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CONFERENCE REPORT

ICIN 2020: Innovation in Clouds, Internet and Networks

By By Walter Cerroni, University of Bologna, Italy, and Noël Crespi, Institut Polytechnique de Paris, Telecom SudParis, France

The 23rd Conference on Innovation in Clouds, Internet and Networks (ICIN 2020) took place on February 24-27, 2020 at Orange Gardens, the Research and Innovation Campus of the Orange Group located in Châtillon, a small town in the outskirts of Paris, France. The conference was technically co-sponsored by the IEEE Communications Society and held in cooperation with ACM SIGMOBILE. Patrons that supported ICIN 2020 include Orange, Huawei, Nokia, Gandi.net, Systematic Paris-Region, and DNAC. The conference was attended by 103 registered participants from 25 different countries around the globe: 70 percent were from Europe, 20 percent from Asia and the Middle East, and 10 percent from the Americas. The delegates represented both academia (48 percent) and industry and research institutions (52 percent). As with all previous editions of ICIN since its inception in 1989, ICIN 2020 provided presentations on the latest research and development projects in the field of communications and networking, including topics such as 5G, network

slicing, security, machine learning, cloud computing, and network management.

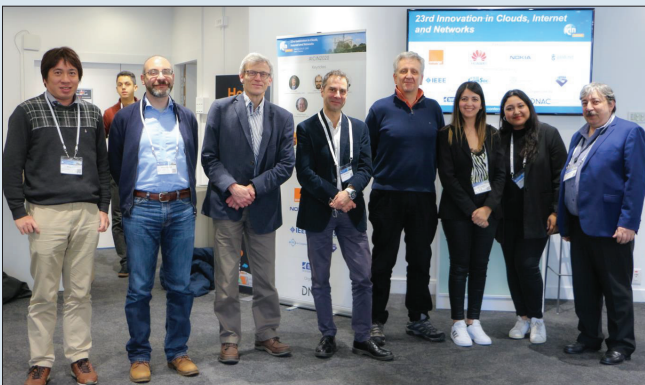
The main theme of ICIN 2020 was “Beyond 5G: Building Network Sense,” as the focus of the conference was on new ideas and novel approaches to foster future service delivery in a smart network environment, able to show what could be qualified as sense: “a sane and realistic attitude to situations and problems”, according to Oxford Dictionary.

The overall organization of the conference was led by General Co-Chairs Diego R. Lopez (Telefonica, Spain) and Bruno Chatras (Orange Labs, France). The Technical Program Committee (TPC) was coordinated by Walter Cerroni (University of Bologna, Italy) and Shingo Ata (Osaka City University, Japan). Noël Crespi (Institut Mines Télécom, France) supervised the whole event as Steering Committee Chair.

On Monday, February 24, two co-located workshops were held: the 1st Workshop on Flexible Network Data Plane Processing (NETPROC 2020) and the 7th International Workshop on the Recursive InterNetwork Architecture: Challenging RINA (RINA 2020). The workshops program included 10 technical presentations, four invited talks, one demonstration and a tutorial with a hands-on session, with an overall attendance of about 50 participants.

The first day of the conference, Tuesday, February 25, started with three tutorials held in the morning in two parallel sessions, chaired by Tutorial Co-Chairs Barbara Martini (CNIT, Italy) and Rogier Noldus (Ericsson, Netherlands). The first tutorial on “High-speed software networks and machine learning: a hands-on overview of AI techniques for network data” was presented by Leonardo Linguaglossa (Telecom PairsTech, France). The speaker presented the theoretical background for a better understanding of the challenges related to the AI+NFV environment. Then, participants were guided to reproduce most of the presented results using open-source free-to-use libraries, such as pyTorch, DPDK, and MoonGen. The second tutorial on “Distributing intelligence through cloud-to-edge and decentralised technologies” was presented by Domenico Siracusa and Daniele Santoro (FBK, Italy). The presentation was given live with the speakers connected remotely, due to the travel restrictions that were starting to be enforced in northern Italy due to the Covid-19 outbreak. Despite that, the tutorial successfully showcased the fog computing sys-

(Continued on Newsletter page 4)



From left to right: Shinzo Ata (TPC Co-Chair), Walter Cerroni (TPC Co-Chair), Nogier Noldus, Noël Crespi (Steering Committee Chair), Diego Lopez (General Co-Chair), Aziza Lounis, Bruno Chatras (General Co-Chair).



