IEEE LATINCOM™

15–17 November 2023 // Panama City, Panama

PROGRAM

www.ieee-latincom.org

WELCOME MESSAGE

Welcome to the IEEE Latin-American Conference on Communications (LATINCOM) 2023, a gathering of interesting and innovative ideas. IEEE LATINCOM is a connection for professionals, academics, and students in the field of communications. This 15th edition of the IEEE LATINCOM will be held in Panama City, Panama. Panama City is a modern metropolis endowed with a rich history. This is a city where the past meets the future, with a unique mix of cultures, full of kind, friendship, and resilient people.

IEEE LATINCOM is the IEEE ComSoc most important conference in Latin America; it is held annually and attracts participants from all around the world, to share ideas and best practices about the latest research and innovations in communications and networking technology.

I extend my deepest gratitude to all the organizing committee, the steering committee, sponsors, and each participant who has contributed to making this conference a reality. Your commitment to advance communications and networking technology for the betterment of humanity is the driving force behind the success of IEEE LATINCOM 2023.

I hope you will enjoy the IEEE LATINCOM 2023, a conference filled with innovation, collaboration, and shared aspirations.

Sincerely,

Prof. Héctor Poveda
General Chair
IEEE LATINCOM 2023

COMMITTEES

ORGANIZING COMMITTEE

GENERAL CO-CHAIRS
Héctor Poveda, Universidad Tecnológica de Panamá (UTP), Panamá

Guillaume Ferré, Bordeaux INP, France

TECHNICAL PROGRAM CO-CHAIRS
Fernando Merchan, Universidad Tecnológica de Panamá (UTP), Panamá

Jalel Ben Othman, Centrale Supelec, France

STEERING COMMITTEE ADVISOR
Carlos Gutierrez, Universidad Autónoma de San Luis Potosí, México

FINANCE CHAIR
Yessica Saez, Universidad Tecnológica de Panamá (UTP), Panamá

KEYNOTE CHAIR
Fabricio Braga, Universidade Federal da Paraíba, Brazil

PANEL CHAIR
Andres Navarro, Universidad Icesi, Colombia

TUTORIAL PROGRAM CHAIR
Marco To, Universidad Galileo, Guatemala

PUBLICATION CHAIR
Ramiro Velázquez, Universidad Panamericana, México

PUBLICITY CO-CHAIRS
Edwin Collado, Universidad Tecnológica de Panamá (UTP), Panamá

ElMehdi Amhoud, Mohammed VI Polytechnic University, Morocco

Hyunbum Kim Incheon, National University, South Korea

Fatima Domingues, Khalifa University, UAE

STUDENT GRANT / STUDENT PROGRAM CHAIR
Aris Castillo, Universidad Tecnológica de Panamá (UTP), Panamá

WEB CHAIR
Jesús Ramírez, Universidad Autónoma de San Luis Potosí, México

COMMUNICATION & MEDIA CHAIR
Sofia Kalormakis, Tink Comunicaciones S.A., Panama

LOCAL ARRANGEMENTS CHAIR
Javier Sánchez-Galán, Universidad Tecnológica de Panamá (UTP), Panamá

SPONSORS CHAIR
Maria Cristina Ríos, Tigo Panamá

INDUSTRIAL PROGRAM CHAIR
Stephanie Black, GBM Panamá

STEERING COMMITTEE

Stefano Bregni, Politecnico di Milano, Italy, Chair

Nelson Fonseca, Univ. of Campinas, Brazil, Past Chair

Carlos Lozano Garzon, Univ. de los Andes, Colombia

Jose-David Cely, Univ. Distrital F. J. de Caldas, Colombia

Lisandro Zambenedetti Granville, UFRGS, Brazil

Carlos A. Gutierrez, Univ. Autónoma de San Luis Potosí, Mexico

Marco To De Leon, Univ. Galileo, Guatemala

Andrés Navarro, ICESI University, Colombia, IEEE ComSoc LA Director

Pedro Aguilera, Univ. of Chile, past MaL

Fabrizio Granelli, Univ. of Trento, Italy, past MaL

CONFERENCE INFORMATION

SCHEDULE AT A GLANCE

Time/Room	November 15, 2023			November 16, 2023			November 17,2023		
	Room 1	Room 2	Room 3	Room 1	Room 2	Room 3	Room 1	Room 2	Room 3
8:00 - 8:30	Registration			Registration & Networking			Registration & Networking		
8:30 - 9:00	Open ceremony								
9:00 - 10:30	**Keynote 1**: Falko Dressler			**Keynote 3**: Michelle Nogueira			**Keynote 5**: Muriel Medard		
10:30 - 11:00	Coffee-break			Coffee-break			Coffee-break		
11:00 - 12:30	Technical Session 1	Technical Session 2	Technical Session 3	Technical Session 6	Technical Session 7	Technical Session 8	WICE Session	Technical Session13	Technical Session 12
12:30 - 13:30	Lunch			Lunch			Closing Session		
13:30 - 15:00	**Keynote 2**: Venki Ramaswamy			**Keynote 4**: Emilio Calvanese			Special Tour		
15:00 - 15:30	Coffee-break			Coffee-break					
15:30 - 17:00	Technical Session 4	Technology Transfer Session	Tutorials	Technical Session 9	Industry Session	Tutorials			
17:00 - 17:15	Networking break			Networking break					
17:15 - 18:45	Technical Session 5	YP Session	Tutorials	Technical Session 10	Technical Session 11	Tutorials			
18:45 - 19:00									
19:00-20:30	Welcome Reception								
19:30 - 23:00				Gala Dinner					

VENUE

Hotel Riu Plaza Panamá

Address: C. 50, Panamá, Panama

Phone: +507 378-9000

https://www.riu.com/en/hotel/panama/panama-city/hotel-riu-plaza-panama

REGISTRATION HOURS

Wednesday, November 15 / 8:00 – 8:30

Thursday, November 16 / 8:00 – 9:00

Friday, November 17 / 8:00 – 9:00

KEYNOTES

FALKO DRESSLER, TU BERLIN, GERMANY

9:00 - 10:30 AM

6G Virtualized Edge Computing - From Cars to Edge and Back

As we move from 5G to 6G, edge computing is one of the concepts that needs revisiting. Its core idea is still intriguing: Instead of sending all data and tasks from an end user's device to the cloud, edge servers deployed in close proximity to the user serve as proxy for the cloud. This is particularly interesting for upcoming machine learning (ML)-based intelligent services, which require substantial computational and networking performance for continuous model training. Yet this promising idea is hampered by the limited number of such edge servers. In a parallel universe, car makers have discussed challenges and opportunities of the connected cars vision in relation to the need for distributed data management solutions ranging from the vehicle to the mobile edge and to the data centers. As a new concept, vehicle micro clouds have been proposed that bridge the gap between fully distributed vehicular networks based on short range device to device communication and 5G+ based infrastructure for centralized solutions. Taking both concepts together, we discuss a way forward, namely the virtual edge computing (V-Edge) concept. V-Edge helps bridging the gap between cloud, edge, and fog by virtualizing all available resources including the end users' devices and making these resources widely available. Thus, V-Edge acts as an enabler for novel microservices as well as cooperative computing solutions in next-generation networks. We introduce the general V-Edge architecture, and we characterize some of the key research challenges to overcome, to enable wide-spread and intelligent edge services.

