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CONFERENCE REPORT

Highlights from IEEE LATINCOM 2022, Rio de Janeiro, Brazil

14th IEEE ComSoc Latin-American Conference on Communications

by Miguel Elias M. Campista and Igor M. Moraes,
IEEE LATINCOM 2022 General Chairs, and Luís Henrique M. K.
Costa, Yacine Ghamri-Doudane, IEEE LATINCOM TPC Chairs

From November 30 to December 02 2022, the IEEE Latin-American Conference on Communications (LATINCOM) returned to Brazil for its fourteenth edition. LATINCOM was held in the wonderful city of Rio de Janeiro, which had the privilege to offer attendees all its fantastic beauties comprising landscapes with a series of green mountains cascading down to the coast. LATINCOM's journey to Rio de Janeiro started in Medellín, Colombia, in 2009, Bogotá, also in Colombia, in 2010. It first appeared in Brazil, Belém, in 2011. Then it moved to Cuenca, Ecuador, in 2012, Santiago, Chile, in 2013, Cartagena de Indias, Colombia, in 2014, Arequipa, Peru, in 2015, Medellín, Colombia, in 2016, Guatemala City, Guatemala, in 2017, and Guadalajara, Mexico, in 2018. LATINCOM was held for a second time in Brazil, in Salvador, 2019. The conference was forced to go online in 2019, hybrid in 2021, in Santo Domingo, Dominican Republic, and then finally returning to the face-to-face format in 2022, in Rio de Janeiro. This brought to the 14th edition a remarkable characteristic, as it represented the return to in-presence conferences after the Covid-19 outbreak. LATINCOM is held annually and attracts submissions and participants from around the globe. In 2022, the program was organized in three intensive days, including four keynote speeches, four tutorials, two workshops, and 16 technical sessions.

Renowned international researchers delivered keynotes: Prof. Fabrizio Granelli, University of Trento, Italy; Prof. Israat Haque, Dalhousie University, Canada; Prof. Tommaso Melodia, Northeastern University, United States of America; and Prof. Jussara Almeida, Universidade Federal de Minas Gerais, Brazil, enlightened the attendees with their inspiring talks. The four tutorials were presented by prestigious researchers, who shared with LATINCOM participants part of their expertise. Additionally, the workshops played a gratifying role in women's (Women In Communications Engineering – WICE) and young professionals (Young Professionals – YP) inclusion and consolidation in the community. We are honored to have those research leaders as our guests since they could provide a rich combination of academic and industrial points of view.

Another highlight of LATINCOM was the technical sessions. In 2022, LATINCOM had 16 sessions resulting from a high-level reviewing process that selected the top-ranked 63 technical papers out of 146 submissions. The LATINCOM technical sessions could certainly contribute with cutting-edge technical content for participants and the research community. The large spectrum of the resulting program justified the 105 registrations, a record considering the last few years and the post-pandemic



IEEE LATINCOM 2022 opening ceremony. From left to right at the table: Prof. Yacine Doudane, Luís Costa, Miguel Campista, and Igor Moraes.



An IEEE LATINCOM 2022 technical session.



The IEEE LATINCOM 2022 organizing team.

situation. It is worth mentioning that WICE and YP workshops had 25 additional registrations.

Many other people have contributed to the success of IEEE LATINCOM 2022. First, we would like to thank the authors who submitted their contributions to the conference and provided an exciting technical program. Very special thanks to our Keynote

and Tutorial Chairs, Profs. Alberto Egon Schaeffer-Filho, from Universidade Federal do Rio Grande do Sul, Brazil, and Antonio Cianfrani, from University of Rome Sapienza, Italy; our Finance Chair, Prof. Antonio Jorge G. Abelém, from Universidade Federal do Pará, Brazil; our Publication Chair, Prof. Marcelo G. Rubinstein, from Universidade do Estado do Rio de Janeiro, Brazil; our Publicity Chairs, Profs. Cecilia Galarza, from Universidad de Buenos Aires, Argentina, and Rodrigo S. Couto, from Universidade Federal do Rio de Janeiro, Brazil; our Student Travel Grant Chairs, Profs. Cesar Augusto Azurdia, from Universidad de Chile, Chile, Juliano Naves, from BairesDev, United States of America, and Sandra L. Céspedes, from Concordia University, Canada; our Web and Social Media Chairs, Profs. Rebeca Estrada, from Escuela Superior Politécnica del Litoral, Ecuador, and Dianne Scherly Varela de Medeiros, from Universidade Federal Fluminense, Brazil; our Local Arrangements Chairs, Profs. Diogo Menezes Ferrazani Mattos, from Universidade Federal Fluminense, Brazil; Célio Albuquerque, from Universidade Federal Fluminense, Brazil, and Débora Muchaluat-Saade, also from Universidade Federal Fluminense, Brazil.