Group photo from ICIN day 3.

IEEE Region 9 Meeting: Latin America and Caribbean

By Andrea Carrión, WIE Chair, IEEE Ecuador Section

The IEEE Region 9 Committee Meeting was held in Lima, Peru from March 12 to 14, 2020. The Regional Meeting (RM) is an event that takes place every year at a headquarters in Latin America and the Caribbean. The participants are the members of the Regional Committee: Section Presidents, Council Presidents, Presidents of regular Committees and members of the Executive Committee, all with the right to vote in the decisions made during this meeting. The agenda that takes place during this meeting is established for the benefit of all IEEE members (students and professionals) and society, which positively impacts the development of the Region and strengthens ties between Latin American countries and the Caribbean.

Alberto Sánchez, IEEE R9 director, welcomed the 90 attendees to the meeting and introduced the special guests: Toshio Fukuda, President of IEEE; Kathleen Kramer, IEEE Secretary; Cecilia Jankowski, Managing Director of MGA; Kukjin Chun, VP of MGA; and In addition, the directors from other regions accompanied us at the meeting including Magdalena Salazar, R8 Director and Akinori Nishihara, R10 Director.

Later, roundtables with specific themes were created: New Section Officers Training, Educational Activities Committee, Governance Committee, Technical Activities Committee, Humanitarian Activities Committee and Industry Engagement & Entrepreneurship. The round tables were spaces for discussion on a wide variety of topics focused on the areas described, as well as the development of strategies and opportunities to offer benefits to the members of the region.



IEEE special guests to the Regional Meeting (from left to right): Akinori Nishihara, R10 Director; Toshio Fukuda, IEEE President; Kathleen Kramer, IEEE Secretary; Cecilia Jankowski (Managing Director of MGA and Kukjin Chun, VP of MGA).

The Societies also had the opportunity to meet and share their strategic plan for 2020. Currently, the ComSoc R9 director is Nury Ramirez, who during her presentation reported the services and resources that the society has for its members, and highlighted the Flagships and Core Conferences of ComSoc; she subsequently announced the Young Professionals and Distinguished Service Awards that will launch in July 2020 and presented to the Board ComSoc R9.

She said that "The primary purpose of our board is to assure that R9 ComSoc fulfills its mission and meets its goals". The board members of the Board and their areas of responsibility are shown in the table below.

Statistics were also a relevant topic during the presentation, since it is one of the Societies with the largest number of members in the region. However, in March 2020 it had a decrease in members in relation to 2019. The sections with the most members in the region are Ecuador, Peru and South Brazil.

With all the aforementioned background, the goals and priorities for 2020 were presented, focused on four specific areas: ComSoc public visibility, technical content, membership and industry engagement.

The goals of 2020 are:

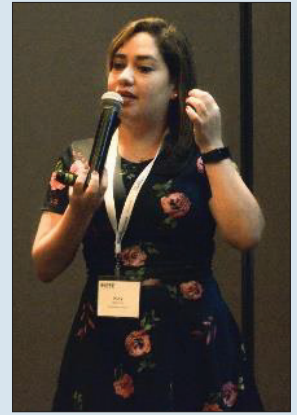
1. Get an understanding of the local needs and expectations (social, academia and industry) in terms of the Communications fields.

2. Increase the visibility of technical experts in communications from different LA countries.

3. Engage a particular company to co-organize an Industry Summit/Symposium according to ComSoc's format.

4. Increase the number of ComSoc student branch chapters.

5. Promote the active participation of ComSoc local volunteers and chapters (Section and Student Branches) in R9 ComSoc social media.



Nury Ramirez, ComSoc R9 Director during her presentation at the Regional Meeting.

Position	Name	Country	Area
Director	Nury Ramirez	Mexico	Industry
Secretary	Esmeralda Asurza	Peru	Industry
Awards Committee	Jose David Cely	Colombia	Academia
Global Communications Newsletter (GCN) Committee	Andrea Carrión	Ecuador	Industry
Technical Activities Committee	Ignacio Castillo	Mexico	Academia
Industry Relations Committee	Freddy Campos	Peru	Industry
Social Networks Committee and Webpage	Hector Poveda	Panama	Academia
Membership Development Committee	Sandra Hidalgo	Bolivia	Consultant
DLT and DSP Coordinator	Andres Navarro	Colombia	Academia
Student Activities	Gidy Florez	Brazil	Academia

IEEE R9 ComSoc Board 2020.