BIO: Falko Dressler is full professor and Chair for Telecommunication Networks at the School of Electrical Engineering and Computer Science, TU Berlin. He received his M.Sc. and Ph.D. degrees from the Dept. of Computer Science, University of Erlangen in 1998 and 2003, respectively. Dr. Dressler has been associate editor-in-chief for IEEE Trans. on Mobile Computing and Elsevier Computer Communications as well as an editor for journals such as IEEE/ACM Trans. on Networking, IEEE Trans. on Network Science and Engineering, Elsevier Ad Hoc Networks, and Elsevier Nano Communication Networks. He has been chairing conferences such as IEEE INFOCOM, ACM MobiSys, ACM MobiHoc, IEEE VNC, IEEE GLOBECOM. He authored the textbooks Self-Organization in Sensor and Actor Networks published by Wiley & Sons and Vehicular Networking published by Cambridge University Press. He has been an IEEE Distinguished Lecturer as well as an ACM Distinguished Speaker. Dr. Dressler is an IEEE Fellow as well as an ACM Distinguished Member. He is a member of the German National Academy of Science and

Engineering (acatech). He has been serving on the IEEE COMSOC Conference Council and the ACM SIGMOBILE Executive Committee. His research objectives include adaptive wireless networking (sub-6GHz, mmWave, visible light, molecular communication) and wireless-based sensing with applications in ad hoc and sensor networks, the Internet of Things, and Cyber-Physical Systems.

VENKI RAMASWAMY, MITRE LABS, USA

13:30 – 15:00

Paving the Road to 6G – The role of Automation & AI

AI is widely considered as the defining technology of 6G. In this talk, we will start with a brief review of the ambitious vision for 6G set by various organizations and discuss the role of AI and automation in realizing that vision. We will then talk about 6G's spectrum requirements in low and mid bands and argue that the most impactful role AI could play is in intelligent and autonomous management of spectrum, which is the only practical way to ease the spectrum shortage. We will provide a summary of available spectrum sharing frameworks and highlight some of the shortcomings of current approaches. We will also describe through two use-cases, how AI techniques when applied on an open and programmable network could significantly improve spectrum utilization and ease mobile industry's spectrum shortage. At the end of my talk, I will point out some challenges associated with widespread adoption of these approaches.

BIO: Dr. Venkatesh Ramaswamy is Chief Technologist for NextG at MITRE Labs in Bedford, Massachusetts where he currently leads technical innovation and R&D activities in 5G/xG technologies. He has more than 20 years of experience in the telecommunications industry and has held technical leadership positions at top technology companies, startups, and research labs. Currently he serves as one of the active industry members of the ATIS/Next G Alliance Research Council (Next G Alliance Research Council – Next G Alliance) working on the development of a comprehensive North American 6G strategy. He also an industry researcher at the NSF Edge AI Institute looking at synergies between networking and AI (Organization and Key Personnel | NSF AI Institute for Future Edge Networks and Distributed Intelligence (osu.edu)). He has published more than 50 peer-reviewed publications and patents, served as a TPC member for various conferences, and participated in several technical panels. He received his PhD in Electrical Engineering in 2007.

MICHELE NOGUEIRA, FEDERAL UNIVERSITY OF MINAS GERAIS (UFMG), BRAZIL

9:00 - 10:30

Data Science for Cybersecurity: An Overview Focused on Networking

Cyberattacks persistently pose threats to valuable data, resulting in time and resource wastage, and damaging the reputation of companies and institutions worldwide. Even prominent organizations have experienced the severe consequences of cyberattacks, impacting not only themselves but also their customers, collaborators, and society at large. Ransomware such as WannaCry continues to pose a significant threat, encrypting data and demanding ransom payments in Bitcoin cryptocurrency. Furthermore, sophisticated versions of Distributed Denial-of-Service (DDoS) attacks, originating from various Internet-connected devices like IP cameras, residential gateways, and baby monitors, disrupt major Internet platforms and services, affecting users globally. These examples underscore the increasing power and sophistication of cyberattacks, highlighting the evolving nature of cybersecurity. In the era of ubiquitous systems, with an estimated 75 billion connected devices or "smart things" expected by 2025, the urgency to address these issues is apparent. However, academia's role in combating the sophistication of cyberattacks remains a crucial aspect. Can academia effectively anticipate attackers' next moves to safeguard our information assets? How can academia harness the data generated on networks to develop security intelligence and preemptively prevent attacks? This presentation aims to initiate a discussion surrounding these questions, providing an overview of the related research conducted by Dr. Nogueira's research team, along with future directions in these areas.

BIO: Michele Nogueira is an Associate Professor in the Computer Science Department at the Federal University of Minas Gerais (UFMG), Brazil. She received her doctorate in Computer Science from the University Pierre et Marie Curie – Sorbonne Université, France. She was on sabbatical leave at Carnegie Mellon University, USA (2016-2017). Her research interests include wireless networks, security, and dependability. She has worked on providing resilience to self-organized, cognitive, and wireless networks through adaptive and opportunistic approaches. Dr. Nogueira was one of the pioneers in addressing survivability issues in self-organized wireless networks, being the work "A Survey of Survivability in Mobile Ad Hoc Networks" one of her prominent scientific contributions. She has received Academic Scholarships from the Brazilian Government in her undergraduate and graduate years, and international grants such as the ACM SIGCOMM Geodiversity program. She has served as Associate Technical Editor for the IEEE Communications Magazine. She served as chair for the IEEE ComSoc Internet Technical Committee and is an ACM and IEEE Senior Member.

EMILIO CALVANESE STRINATI, CEA, FRANCE

13:30 - 15:00

The Post Shannon Era: Towards Semantic, Goal-Oriented and Reconfigurable Intelligent Environments aided 6G Communications

This keynote promotes the idea that including semantic and goal-oriented aspects in future 6G networks can produce a significant leap forward in terms of system effectiveness and sustainability. Semantic communication goes beyond the common Shannon paradigm of guaranteeing the correct reception of each single transmitted packet, irrespective of the meaning conveyed by the packet. The idea is that, whenever communication occurs to convey meaning or to accomplish a goal, what really matters is the impact that the correct reception/interpretation of a packet is going to have on the goal accomplishment. Focusing on semantic and goal-oriented aspects and possibly combining them with the reconfigurable and intelligent wireless environments paradigm, help to identify the relevant information, i.e. the information strictly necessary to recover the meaning intended by the transmitter or to accomplish a goal. With this keynote, after a short presentation of most recent state of the art approaches, we present our most recent results and cover in detail challenges and opportunities associated with the evolution towards semantic, goal-oriented and reconfigurable intelligent environments aided 6G communications.