CHAPTER REPORT

IEEE ComSoc/SPS Spain Joint Chapter Winner of the IEEE ComSoc 2022 EMEA Chapter Achievement Award

by Víctor P. Gil Jiménez, IEEE Spain Signal Processing and Communications Joint Chapter Chair

Usually some of the things are better in pairs. In the case of the IEEE Spanish Signal Processing and Communications Joint Chapter, the last two years have been awesome.

First, in 2021, we collaborated in the organization of IEEE Globecom in Madrid. Just some comments on it to remember that IEEE Globecom finally arrived to Madrid in 2021!

7–10 December 2021. It is holidays in Spain but we are very busy these days in Madrid. The IEEE Globecom opens its doors. This time, the event is hybrid due to COVID situation. Hopefully, it is the beginning of December and Omicron has not exploded yet. One more week, and the event would probably have had to be cancelled. The event is hybrid as explained but, for the first time ever, it is in person, synchronous online and asynchronous online. That imposes to the organization all the constraints of all the scenarios, what it a great challenge.

The numbers are impressive: 2072 registered, 516 in person attendees (some of them just showed up even when they had remote registration), 1556 remote attendees. 905 accepted papers (38% rate), 31 tutorials, 27 workshops, 15 industry presentations, 8 industry panels, 9 spotlight talks, 14 stands, 7 keynote speakers, more than 20 parallel activities. We also collaborated with some of them such as YP activities.

The event attract to the most relevant researchers and professional in the field of communications all around the world. Behind this event, there are a huge work and illusion.

Was that effort worth? Definitely, YES. The most listened word during the event and at the end was “THANK YOU.” Thank you for the organization of the wonderful event, thank you for the possibility to join everyone again, thank you for the opportunity of interaction, thank you for the hospitality, thank you for...

This is the best indicator of success.

We also want to thank the organizing committee of the event and to the people that joined IEEE Globecom 2021 either in person or remotely.

After an exhausting year 2021 we needed to relax a bit, however, the show must go on.

We would like to congratulate the authors of the best paper award, N. Cameron Matson, Joseph Camp, and Dinesh Rajan, and the authors of the two other best paper award runners-up, who also received LATINCOM 2022 award certificates. Also, we would like to congratulate all students who have received a Student Travel Grant.

We would like to give special thanks to Mrs. Tina Gaerlan, our Senior Conference Planner from IEEE Communications Society, United States of America, and Mrs. Alessandra Leitão, our PCO, from Createve, Brazil. We would also like to thank IEEE Communications Society for the support and our sponsors NIC.br/CGI.br, FAPERJ, CNPq, IC/UFF, and NAVI, which are fundamental for the conference. With them, the conference is indeed possible.

Finally, we sincerely hope attendees could enjoy the 14th Latin-American Conference on Communications (LATINCOM 2022) technical activities. We really expect our conference could create a productive environment for sharing experiences and fostering cooperation. To the LATINCOM community and enthusiastic people, we are all very excited to 2023 edition and all new editions to come.



A moment of IEEE Globecom 2021 opening.



Gala Dinner

We started on January supporting the 10th IEEE Spanish workshop on signal Processing, Communications and Information Theory that should be delayed to November due to the explosion of COVID-19 situation. The support of these activities is important for all the members that get from the chapter the visibility and is a funding attractor for the organizers.

The chapter also participated organizing pre-STEM activities such as the “Escape of the room: Save the world with the best telecommunication system,” where participants were divided into groups and they had to design and build a telecommunication system to transmit the information and escape from the

room while they learned the basic concepts on communication. From the chapter we put faith on these kind of activities to attract young people to engineering and especially to the communication and signal-processing field. They are the future students and future engineers. They are our hope. Thus, the chapter organizes and collaborates with these anytime it has the opportunity. In fact, that activity got the second price at the "IEEE ComSoc Pre-STEM hands-on contest 2022" for ages 14-17. We are very proud of our volunteers!