Activities of the IEEE ComSoc Chapter – Northeast Brazil Section (formerly Bahia Section)

By Fabrício Braga Soares de Carvalho, Past Chair of the Joint Chapter C16/COM19, Brazil

ComSoc activities in Brazilian's Northeast region are organized by the IEEE Joint Chapter C16/COM19 in Northeast Brazil (former Bahia Section). This joint chapter aggregates members and activities in the communications and computer fields in the nine states that are part of Brazil's Northeast.

In March 2020, ComSoc in Northeast Brazil had 41 members, in the following categories: one Fellow, one Life Senior Member, 13 Senior Members, 10 Members, one Affiliate Member, one Associate Member, five Student Members and nine Graduate Student Members.

During the years 2018 and 2019, different technical and professional activities were organized by ComSoc members and students in Northeast Brazil. We present a brief summary of these activities.

In October 2018, the Distinguished Lecturer Dr. Marco Di Renzo visited our region and presented a speech in a Distinguished Lecturer Tour in the city of Fortaleza, in the state of Ceará. The lecture was entitled "System-Level Modeling and Optimization of the Energy Efficiency in Cellular Networks – A Stochastic Geometry Framework". The presentation of Dr. Di Renzo attracted IEEE members and also non-IEEE members to the event. The audience included undergraduate and graduate students, faculty members and professionals. The presentation was held at the Federal University of Ceará – UFC.

The ComSoc Chapter from the Northeast Brazil Section technically supported the Brazilian Telecommunications and Signal Processing Symposium (SBRT 2018), which was organized in the city of Campina Grande-PB. SBRT is the most important communications conference in Brazil, and has been organized every year since the 1980s, attracting researchers, professionals and students from different fields of telecommunications and signal processing.

Since 2017 the ComSoc chapter from Brazil's Northeast has been supporting the organization of the ENCOM, which is promoted by the Institute of Advanced Studies in Communications (Iecom). This is an annual meeting for the discussion of different topics in telecommunications, signal processing, cryptography and networks. Since 2011, ENCOM has been scheduled in different cities in Brazil. The 2018 edition was organized in the city of



Telecom Day 2019, held at the Federal University of Rio Grande do Norte (UFRN) in Natal-RN.

Salvador, in the state of Bahia. The 2019 edition was held in the city of Petrolina, in the state of Pernambuco. Every year, ComSoc supports the participation of undergraduate and graduate student members in this event.

In 2019, the first edition of Telecom Day was organized at the Federal University of Rio Grande do Norte (UFRN) with support from the ComSoc Northeast Brazil Section. This event promoted technical discussions focused on innovation, networking and new technologies, with different speakers from academia and industry. Telecom Day attracted undergraduate and graduate students, faculty members, military and professionals to the audience.

In December 2019, the Federal University of Paraíba (UFPB) organized the 1st Workshop on Telecommunications, in the city of João Pessoa-PB. Several undergraduate and graduate students from different fields of communications, computing and electronics attended the event. Technical workshops were organized to present the research efforts on communications conducted by researchers from UFPB and ComSoc, as well as a lecture from an invited specialist from Brazil's telecommunication regulatory agency.

Lectures and seminars highlighting different subjects on telecommunications were organized with the collaboration of the ComSoc Northeast Brazil Section. Some of these presentations were organized at the Federal University of Bahia (UFBA), in Salvador-BA, and the Federal University of João Pessoa (UFPB), in João Pessoa-PB.

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Distinguished Lecturer presentation held at the Federal University of Ceará (UFC) in Fortaleza-CE in 2018.

tem proposed by the EU-Korea project DECENTER, presenting practical yet innovative solutions to orchestrate IoT and computing resources in a distributed fog environment leveraging an extension of Kubernetes (called FogAtlas) and the Ethereum blockchain. Finally, the third tutorial on “Evolution of Service Deployment in the 5G Radio Network and 5G Core Network” was presented by Rogier Noldus (Ericsson, Netherlands), who discussed some of the latest architectural principles of 5G, including but not limited to, cloud RAN, distributed RAN, edge computing, user plane optimization, network slicing and exposure.