BIO: Dr. Emilio Calvanese Strinati obtained his Engineering Master degree in 2001 from the University of Rome 'La Sapienza' and his Ph.D in Engineering Science in 2005 from Paris Telecom. He then started working at Motorola Labs in Paris in 2002. Then in 2006 he joined CEA LETI as a research engineer. From 2007, he became a PhD supervisor. From 2010 to 2012, he has been the co-chair of the wireless working group in GreenTouch Initiative, which deals with design of future energy efficient communication networks. From 2011 to 2016 he was the Smart Devices & Telecommunications strategic programs Director, then, until January 2020 he was the Smart Devices & Telecommunications Scientific and Innovation Director. Since February 2020 he is the Nanotechnologies and Wireless for 6G (New-6G) Program Director focusing on future 6G technologies. He has published around 200 papers in journals, international conferences, and books chapters, and he has given more than 200 international invited talks, keynotes and tutorials. He is the main inventor of more than 80 patents. His current research interests are on Reconfigurable Intelligent Surfaces, Semantic communications, Goal-oriented communications AI-native technologies in the contest of 6G.

FRIDAY, NOVEMBER 17, 2023

MURIEL MEDARD, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT), USA

9:00 - 10:30

Guessing Random Additive Noise Decoding (GRAND) or Universal decoding algorithm, and relation to Signal Processing

To maintain data integrity in the face of network unreliability, systems rely on error-correcting codes. System standardization, such as has been occurring for 5G, is predicated on co-designing these error-correcting codes and, most importantly, their generally complex decoders, into efficient, dedicated and customized chips. In this talk, we show that this assumption is not necessary and is has been leading to significant performance loss. We describe "Guessing Random Additive Noise Decoding," or GRAND, by Duffy, Médard and their research groups, which renders universal, optimal, code-agnostic decoding possible for low to moderate redundancy settings. Moreover, recent work with Yazicigil and her group has demonstrated that such decoding can be implemented with extremely low latency and record-breaking low energy in silicon. GRAND enables a new exploration of codes, in and of themselves, independently of tailored decoders, over a rich family of code designs, including random ones. Surprisingly, even the simplest code constructions, such as those used merely for error checking, match or markedly outperform state of the art codes when optimally decoded with GRAND. Without the need for highly tailored codes and bespoke decoders, we can envisage using GRAND to avoid the issue of limited and sub-optimal code choices that 5G encountered, and instead have an open platform for coding and decoding. GRAND opens new areas of interplay between decoding and signal processing. In particular, it can naturally take into account noise statistics that traditional decoding destroys by interleaving. With GRAND, bursty noise or noise correlation are useful characteristics that lead to improved throughput in low latency systems.

BIO: Muriel Médard is the NEC Professor of Software Science and Engineering in the Electrical Engineering and Computer Science (EECS) Department at MIT, where she leads the Network Coding and Reliable Communications Group in the Research Laboratory for Electronics at MIT and Chief Scientist for Steinwurf, which she has co-founded. She obtained three Bachelors degrees (EECS 1989, Mathematics 1989 and Humanities 1991), as well as her M.S. (1991) and Sc.D (1995), all from MIT. Muriel is a Member of the US National Academy of Engineering (elected 2020), a Member of the German National Academy of Sciences Leopoldina (elected 2022), a Fellow of the US National Academy of Inventors (elected 2018), American Academy of Arts and Sciences (elected 2021), and a Fellow of the Institute of Electrical and Electronics Engineers (elected 2008). She holds Honorary Doctorates from the Technical University of Munich (2020) and from The University of Aalborg (2022).

Muriel was co-winner of the MIT 2004 Harold E. Egerton Faculty Achievement Award and was named a Gilbreth Lecturer by the US National Academy of Engineering in 2007. She received the 2017 IEEE Communications Society Edwin Howard Armstrong Achievement Award and the 2016 IEEE Vehicular Technology James Evans Avant Garde Award. Muriel was awarded the 2022 IEEE Kobayashi Computers and Communications Award. She received the 2019 Best Paper award for IEEE Transactions on Network Science and Engineering, the 2018 ACM SIGCOMM Test of Time Paper Award, the 2009 IEEE Communication Society and Information Theory Society Joint Paper Award, the 2009 William R. Bennett Prize in the Field of Communications Networking, the 2002 IEEE Leon K. Kirchmayer Prize Paper Award, as well as nine conference paper awards. Most of her prize papers are co-authored with students from her group.

Muriel has served as technical program committee co-chair of ISIT (twice), CoNext, WiOpt, WCNC and of many workshops. She has chaired the IEEE Medals committee, and served as member and chair of many committees, including as inaugural chair of the Millie Dresselhaus Medal. She was Editor in Chief of the IEEE Journal on Selected Areas in Communications and has served as editor or guest editor of many IEEE publications, including the IEEE Transactions on Information Theory, the IEEE Journal of Lightwave Technology, and the IEEE Transactions on Information Forensics and Security. Muriel was a member of the inaugural steering committees for the IEEE Transactions on Network Science and for the IEEE Journal on Selected Areas in Information Theory. She currently serves as the Editor-in-Chief of the IEEE Transactions on Information Theory. Muriel was elected president of the IEEE Information Theory Society in 2012, and serves on its board of governors, having previously served for eleven years.

Muriel received the inaugural 2013 MIT EECS Graduate Student Association Mentor Award, voted by the students. She set up the Women in the Information Theory Society (WithITS) and Information Theory Society Mentoring Program, for which she was recognized with the 2017 Aaron Wyner Distinguished Service Award. She served as undergraduate Faculty in Residence for seven years in two MIT dormitories (2002–2007). Muriel was elected by the faculty and served as member and later chair of the MIT Faculty Committee on Student Life and as inaugural chair of the MIT Faculty Committee on Campus Planning. She was chair of the Institute Committee on Student Life. She was recognized as a Siemens Outstanding Mentor (2004) for her work with High School students. She serves on the Board of Trustees since 2015 of the International School of Boston, for which she is treasurer. She serves on the Nokia Bell Labs Technical Advisory Board.

Muriel has over sixty US and international patents awarded, the vast majority of which have been licensed or acquired. For technology transfer, she has co-founded CodeOn, for which she consults, and Steinwurf, for which she is Chief Scientist.

Muriel has supervised over 40 master students, over 20 doctoral students and over 25 postdoctoral fellows.

INDUSTRY SESSIONS

Date: Thursday, November 16th

Time: 15:30 to 17:00

Room: Berlin 2

Presentation 1 - Time: 15:30 to 16:15

TITLE: LEVERAGING AI FOR ENHANCED RECRUITMENT: A GBM INITIATIVE

Speakers: Gustavo Cuervo & Ivan Castillero (GBM)

Summary:

GBM, a Central American and Dominican Republic leader in technology services, innovation, and solution marketing, is unveiling a pioneering tool designed to revolutionize the recruitment process. This AI-powered tool not only streamlines candidate profiling and selection but also aligns applicants' values, integrity, and experience with the ideal candidate persona. The aim is to identify individuals who best match the company's ideal profile and requirements, thereby optimizing the hiring pipeline and ensuring a seamless fit into the corporate culture.

Speakers Bios:

Gustavo Cuervo: Education Ambassador, with more than 19 years in the IT area in charge of Client projects using emerging technologies. Consultant in projects that involve the use of Artificial Intelligence and in charge of developing ecosystems with Universities in the Region to identify the best talents. He is a member for the 3rd consecutive year of the IBM Champion program worldwide.