Continuing with the pre-STEM outcomes, our volunteers always participate in panels, round tables and workshops related to this.

Regarding our more technical activities, this year 2022, the chapter co-organized with IEEE UK and Ireland ComSoc chapter 4 different virtual distinguished lectures (VDL) and one "IoT week" with another three VDL. We leveraged on the virtual activities so the number of potential members was higher in this collaboration. We hope that we can continue in the future with it and even co-organize in person events. I would like to thank prof. Nauman Aslan, UK-Ireland ComSoc chapter chair, for his help and fruitful collaboration. In our opinion, this is the way to obtain better results using efficiently the resources and leveraging on the IEEE family.

HISTORY

Birth of the IEEE Communications Society

by Gunther Karger, Senior Life Member IEEE, Holocaust Survivor, USA

It was October, 1963 in the depth of the Cold War when the military/Defense focus was on Post Nuclear Attack defense against first strike nuclear armed enemy ICBM's. Then, there was the Air Force Systems Command under General Bernard Shriever with Hq in Boston(Hanscom Field and the MIT/MITRE complex and who also commanded the Rome Air Development Center at Rome, NY. This was the time and place where such things as Command Control Communications(C3) and Airborne Command Post(post nuclear attack national command center) and AWACS (Airborne Warning and Control System) were developed as was the post attack Air Force Communication System (AFSACS) which was created at ICS(ITT Communication Systems) under the personal direction of Gunther Karger, Project Manager and Technical Staff member at ICS in Paramus NJ.

The key persons involved with such matters attended this symposium held in Utica, NY including communication engineers from Ft. Monmouth, NJ (Bernard Goldberg), Dr. Elie J. Baghdady (MITRE/MIT/ADCOM, Roger McSweeney (RCA-ICS), Richard Kirby(NBS-National Bureau of Standards), Ransom D. Slayton (Teletype Corp), Gunther Karger (ICS), Ralph Marks and Charlie Strom from Rome Air Development Center and others. Matters discussed included COMSEC(secure communications), emergency post attack communications, digital techniques with speech compression and networks such as Autovon and Datavon (which eventually led to the Internet).

The common denominator throughout this symposium and others by NATCOM(National Communications Symposium) was the IEEE Professional Group on Communications(PTGC) of which most of these attendees were officers and committee members. At that time, R.D. Slayton of Teletype Corp in Skokie, Ill was on the executive committee and Newsletter Editor, Gunther Karger was Chairman of the Northern New Jersey chapter and as of this meeting, became the PTGC Newsletter Editor which he served for the following five years.

The NATCOM symposium eventually evolved over the years into Globecom and PTGC became COMSOC. The Newsletter headed by Gunther Karger eventually became the COMSOC Magazine. ISC which at that time was the project focus of the

Of course, we are proud and honored to have our 7 DL this year. Thank you to all of them. The topics were in the whole spectrum of communications and signal processing:

- "Multi-antenna processing for satellite communications" by Bruno Clerckx.
- "Integrating UAVs in 6G mobile networks" by Fabrizio Granelli.
- "The rise of Quantum Internet" by Sara Angela Caciapouti.
- "IoT via 5G satellite systems" by Giovanni Giambene.
- "Ultra Reliable and Low Latency Communications (URLCC) for 5G IoT. Time Sensitive networking and V2X communication" by Shahid Mumtaz.
- "AI based machine-to-machine communications in 6G" by Sinem Coleri.
- "Reconfigurable intelligent surfaces: communication, sensing and their integration" by George Alexandropoulos.

We have all the information in our website:

<https://ewh.ieee.org/r8/spain/spcom/index.html>

Due to this hard work did by volunteers the chapter was awarded with the IEEE 2022 ComSoc Chapter Achievement Award in the EMEA region. This milestone is a booster for continuing and growing into our activities for next year!



Picture of original COMSOC founders, taken at NATCOM IX, October, 1963.

