-UWSN: A Study with Heuristic Methods”, Hamza Zradgui, Mohammed Jouhari and Khalil Ibrahim (Ibn Tofail University, Morocco)

1570763871: “Integrating Context and Intention for Optimal Semantic Web Service Composition Using AI Planning”, Abdelmajid Daosabah, Hatim Guermah, Imane Choukri, Mahmoud Nassar (Mohammed V University in Rabat, Morocco)

1570764451: “A Gentle Study to Supervised Machine Learning”, Mohammed Amine El Mrabet, Khalid El Makkaoui and Ahmed Faize (Mohammed First University, Nador, Morocco)

1570768129: “Methodology for Predicting the Optimum Design of Radio-Electronic Devices”, Zainab Hussam Al-Araji (University of Baghdad, Iraq), Av Bashkirov, Nada Ali Swaikat, Andrey Turetsky, Alevtina Sergeevna Samofalova, E A Chunikhina (Voronezh State Technical University, Russia)

1570764079: “Towards an Intelligent Diagnostic Support System, Based on a Multi-Agent System, for the Analysis and Management of an Educational Institution”, Younes Mokhtari (Hassan II University of Casablanca, Morocco); Ouafae Serrar (Regional Center of Educational and Training Professions, Marrakech, Morocco); Oum El Kheir Abra (Regional Center of Educational and Training Professions, Rabat, Morocco) and Mohammed Qbadou (Hassan II University of Casablanca, Morocco)

1570739280: “How Effective are Identification Technologies in Autonomous Driving Vehicles?”, Otto B. Pirmuthu and Matthew Caesar (University of Illinois at Urbana-Champaign, USA)

1570762862: “A Study of the Relative Operator Entropy via Some Matrix Versions of the Hellinger Distance”, Abdenbi El Hilali (Ibn Tofail University, Morocco); Mohamed Chergui (Regional Center of Educational and Training Professions, Kenitra, Morocco); Bouazza El Wahbi (Ibn Tofail University, Morocco); Fouad Ayoub (Regional Center of Educational and Training Professions, Kenitra, Morocco)

Sunday December 5th, 2021

Session VII - (09:30-11:35): PHY & Performance Analysis 4

- **Session Chair:** Prof. **Marwa Qaraqe**, Hamad Bin Khalifa University, Qatar.

1570769384: “Performance Evaluation of Mixed RF-UOWC System with Residual Hardware Impairments”, Elmehdi Illi, Khalifa University, UAE.

1570769263: “Performance Evaluation of Relaying with Different Relay Selection Schemes in 5G NR V2X Communications”, Inam Ullah (Nokia, Mobile Networks); Muhammad Zeeshan Asghar (University of Jyväskylä, Finland); Lina Bariah and Sami Muhaidat (Khalifa University, United Arab Emirates); Jyri Hämäläinen (Aalto University, Finland)

1570769398: “Impact of System Correlation Matrix Bordering on the MU-MIMO Ergodic Sum-Rate Capacity in the Presence of the Multipath Fading Channel”, Aleksey S. Gvozdarev, Aleksandra Alischyuk, Marina Kazakova (P. G. Demidov Yaroslavl State University, Russia)

1570769440: “Effect of Generalized Multipath/Shadowing Channels on Fixed Rate Wireless Systems”, Asma Al Mheiri and Shimaa Ayman Naser (Khalifa University, United Arab Emirates); Paschalis C. Sofotasios (Khalifa University & Tampere University, Finland)

1570769441: “Power Constrained Channel Capacity over Generalized Composite Fading Conditions”, Asma Al Mheiri and Shimaa Ayman Naser (Khalifa University, United Arab Emirates); Paschalis C. Sofotasios (Khalifa University & Tampere University, Finland)

1570763743: “Capacity Higher-Order Statistics Analysis for κ - μ Fading Channels with Correlated Shadowing”, Aleksey S. Gvozdarev (P. G. Demidov Yaroslavl State University, Russia)

1570768988: “Output Statistics of Random Binning for Multiple Access Channels and Strong Secrecy”, Manos Marios Athanasakos (National Kapodistrian University of Athens, Greece)

Closing Speech - (11:35-11:50)