Iván Castillero: Business Development intern at GBM, Bachelor in Psychology and master's degree in Data Science. He is in charge of the development of questionnaires, digital identity and participation in decision-making of the ELISA project. Advanced knowledge in data science and analysis using Python.

Presentation 2 Time: 16:15 to 17:00

TITLE: SDN AND RAN (INCLUDING O-RAN) AND ITS BENEFITS FOR MOBILE OPERATORS

Speaker: Bhalaji Kumar (Rakuten)

Summary:

This presentation will discuss the latest technology, software-defined Networks (SDN), and its applicability to Mobile networks, specifically in Radio Access Network (RAN). Here, we discuss the fundamentals of SDN, how it plays a crucial role in RAN (including O-RAN), and the benefits it brings to mobile operators worldwide, along with some real-world examples of SDN-based RAN and use cases.

Speaker Bio:

Bhalaji Kumar is an accomplished global telecom expert with more than 30 years of telecom industry experience. He works at Rakuten as Director of Solution Delivery for Tier 1 operators. His diverse experience includes major Carriers such as Frontier Comm, MCI; OEMs such as Nortel and Cisco; Consulting companies such as Accenture and Deloitte; and Startups such as Schema. Across these industries, he has been involved in driving technologies such as broadband, wireless networks, SDN/NFV, Cloud, SD-WAN, automation, switching, transmission network technology, and end-to-end service delivery processes. His functional area in the telecommunications/data communications industry spans strategic planning product and services planning, combining operational areas with business sense.

He has also made numerous presentations and publications on technology worldwide and has written two books. He has advanced management from Stanford University, along with MBA, MS, and BSEE in Telecommunications/Networking. In his spare time, he teaches graduate-level courses at SMU in Dallas.

WORKSHOPS

Knowledge Exchange, Commercialization, and Spinoffs

Event Date: November 15, 2023

Time: 3:30 p.m. to 5:00 p.m.

Room: Berlin 2

ABSTRACT

The session will take participants through the process of knowledge exchange from research results to the market and offer recommendations.

Recommendations

- Bring a business idea or scientific results to be turned into a marketable product either by group or individually.
- Each participant should have a laptop or tablet to search the internet and write.
- Participants can work in a group of 3-4 people or individually. If it is in a group, it is recommended that they be from the same research team.

Program

- Knowledge exchange in a science, technology and innovation system
- What is commercialization
    - Flows and knots
- 12 steps to transform an idea into a marketable product or service.
    - Who owns it
    - How to protect it
    - What problem it solves
    - How it solves the problem
    - Has commercial viability
    - Who are competitors / collaborators
    - Which markets/consumers
    - How and when it will be released to the market
    - How it is going to be produced or developed
    - How much it will cost and who will pay
    - How scalable it is and how long it will take
    - Who will support

SPEAKERS

Susana Lau is an IT consultant with over a decade of experience and the Founder of EtyaLab, specializing in agile software development. She's the current chair of IEEE Panama Section (2023-2024) and volunteers with IEEE Women in Engineering (WIE) as steering committee member. An advocate for women in STEM, Susana mentors at educational events and speaks at universities. She co-founded Fundación CREEA for educational and entrepreneurial social programs and sits on boards in the insurance and banking sector. With a Telecommunications Engineering background, she earned her MSc in Information Technology from Carnegie Mellon University on a Fulbright fellowship. Currently, she is Vice Chair at IEEE Entrepreneurship for R9- Latin America and previously served as the WiE Liaison in 2021.

Nélida Gómez is co-founder and R&D (deep tech) coordinator of Wisy.ai, a high-tech company in Silicon Valley. She is a member of the Board of Directors of the IEEE Panama Section and Wisy.ai. With a background in science and business, she has 30 years of experience along the knowledge exchange chain, from generation to commercialization. She is an international speaker, mentor, and advisor to startups and entrepreneurs; she volunteers for the CREEA Foundation in social innovation and citizen participation programs, WIE in STEM programs, and is an advisor to Escala Latam, a platform that connects the actors of the innovation system. She has been a Fulbright, DAAD, and Australian scholar. She is passionate about human transformation, to which she contributes through her activism in entrepreneurship, gender equality, and peaceful coexistence.

TUTORIALS

TUTORIAL TITLE 1: IOT AND MACHINE LEARNING: BEYOND AUTOMATION

Date: Wednesday, November 15, 2023

Time: 3:30 PM - 6:45 PM

Room: Amsterdam

Lecturer(s): Ernesto García, Universidad Tecnológica de Panamá

Duration: 3 hours.

Abstract: The Internet of Things (IoT) has become an essential component of Industry 4.0. IoT devices and sensors are used to collect real-time data from machines, equipment, and work environments. This has allowed the industry to optimize production, monitor various processes remotely, predictive maintenance and greater visibility in the supply chain. However, this automation and connectivity offered by IoT suffers from limitations as it is not able to make decisions in situations that have not been predefined. Current trends seek to ensure that machines and devices can learn and respond automatically to situations. One of the technologies that aims to fill this gap is Machine Learning (ML).

ML is an Artificial Intelligence tool through which a model can be trained, tested and implemented in order to provide capacity to devices for classification and/or anomaly detection. For this, there are programming languages that are widely used for these tasks, such as Python and R. The combination of IoT and ML opens new horizons and requires professionals who have additional knowledge to program machine learning algorithms, which includes having mastery in inferential statistics, probability, linear algebra among others, which could make the learning curve longer and therefore the time to implement these capabilities in IoT devices. Fortunately, today there are tools aimed at facilitating the creation of machine learning models in a user-friendly way and without much knowledge. This allows people without much knowledge to gradually venture into ML and, on the other hand, allows those who already have experience in ML to create their models and modify them in detail.

This is why this tutorial aims to present, guide and demonstrate to participants the entire process of building a machine learning model for pattern classification through the Edge Impulse web tool. This includes all the phases of collecting the data sets, training the model, testing the model and its implementation on an IoT device called Arduino NANO Sense BLE. In this way, participant will experience the great advantages that this tool offers, such as: ease of use, compatibility with a variety of sensors and hardware, model optimization and a focus on low energy consumption devices, which makes it a attractive choice for machine learning projects.

TUTORIAL TITLE 2: UNVEILING PRIVACY AND DATA PROTECTION ISSUES FROM THE USE OF SOCIAL MEDIA AND ONLINE ADVERTISING PLATFORMS

Date: Thursday, November 16, 2023

Time: 3:30 PM - 6:45 PM

Room: Amsterdam

Lecturer(s):

Ángel Merino, Universidad Carlos III de Madrid.

Francisco Caravaca, Universidad Carlos III de Madrid.

Ángel Cuevas, Universidad Carlos III de Madrid.

Rubén Cuevas, Universidad Carlos III de Madrid.

Duration: 3 hours.

Abstract: Social Media platforms on the Internet are a huge source of information, often very useful for research purposes. An important part of these platforms is their advertising ecosystem, as these platforms rely on obtaining information from their users to offer advertisers accurate user targeting based on that information. Therefore, we have leveraged the automatic collection of data to conduct different research works related to user privacy on these platforms, such as user uniqueness and over profiling. In this tutorial, you will learn how to face the process of obtaining information from different types of online services by automatic means, and how this information is useful for researching.