Top row, left to right: Bernard Goldberg, ERDC Walter Lyons, (Long Island PTG-CS), William Mazer, Wilson C. De Andreades, (Baltimore PTG-CS), Richard M. Emberson (IEEE), Ransom D. Slayton (Teletype Corp and PTGS Newsletter Editor, Unidentified, A. C. Peterson (Bell Canada), Roger McSweeney (Chief Engineer RCA International), Richard Kirby (National Bureau of Standards), Schlijker, unidentified, Gunther Karger (ICS and Northern New Jersey PT-GC Chairman).

Bottom row, left to right: Charles A. Strom (RADC), S.Coggeshal, (unidentified), R. Benoit, (Unidentified), David s. Rau, (RCA), Prof. Richard Jones (Georgia Tech), John Worthington(unidentified), R.M. Marks (RADC), Andre Clavier (ITT).



Certificate awarded to Gunther Karger by NATCOM IX, October 1963

C3 developments eventually was acquired by Computer Sciences and moved to Arlington, VA. Gunther Karger however left the project to join Radiation Inc. in Melbourne, Florida later to the Air Force Space complex at Cape Canaveral and became the IEEE Chair of the Canaveral Section.

This history reflects my best recollection of that significant part of history as of today, March, 2023, I may well be the

only person alive to tell this story, just having reached my 90th birthday March 16, 2023. To preserve this and other recollections and records, I have donated all our scientific and IEEE records to the IEEE History Center.

Gunther Karger, Author, speaker, Cyber Columnist and Aerospace Engineer, IEEE Senior Life Member, Holocaust Survivor, <gunther@ieee.org>

CONFERENCE REPORT

WICE Session at IEEE LATINCOM 2022, Rio de Janeiro, Brazil

by Yessica Sáez, IEEE ComSoc Women in Communications Engineering (WICE) Committee, Panama

The IEEE ComSoc Women in Communications Engineering (WICE) committee participated in the 14th Latin-American Conference on Communications (LATINCOM) held from November 30, 2022, to December 2, 2022, in the wonderful city of Rio de Janeiro, Brazil. IEEE LATINCOM 2022 was organized by the IEEE Communications Society (ComSoc) - Latin America Region, Universidade Federal do Rio de Janeiro (UFRJ), and Universidade Federal Fluminense (UFF).

The WICE Committee organized and conducted a technical session with two remarkable speakers, Dr. Damla Turgut, Charles Millican Professor of Computer Science at University of Central Florida, USA, who presented the topic "Increasing the participation of women and minorities in STEM at a long metropolitan university" and Dr. Gidy Florez Navarro, Senior Protocol R&D Engineer at SIDIA Instituto de Ciência e Tecnologia, Brazil, who presented the topic "Status and challenges for 5G deployments in Latin America." This session was moderated by Dr. Yessica Sáez, a Full-Time Researcher Professor at Universidad Tecnológica de Panamá and member of the WICE board of directors.

Dr. Turgut talked about the University of Central Florida (UCF) as one of the largest public metropolitan universities in the U.S. She mentioned that "while the Computer Science department of UCF is also one of the largest departments in the country, the percentage of women and minorities remains low."



Dr. Gidy Florez (Left), Dr. Yessica Sáez (Middle), and Dr. Damla Turgut (Right) at WICE Session- Latincom 2022.

She explained how they have implemented a few best practices through external grants from various organizations, including the Center for Inclusive Computing at Northeastern University, NWCIT, and Google. In this talk, she discussed the past, current, and planned future efforts toward increasing the participation of women and minorities in computer science at UCF.

Dr. Florez, in the other hand, mentioned that 5G technology is in process of deployment in Latin American countries. Her presentation gave an introduction about the main 5G challenges and features involved, with an explanation of differences between 4G, 5G NSA, and 5G SA architectures and both 5G phases pre-requirements that must be presented to have a proper registration between radio base stations and UEs. Besides, a roadmap about Latin America deployment countries, 5G NSA/SA technologies, NR bands and ENDC most common combinations were presented, and some activities performed in the SIDIA laboratory for 5G KPIs and smartphone feature testing were shown. She concluded her talk with tips and suggestions about most needed skills are searched for to work as a 5G Protocol Engineer.

As of Dr. Sáez, in addition to organizing and moderating the WICE session, she gave a talk on the benefits of being a member of ComSoc and explained a little bit about WICE goals.

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