The conference included five inspiring keynote speeches by renowned, top-level experts, invited by Keynote and Panel Co-Chairs Alex Galis (UCL, UK) and Dirk Kutscher (University of Emden, Germany). Three keynotes were presented on Wednesday, February 26: “Network Modeling: Finding the Right Level of Abstraction” by Jim Kurose (University of Massachusetts Amherst, USA), “Softwarization and IoT evolution” by Lefteris Mamatas (University of Macedonia, Greece), and “Network Operations and AI” by Rafia Inam (Ericsson, Sweden). The other two keynotes were given on Thursday, February 27: “A Speed of Light Internet Service Provider” by Bruce Maggs (Duke University, USA) and “Refurbishment of the IP Framework after 50 years of operations” by Zhe “David” Lou (Huawei Technologies, Germany).

Out of 69 total submissions, 22 full papers and three short papers were selected for presentation at the conference. The program consisted of seven full-track technical sessions on the following topics:

- Network Orchestration and Automation, chaired by Barbara Martini (CNIT, Italy)
- 5G Networks, chaired by Muge Sayit (Ege University, Turkey)

- Network Slicing, chaired by Prosper Chemouil (formerly with Orange Labs, France)
- Improving Service Performance, chaired by Amina Boubendir (Orange Labs, France)
- Network Security, chaired by Ved P. Kafle (NICT, Japan)
- Machine Learning and Analytics, chaired by Piotr Boryło (AGH University of Science and Technology, Poland)
- Detection, Identification and Diagnosis, chaired by Daishi Kondo (Osaka Prefecture University, Japan)

After a thorough selection, made by the General Co-Chairs and TPC Co-Chairs and based on the review scores as well as on the quality of the presentation, the ICIN 2020 Best Paper Award was given to the paper “An Efficient Traffic Steering for Cloud-Native Service Function Chaining” by Boutheina Dab, Ilhem Fajjari, Mathieu Rohon, Cyril Auboin, and Arnaud Diquélou.

During the conference, six demonstrations and three posters were showcased in two different sessions, held during networking breaks. Demos and posters were also briefly introduced in a sort of “Elevator Pitch” session held on Wednesday, February 26, where each demo or poster presenter had five minutes to present their work to the general audience, and convince the attendees to visit their booth and vote for them. Based on the preferences expressed by the participants, the ICIN 2020 Best Demo and Best Poster awards were given to “FogGuru: a Fog Computing platform based on Apache Flink” by Davaadorj Batulga, Daniele Miorandi, and Cedric Tedeschi; and “Creating trust in automation in intent-based mobile network management” by Ville Vartiainen, Dmitry Petrov, and Vilho Räisänen, respectively.

The conference concluded on Thursday afternoon, February 27 with an extremely lively and thought-provoking distinguished expert panel session, moderated by Keynote and Panel Co-Chair Alex Galis (UCL, UK). The panel focused on the topic “In-Network Computing and Programmability” and included expert opinions and stimulating discussions from Bruce Maggs (Duke University, USA), Lefteris Mamatas (University of Macedonia, Greece), Jim Kurose (University of Massachusetts Amherst, USA), Marie-José Montpetit (Concordia University, Canada), and Zhe “David” Lou (Huawei Technologies, Germany).

Once again, after 31 years, ICIN 2020 was a successful event, bringing professionals from around the globe together to share their research and experience in the field of telecommunications and network infrastructures. ICIN remains unique in its field due to the significant involvement of representatives from industry, research institutions and standardization bodies.

We would like to express our deep gratitude to the people that made this possible: all the authors and presenters of the 45 technical, poster, and demo papers selected for presentation, 82 TPC members and 33 additional reviewers, 19 Organizing Committee members, all patrons, partners and technical sponsors, all people involved in the local arrangements, and all the attendees who joined us in Châtillon.

The organization of the next ICIN conference has already started. ICIN 2021 will be held in Paris, on March 1-4, 2021. The call for papers is available on the conference website: <https://www.icin-conference.org>

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