WICE PANEL

Spotlighting Women Career Excellence

Event Date: November 17, 2023

Time: 11:00 a.m. to 12:30 p.m.

Room: Berlin 1

Moderator:

STEPHANIE BLACK, GBM PANAMÁ

BIO: Stephanie Black is an Electronic Telecommunications Engineer, Information Security Consultant at a prestigious cybersecurity firm. She is the leader and co-founder of the non-profit Association Women of Security (WOSEC) Panama Chapter and Ambassador of the Dojo Community Foundation. She is also an IVLP Alumni of the Washington D.C. State Department, United States with the "Promoting Cybersecurity" program. Stephanie currently serves as the ComSoc Panama Chapter Chair.

Panelists:

SUSANA LAU, ETYALAB, PANAMA

TITLE: MY JOURNEY AS AN ENTREPRENEUR

BIO: Susana Lau is an information technology consultant with more than ten years of experience. She has a Master's Degree in Information Technology from Carnegie Mellon University in the United States through a Fulbright-Senacyt scholarship. In 2015, she founded EtyaLab, a technology company that provides web and mobile solutions. She also created Mercadito, an agtech-based mobile technology company, recognized by Forbes, and awarded in various competitions. Susana is passionate about entrepreneurship and supports the empowerment of women in the technology industry. She is currently the Chair of IEEE Panama Section and has been involved in various initiatives that promote STEM education and entrepreneurship, including the foundation, together with 3 colleagues, of the non-profit organization Fundación CREEA. In addition, she serves on the board of directors of two regulated companies as an independent member, where she contributes to technology, audit, risk, and ethics committees.

MICHELE NOGUEIRA, FEDERAL UNIVERSITY OF MINAS GERAIS (UFMG), BRAZIL

TITLE: MY ADVENTURE IN STEM: INSIGHTS FROM THE BACKSTAGE

BIO: Michele Nogueira is an Associate Professor in the Computer Science Department at the Federal University of Minas Gerais (UFMG), Brazil. She received her doctorate in Computer Science from the University Pierre et Marie Curie – Sorbonne Université, France. She was on sabbatical leave at Carnegie Mellon University, USA (2016-2017). Her research interests include wireless networks, security, and dependability. She has worked on providing resilience to self-organized, cognitive, and wireless networks through adaptive and opportunistic approaches. Dr. Nogueira was one of the pioneers in addressing survivability issues in self-organized wireless networks, being the work "A Survey of Survivability in Mobile Ad Hoc Networks" one of her prominent scientific contributions. She has received Academic Scholarships from the Brazilian Government in her undergraduate and graduate years, and international grants such as the ACM SIGCOMM Geodiversity program. She has served as Associate Technical Editor for the IEEE Communications Magazine. She served as chair for the IEEE ComSoc Internet Technical Committee and is an ACM and IEEE Senior Member.

MURIEL MÉDARD, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT), USA

TITLE: A NON-OBVIOUS RESEARCHER

BIO: Muriel Médard is the NEC Professor of Software Science and Engineering in the Electrical Engineering and Computer Science (EECS) Department at MIT, where she leads the Network Coding and Reliable Communications Group in the Research Laboratory for Electronics at MIT and Chief Scientist for Steinwurf, which she has co-founded. She obtained three Bachelors degrees (EECS 1989, Mathematics 1989 and Humanities 1991), as well as her M.S. (1991) and Sc.D (1995), all from MIT. Muriel is a Member of the US National Academy of Engineering (elected 2020), a Member of the German National Academy of Sciences Leopoldina (elected 2022), a Fellow of the US National Academy of Inventors (elected 2018), American Academy of Arts and Sciences (elected 2021), and a Fellow of the Institute of Electrical and Electronics Engineers (elected 2008). She holds Honorary Doctorates from the Technical University of Munich (2020) and from The University of Aalborg (2022).

Muriel was co-winner of the MIT 2004 Harold E. Egerton Faculty Achievement Award and was named a Gilbreth Lecturer by the US National Academy of Engineering in 2007. She has receviend many IEEE Awards and recongnitions and has chaired several IEEE Committees throught her career.

Muriel has supervised over 40 master students, over 20 doctoral students and over 25 postdoctoral fellows.

YESSICA SÁEZ BARRIOS, UNIVERSIDAD TECNOLÓGICA DE PANAMÁ (UTP), PANAMÁ

TITLE: EMPOWERING WOMEN IN COMMUNICATIONS ENGINEERING: PAVING THE PATH TO COMSOC LEADERSHIP

BIO: Yessica Saez Barrios is an electronics and telecommunications engineer, graduated from the Technological University of Panama and a specialist in higher education from the University of the Isthmus of Panama. She holds an MEng and Ph.D. in Electrical Engineering from Texas A&M University, College Station, Texas, USA.

She currently works as a researcher professor in the Department of Electrical Engineering of the Technological University of Panama, where she serves as the Research Coordinator of the Azuero Region Branch. She is the coordinator of the Research Group on Telecommunications Engineering and Intelligent Systems Applied to Society (ITSIAS), where she collaborates in several research projects financed by different institutions.

She has several publications in national and international high impact scientific journals, has participated and presented scientific articles in various national and international congresses. She is a member of the National Research System (SNI) of Panama, director of outreach of the Panamanian Association for the Advancement of Science (APANAC), active member of the Science in Panama Foundation. Dr. Sáez is part of the board of directors of the Communications Society (COMSOC) of the IEEE Panama and the IEEE Panama Section, member of the board of directors of the Communications Society (COMSOC) of IEEE Latin America and WICE.

YOUNG PROFESSIONALS PANEL

Comprehensive Internationalization through Digitalization, Innovation and Global-regional Coproduction

Event Date: November 15, 2023

Time: 05:00 p.m. to 06:45 p.m.

Room: Berlin 2

PANELISTS:

Damir Isovic, Mälardalen University (MDU), Sweden

Aris Castillo, Universidad Tecnológica de Panamá (UTP), Panamá

Natalia Gaviria, Universidad de Antioquia (UdeA), Colombia

ABSTRACT:

Mälardalen University (MDU) has a strong profile on coproduction with the industry, society and public sector, with many years of experience in developing methods and delivering results of mutual benefit. The university commits in its strategy to deliver research and knowledge for the benefit of the society in Sweden and we strongly believe that this concept can also be applied in an international context.

We have successfully implemented this model in two international projects. The first project, completed in 2015, involved partners from India, while the second project, ongoing, has engaged partners from Latin America. Both initiatives have had a significant impact on all participating universities, fostering the integration of internationalization into our core missions. Through collaborative efforts such as virtual exchange, internationalization at home, lifelong learning, and global-regional development, we have strengthened interdisciplinary cooperation and expanded the dimensions of our international partnerships.

In our most recent endeavor, we are collaborating with two esteemed partners: Universidad Tecnológica de Panamá (UTP), Panama and Universidad de Antioquia (UdeA), Columbia. The combined efforts of students and researchers from all three universities have led to the development of three distributed projects: Autonomous Sailing Boat, a Smart Room, and a Digital Health Platform. The project commenced just before the onset of the Covid-19 pandemic, forcing us to swiftly adapt to the new circumstances. Working remotely presented unforeseen challenges, including the need to overcome physical barriers and the inability to travel and meet face-to-face.

