



## Third South American Colloquium on Visible Light Communications

November 11-12, 2021

In recent years, there has been a growing research and development in the field of visible light communications (VLC), within the academy, as well as in the industry at a global level. The development of this type of technology is not only based on lighting, but also on data communications, localization, and detection, operating in unlicensed bands. In this way, this support offers wide bandwidth, intrinsic safety and robustness to interference that are complementary to radiofrequency-based technologies, particularly in emerging 5G wireless communications. However, the widespread deployment of VLC has not yet been realized and today faces a series of challenges such as integration with existing networks, light emitting diodes with switching functionality, protocols, weather effects in environments, safety regulation and device performance.

The Third South American Colloquium on Visible Light Communications aims to bring together researchers, software, and hardware developers, and will be held on November 11-12, 2021. As in previous years, the colloquium will include Keynote and Invited Speakers from internationally known researchers including, Prof. Zabih Ghassemlooy (Northumbria University, United Kingdom). In this context, the call for papers is open to present, share and discuss recent and novel ideas related with this research field.

### HOW TO SEND A PAPER

Authors are invited to submit papers in English language with a maximum length of six pages. [https://conferences.ieee.org/conferences\\_events/conferences/conferencedetails/53127](https://conferences.ieee.org/conferences_events/conferences/conferencedetails/53127). The deadline for submission is July 16, 2021. IEEE Transactions templates for Microsoft Word or LaTeX formats can be found at <https://www.ieee.org/conferences/publishing/templates.html> Only PDF files will be accepted as a valid submission to start the review process and should be submitted to the EDAS website <https://edas.info/N28603>, by logging in or creating a new account.

### PUBLICATION

All accepted papers will be included in the conference proceedings and will be indexed in IEEEExplore. For each accepted paper, at least one author must register for the conference and present the paper.

### IMPORTANT DATES

Deadline for submission	July 16, 2021-September 5, 2021
Notification of acceptance	August 16, 2021-September 30, 2021
Camera ready paper	October 15, 2021

MORE INFORMATION AT: [HTTPS://WWW.2021.SACVLC.COM/](https://www.2021.sacvlc.com/)

## KEYNOTE SPEAKERS



### Augmenting Internet of Underwater Things by Visible-Light Communications

Dr. Ali Khalighi, *Ecole Centrale Marseille, Fresnel Institute Research Lab., France*



### Visible Light Positioning with Machine Learning

Dr Luis Nero Alves  
*Institute De Telecommunications, Portugal*

## INVITED SPEAKER



### Exploiting Visible Spectrum for Localization Services in Future 6G Networks

Dr Anna-Maria Vegni  
*Roma Tre University, Italy*



### Optical Camera Communications

Dr Asghar Gholami  
*Isfahan University of Technology, Iran*



### Advances in Visible Light Communication Systems Applied to Underground Mining Environments

Dr Cesar Azurdia-Meza  
*University of Chile, Chile*



### Intelligent Reflective Surface Assisted Wireless Communication Systems

Dr Rui Wang  
*Tongji University Shangha, China*

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## TOPICS OF INTEREST (BUT NOT LIMITED TO)

### Optical Networks

- AI and ML for optical systems and networks
- Free-space optical networks
- Optical network control and management
- Optical network survivability and availability
- Optical vehicular networks
- Optical and wireless convergence
- Routing and spectrum assignment for optical networks
- Software defined optical networks
- Ultraviolet communications and networks
- Underwater optical communications
- Virtualization and slicing in optical networks
- Visible light communications

### Communication Services, Software and Multimedia Applications

- Cooperative networking for streaming media content
- E-health, E-governance, E-agriculture, etc.
- High quality service provisioning for multimedia applications
- Location-based services
- ML techniques for video delivery and service
- ML techniques for multimedia content analysis
- QoE and QoS
- Quality-oriented routing algorithms
- Real time communication services
- Service orchestration and management
- Service security and privacy
- Triple and quadruple play services

### Next-generation Networking and Internet

- 5G/B5G/6G architecture
- Blockchain in next generation communications and networks
- Content-centric networking
- Future Internet and next-generation networking architectures
- High speed architectures for next generation routers/switches
- Management of service-oriented control plane in 5G/B5G
- Next-generation access networks
- Next-generation anomaly-intrusion-attack detection/prevention
- Next-generation flow management
- Next-generation IP multimedia subsystem
- Next-generation network management and control
- Parallel architectures for next generation routers/switches
- Software-defined networking

### Selected Areas in Communications

### Mobile and Wireless Networking

- Cellular systems, 4G/5G/B5G/6G
- Cognitive radio networks
- Device-to-device/machine-to-machine communications
- Green wireless networks
- Large-scale LEO satellite networking
- Pervasive and wearable computing and networking
- Reconfigurable wireless networks
- Software-defined wireless networks
- Underwater wireless networks
- Vehicular networks
- Wireless multimedia networks
- WLAN, WPAN, and other home/personal networking technologies

### Wireless networking techniques based on AI

### Communications Theory & Signal Processing

- Communication theory of networks and cross-layer design
- Multi-antenna, multi-user and multi-node systems
- Satellite & space communications
- Signal processing techniques in 5G/B5G/6G
- Signal processing for QoS and QoE based applications
- Signal processing for smart grid and green communications
- Signal processing for sensor networks and IoT
- Signal processing for software defined and cognitive radio
- Signal processing for power line communications
- Signal processing for millimeter and tera-Hz communication
- Theoretical aspects of blockchain and ML in networks

### AI, Big Data and ML for Networking

- AI and ML for 5G/B5G/6G and network slicing
- AI and ML for virtualized and software-defined networks
- AI, neural networks, and deep learning for network management
- Big data for smart cities and smart homes
- Big data for cloud computing and networking
- Big data for communications and networking
- Big data for smart grids
- Big data with IoT and cyber-physical systems
- Cloud and network data analytics, modelling and visualization
- Data analytics for QoS and traffic classification
- Data analytics for faults and root-cause analysis
- Data-driven management of virtualized infrastructure
- Data-driven management of IoT and cyber-physical systems

- Blockchain in communications and networks
- Cloud, fog and edge computing
- Internet-of-Things
- Smart cities and urban computing
- Smart grid communications

- Data-driven management of SDN and data centers
- ML based distributed training and learning over-the-air
- Operational analytics and intelligence
- Predictive analytics and real-time analytics