Nonetheless, we have gained invaluable experience throughout this process, such as conducting intricate technical discussions online, organizing distributed work across significant time differences, fostering engagement in a virtual setting, and facilitating cultural exchange despite the absence of physical interaction. These experiences have not only paved the way for new research collaborations but have also provided us with numerous insights. We are eager to share our knowledge and invite others to collaborate with us, as we believe there is immense value in exchanging ideas and working together towards common goals.

SPEAKERS:

Dr. Damir Isovic is the Dean of the School of Innovation, Design, and Engineering at Mälardalen University (MDU), Sweden. He is also a Chair of International Council at MDU and an Associate Professor in the field of embedded real-time systems. With numerous publications at esteemed international conferences and journals, his work has been recognized as seminal by the IEEE Technical Committee on Real-Time Systems. Additionally, he serves on the boards of several national organizations and has taught courses at several prestigious universities worldwide.

Mrs. Aris Castillo has been in the academic and research arena for over 20 years in the area of information and communication technologies as Associate Professor at Universidad Tecnológica de Panamá (UTP). She held the position of Institutional Director of International Relations at UTP from 2015 to 2023, was involved in several Erasmus+ Capacity Building Project as well as KA-107 for mobility with European universities, and was the National Secretary of the International Association for the Exchange of Students for Technical Experience (IAESTE) Panama that works with all continents. Currently she serves as Vice President of COMSOC at IEEE Panama Section.

Dr. Natalia Gaviria is an Associate Professor in the Electronics Engineering Department at Universidad de Antioquia in Medellín, Colombia, since 2006. Her research interest is the modeling and performance analysis of communications systems, where she has published several papers and conferences. She has lead initiatives to consolidate Scientific Ecosystems in the fields of ICT and Energy, leading to steghtening the collaboration of several universities and industry partners. She is currently IEEE ComSoc Chair in Columbia.

TECHNICAL SESSIONS

WEDNESDAY, NOVEMBER 15, 11:00 - 12:30

TS1: MOBILE AND WIRELESS NETWORKS (1)
Room: Berlin 1
TS1 Chair: Guillaume Ferré

Low Latency Random Access Procedure for mMTC in 5G NR Networks
Wei-Chieh Wang, Chi-Han Chen, Chien-Lin Yen, You-Lin Chen, Jiun-Chi You and Chih-Cheng Tseng (National Ilan University, Taiwan)

Performance Analysis of 6G Communication Links in the Presence of Phase Noise
Arianna Halamandaris (California State University, USA); Md Sahabul Alam (California State University Northridge, USA); Imtiaz Ahmed (Howard University, USA); Kamrul Hasan (Tennessee State University, USA); Georges Kaddoum (ETS Engineering School, University of Québec, Canada)

Performance Analysis of 5G Voice Solutions via EPS Fallback and VoNR
Matheus Fontinele de Aguiar and Jordan Kalliure S. Carvalho (Sidia Instituto de Ciencia e Tecnologia, Brazil); Vivianne de Aquino Rodrigues (Sidia Institute of Science and Technology, Brazil); Abdel Fadyl Chabi (Sidia Instituto de Ciencia e Tecnologia, Brazil); João Vitor da S. Campos and Luan Rocha Lopes (Sidia Institute of Science and Technology, Brazil); Janislley Oliveira de Sousa (SIDIA, Brazil)

Coverage Probability Analysis of a RIS-Assisted THz Indoor System Based on Ray Tracing Simulations
Higo Silva (Federal University of Campina Grande, Brazil); Marcelo S. Alencar (Federal University of Rio Grande do Norte & Institute for Advanced Studies in Communications, Brazil); Wamberto Queiroz (Universidade Federal de Campina Grande, Brazil); Hugerles Silva (Instituto de Telecomunicações, IT, Brazil)

TS2: SERVICE SECURITY AND PRIVACY (1)
Room: Berlin 2
TS2 Chair: Javier Sánchez-Galán & Aris Castillo

Applying Hoeffding Tree Algorithms for Effective Stream Learning in IoT DDoS Detection

João Josephik, Yaissa Siqueira, Kétly Machado and Routo Terada (University of Sao Paulo, Brazil); Aldri Santos (Federal University of Minas Gerais (UFMG), Brazil); Michele Nogueira (Federal University of Minas Gerais, Brazil); Daniel M. Batista (University of Sao Paulo, Brazil)

Analyzing DDoS Attack Classification with Data Imbalance Using GANs
Danny E Acosta-Tejada (Polytechnic University of Puerto Rico & Promoting Postbaccalaureate Opportunities for Hispanic Americans (PPOHA) Program, USA); Nelliud Torres-Batista (Polytechnic University of Puerto Rico, Puerto Rico); Javier E. Sanchez-Galan (Universidad Tecnológica de Panamá, Panama)

Towards Robust AI Model for Cyber-Physical Intelligent Transportation Systems by Hash-Based Ensemble Learning
Kamrul Hasan and Varshini Guduru (Tennessee State University, USA); Salaeh Zein-Sabatto (Ten State U, USA); Deo Chimba (Tennessee State University, USA); Imtiaz Ahmed (Howard University, USA)

NLAC: A Self-Maintained Trust Overlay for the XRP Ledger
Flaviene Scheidt de Cristo, Arno Michel Denis Geimer and Radu State (University of Luxembourg, Luxembourg)

TS3: INTERNET-OF-THINGS (1)
Room: Amsterdam
TS3 Chair: Edwin Collado

Intelligent Lighting System-based on Sleep Detection using IoT Devices and Wearables
Chi Fung, Joshua López, Samuel Hurtado and Ernesto J Garcia Davis (Technological University of Panama, Panama)

Low-cost Optical Wireless CDMA Transceiver Design for IoT Applications
Gregory Dzhezyan and Hovannes K. Kulhandjian (California State University, Fresno, USA); Michel Kulhandjian (Rice University, USA & University of Ottawa, USA); Michael Rahaim (University of Massachusetts Boston, USA)

Proposal of a Fog and Cloud Computing-based Architecture for Air Quality Monitoring in Panama
José Collado and Cristian Pinzón (Universidad Tecnológica de Panamá, Panama); Yessica Sáez (Universidad Tecnológica de Panamá, Panama & Centro de Estudios Multidisciplinarios En Ciencias, Ingeniería y Tecnología AIP, Panama); Edwin Collado (Universidad Tecnológica de Panamá & Centro de Estudios Multidisciplinarios En Ciencias, Ingeniería y Tecnología AIP, Panama)

Edge Computing Applied on Real-time Manatee Detection Using Microcontrollers

Edwin Ríos, Fernando Merchan, Héctor Poveda and Javier E. Sanchez-Galan (Universidad Tecnológica de Panamá, Panama); Héctor M. Guzmán (Smithsonian Tropical Research Institute, Panama); Guillaume Ferré (University of Bordeaux, France)

WEDNESDAY, NOVEMBER 15, 15:30 - 17:00

TS4: INTERNET-OF-THINGS (2)
Room: Berlin 1
TS4 Chair: Carlos Medina

Single Person Identification Using Wi-Fi Signals
Julio César Huarachi Soto, Sr. (Fluminense Federal University - UFF & MídiaCom Laboratory, Brazil); Iandra Galdino (Federal Fluminense University - UFF, Brazil); Egberto Rosillo, Debora Muchaluat-Saade and Célio Vinicius Neves de Albuquerque (Universidade Federal Fluminense, Brazil)

Detection and Classification of Animal Crossings on Roads Using IoT-based WiFi Sensing
Samuel V Ducca (Universidade de São Paulo, Brazil); Artur Jordão (Federal University of Minas Gerais, Brazil); Cintia Borges Margi (Universidade de São Paulo & Escola Politécnica, Brazil)

Development of a Noise Monitoring and Control Sensor Network System for the Enclosed Spaces within a University Environment
Aris Linet Castillo (Universidad Tecnológica de Panamá & Universidad de Islas Baleares, Panama); Luis Caballero, Angel Cilli, Jesús González, Ian Rojas and Bladimir Torres (Universidad Tecnológica de Panamá, Panama)

Harnessing IoT for Agriculture: Evaluating the Performance of a LoRaWAN-Based Monitoring System
Carlos Gonzalez (Southern Brittany University & Senacyt Panama - Autonomous University of Chiriqui, France); Soizic Gibeaux (Southern Brittany University, France); Asael Espinosa (Autonomous University of Chiriqui, Panama); Javier Pitti (Research Institute and Agricultural Research Institute, Panama)

WEDNESDAY, NOVERMBER 15, 17:15 - 18:45

TS5: QOS, RELIABILITY AND PERFORMANCE MODELING (1)
Room: Berlin 1
TS5 Chair: Stefano Bregni

Experimental Evaluation of SD-WAN Performance in a Municipal Network Test Bed
Sebastian Troia, Guido Maier and Stefano Bregni (Politecnico di Milano, Italy)

Runtime Availability and Service Continuity of Containerized VNF Instances
Siamak Azadiabad and Ferhat Khendek (Concordia University, Canada); Maria Toeroe (Canada)

Traffic Shaping with Deep Q-Networks for Optimizing the Age of Information
Ricardo Lent (University of Houston, USA)

IEEE 802.15.4e TSCH Traffic Isolation Approach Impact on SDWSN's Control Plane Performance
Tarek Sayjari and Regina Melo Silveira (University of São Paulo & Escola Politécnica, Brazil); Cintia Borges Margi (Universidade de São Paulo & Escola Politécnica, Brazil)

THURSDAY, NOVEMBER 16, 11:00 - 12:30

TS6: MOBILE AND WIRELESS NETWORKS (2)
Room: Berlin 1
TS6 Chair: Guillaume Ferré

Real-time Low-earth Orbit Detector Implementation for Chirp-based Preamble Communication Systems
Matthieu Magnant (Bordeaux INP, France); Mohamed Amine Ben Temim (IMS Laboratory - University Bordeaux, France); Bertrand Le Gal and Guillaume Ferré (University of Bordeaux, France); Florian Collard (Eutelsat S.A., France)

LLR Metrics for 16K-QAM Soft-Decision: Implementation in IEEE 802.11bn (Wi-Fi 8)
Roger Pierre Fabris Hoefel (Federal University of Rio Grande do Sul, Brazil)

Comparative Analysis of COTS Equipment for Cellular Radio Channel Propagation
Fernando José Matus, Kelvin Arana, Marvin R. Arias, Marcos Zelaya and Bayardo Cuadra (National University of Engineering, Nicaragua)

Precipitated Handover Decision Detection in LTE Networks through Recurrent Neural Networks
Renata Kellen Gomes Dos Reis, Jussif Junior Abularach Arnez, Caio Bruno Bezerra de Souza and Maria Lima Damasceno (Sidia Institute of Science and Technology, Brazil)

TS7: SERVICE SECURITY AND PRIVACY (2)
Room: Berlin 2
TS7 Chair: Javier Sánchez-Galán

A Runtime DDoS Attack Detection Technique Based on Stochastic Mathematical Model
Allain Christiam Jacinto Tavares (UTFPR, Brazil); Euclides Peres Farias Peres Farias Junior (Federal University of Paraná (UFPR) & Federal University of Technology Paraná (UTFPR), Brazil); Michele Nogueira (Federal University of Minas Gerais, Brazil)

Privacy-preserved Collaborative Federated Learning Platform for Industrial Internet of Things
Lakshan Pathiraja, Isuru Lakshan and Kavini Kushani (University of Ruhuna, Sri Lanka); Chamara Sandeepa (University College Dublin, Ireland); Tharindu D. Gamage and Thilina Weerasinghe (University of Ruhuna, Sri Lanka); Madhusanka Liyanage (University College Dublin, Ireland)

Comparative Analysis of Unsupervised Machine Learning Algorithms for Anomaly Detection in Network Data
Junia Maisa Oliveira (Universidade Federal de Minas Gerais, Brazil); Jonatan Davi Reis de Almeida (Federal University of Minas Gerais & UFMG, Brazil); Daniel Fernandes Macedo and Jose Nogueira (Universidade Federal de Minas Gerais, Brazil)

An Autonomous System for Predicting DDoS Attacks on Local Area Networks and the Internet
Davi Brito (Federal University of Minas Gerais, Brazil); Anderson Bergamini de Neira (Federal University of Parana, Brazil); Ligia F. Borges (Federal University of Paraná - UFPR, Brazil); Michele Nogueira (Federal University of Minas Gerais, Brazil)

TS8: MACHINE LEARNING FOR COMMUNICATION NETWORKS
Room: Amsterdam
TS8 Chair: Ivan Armuelles

Exploring Federated Learning Privacy Issue to Improve Mobility Quality
Gabriel Luciano Gomes (UNICAMP, Brazil); Felipe Cunha (Pontifical Catholic University of Minas Gerais, Brazil); Leandro Aparecido Villas (UNICAMP, Brazil)

AID-SDN: Advanced Intelligent Defense for SDN using P4 and Machine Learning
Adiel S Nascimento (Universidade Federal do Pará & CPQD, Brazil); Diego Abreu (Federal University of Pará, Brazil); André Riker (Federal University of Para, Brazil); Antonio Jorge Gomes Abelem (Federal University of Pará - UFPA, Brazil)

On the Computational Complexities of Complex-valued Neural Networks
Kayol S. Mayer, Jonathan Aguiar Soares, Ariadne Arrais Cruz and Dalton Arantes (University of Campinas, Brazil)

Construction of a Data Integration Platform for the Passive Monitoring of the Antillean Manatee in Panama

Kenji Contreras (Universidad Tecnologica de Panama, Panama); Fernando Merchan and Héctor Poveda (Universidad Tecnológica de Panamá, Panama); Héctor M. Guzmán (Smithsonian Tropical Research Institute, Panama); Javier E. Sanchez-Galan (Universidad Tecnológica de Panamá, Panama)

THURSDAY, NOVEMBER 16, 15:30 - 17:00

TS9: CLOUD, FOG AND EDGE COMPUTING
Room: Berlin 1
TS9 Chair: Aris Castillo

HAST: A Hybrid Academic Testbed for High Fidelity and High Performance Scenarios
Ruben F Cordova and Cesar A Santivanez (Pontificia Universidad Catolica del Peru, Peru)

Unlocking Early-Exiting Semantic Segmentation with Branched Networks
Mateus S. Gilbert, Roberto Gonçalves Pacheco, Rodrigo S. Couto and Marcello L. R. de Campos (Universidade Federal do Rio de Janeiro, Brazil); Miguel Elias M. Campista (Federal University of Rio de Janeiro & GTA, Brazil)

Distributed task offloading in MEC Networks for Temporary Peaks in Demand
Camilo Anzola-Rojas, Ignacio de Miguel, Ramón J. Durán Barroso and Juan Carlos Aguado (Universidad de Valladolid, Spain); Rubén M. Lorenzo (University of Valladolid, Spain); Noemí Merayo (Universidad de Valladolid, Spain); Evaristo J. Abril and Patricia Fernández (University of Valladolid, Spain)

Hobby: An Efficient Dependency-Aware Scheduling for High Throughput in Clouds
Jinwei Liu and Richard A. Alo (Florida A&M University, USA); Rui Gong (Mercer University, USA); Ying Mao (Fordham University, USA)

THURSDAY, NOVEMBER 16, 17:15 - 18:45

TS10: QOS, RELIABILITY AND PERFORMANCE MODELING (2)
Room: Berlin 1
TS10 Chair: Yessica Saez

Assessing the impact of field-measurement on the design of Spectrum Sensing WSN

Jenry Luis (Pontifical Catholic University of Peru, Peru); Cesar A Santivanez (Pontificia Universidad Catolica del Peru, Peru)

On the Performance of MIMO-VLC Techniques in Underground Mining Environments
Julian Solis (Universidad de Chile, Chile); Pablo Palacios Játiva, Sr. (Universidad Diego Portales, Chile); Cesar Azurdia (Universidad de Chile, Chile); David Zabala (Universidad Catolica del Maule, Chile); Carlos A. Gutiérrez (Universidad Autonoma de San Luis Potosi, Mexico); Shaharyar Kamal and Claudio Estevez (Universidad de Chile, Chile)

Data consumption and user experience in video lecture sessions via Mobile Telephony Network
Junia Maisa Oliveira, Marcos Carvalho, Daniel Fernandes Macedo and Jose Nogueira (Universidade Federal de Minas Gerais, Brazil)

T11: SELECTED TOPICS IN COMMUNICATIONS (VEHICULAR COMMUNICATIONS AND MOLECULAR/ORGANIC COMMUNICATIONS)
Room: Berlin 2
TS11 Chair: Stefano Bregni

Distance Estimation Based on Impulse Response Distortion in Diffusive Molecular Communication
Dario Tagliaferri, Marouan Mizmizi, Fardad Vakilipoor and Maurizio Magarini (Politecnico di Milano, Italy); Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, India); Stefano Bregni (Politecnico di Milano, Italy)

Targeted Broadcast in Vehicular Ad-Hoc Networks
Roberto Ventura (United Robotics Group, USA); William Bjorndahl (Southern Methodist University, USA); Gustavo Vejarano (Loyola Marymount University, USA)

Enhancing Vehicular Cooperative Downloading with Continuous Seeding through Deep Reinforcement Learning
Michael Niebisch (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Daniel Pfaller (AUDI AG, Germany); Anatoli Djanatliev (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Trust Verification in Connected Vehicles Using Unsupervised Variational Autoencoder
Ramzi Boutahala (Universite de Reims Champagne-Ardenne, France); Hacene Fouchal (Université de Reims Champagne-Ardenne, France); Marwane Ayaida (Université Polytechnique Hauts de France, France & Université de Reims Champagne-Ardenne, France); Shiwen Mao (Auburn University, USA)

Achievable Rate Analysis in Diffusive Molecular Communication Channels with Memory
Fardad Vakilipoor, Luca Barletta, Stefano Bregni and Maurizio Magarini (Politecnico di Milano, Italy)

FRIDAY, NOVEMBER 17, 11:00 - 12:30

TS12: SELECTED TOPICS IN COMMUNICATIONS (SMART GRIDS AND BLOCKCHAIN)
Room: Amsterdam
TS12 Chair: José Marcos Nogueira

Breaking Chains, Empowering IoT: A Comparative Study of Holochain and Blockchain
Pramitha Fernando and An Braeken (Vrije Universiteit Brussel, Belgium); Madhusanka Liyanage (University College Dublin, Ireland)

Utilization of a Blockchain-based Reputation Management System for Energy Trading in Smart Grid 2.0
Charithri Yapa (University of Sri Jayewardenepura, Sri Lanka); Chamitha De Alwis (University of Bedfordshire, United Kingdom (Great Britain)); Uditha L. Wijewardhana (University of Sri Jayewardenepura & Faculty of Engineering, Sri Lanka); Madhusanka Liyanage (University College Dublin, Ireland)

Pub/sub Dissemination on the XRP Ledger
Flaviene Scheidt de Cristo (University of Luxembourg, Luxembourg); Lucian A Trestioreanu (University of Luxembourg & Interdisciplinary Centre for Security, Reliability and Trust (SNT), Luxembourg); Wazen M. Shbair (VNX, Luxembourg); Radu State (University of Luxembourg, Luxembourg)

Dynamic Protection Scheme in a Digital Environment of Electrical Systems
Germán D Rueda, Johan S Castro and Oscar A Tobar (Universidad Nacional de Colombia, Colombia); John E. Candelo-Becerra (Universidad Nacional de Colombia - Sede Medellin, Colombia); Germán D. Zapata-Madrigal (Universidad Nacional de Colombia, Colombia); Rodolfo García (Codensa S.A. E.S.P. (Enel Group), Colombia)

GOOSEAttacker: Synthetic Attack Generation Tool for IEC61850
Omar Roa (University of Antioquia, Colombia); Juan Felipe Botero and Sergio Armando Gutierrez (Universidad de Antioquia, Colombia); Oscar A Tobar (Universidad Nacional de Colombia, Colombia)

TS13: COMMUNICATION THEORY AND SIGNAL PROCESSING
Room: Berlin 2
TS13 Chair: Jalel Ben Othman

Simple Peak Interference Cancellation (SPIC): Interference Cancellation Prior to Packet Decoding in LoRa Networks
Jumana Bukhari (Florida State University & Imam Abdulrahman Bin Faisal University, USA); Zhenghao Zhang (Florida State University, USA)

A Comparison of Denoising Techniques with Signals Affected by non-Gaussian Noise and Sample Entropy as an Indicator of Performance
Carlos Boya (Instituto Superior Técnico Especializado (ITSE), Panama); Omar Rivera-Caballero (Grupo de Investigación En Ingeniería y Nuevas Tecnologías Aplicadas (GRINTEC), Panama)

Deep Learning Neural Receiver for Organic Communication Channels
Aaron Roopnarine and Sean Rocke (The University of the West Indies, Trinidad and Tobago)

Time-Shift Coding for Uncoordinated MACs
Peihong Yuan (MIT, USA); Ken R. Duffy (Northeastern University, USA); Muriel Médard (MIT, USA)

IEEE LATINCOM™ 2023

THANKS OUR PATRONS