



**IEEE
COMMUNICATIONS
SOCIETY**

Technical Committee on
Transmission, Access and Optical Systems
(TAOS)

Annual Summary Activity Report 2018
(Period: 1st Jan 2018 to 31st Dec 2018)

by

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1 2018 Strategic Focus

In 2018, TAOS continued to keep its strategic focus on Wireless, Wireline and Optical Communications Systems and Networks, including "Green" communication themes and aspects. Note that this year the TC has been decided to give special attention to the "wireless" activities, which for several years have been declined, by enhancing the content and quality of the various "calls-for-papers" in its sponsored conferences. Furthermore, the TAOS TC continued to support, in both ICC 2018 and Globecom 2018,

- the GCSN Symposium (co-sponsor)
- the Access Networks and Systems (SAC) track (sole sponsor).
- the Optical Networks and Systems (ONS) Symposium (co-sponsor)

2 Organization and Administrative Updates

2.1 Officers

During 2018, TAOS officers continued to serve the second year of their term as follows:

- Athanassios Manikas, Chair Chair
- Fabrizio Granelli, Vice-Chair
- Steve Hranilovic, Secretar

Walter Cerroni continued to serve as the webmaster and Jochen Maes as the industry liaison. Furthermore, Jochen was in charge of the TAOS newsletters and retired from this position in June 2018.

2.2 Elections

With Athanassios completing his two year term as the Chair of TAOS at the end of 2018, elections for the TAOS secretary were carried out during the Globecom 2018

TAOS meeting, and Walter Cerroni (University of Bologna, Italy) was elected as new secretary. Therefore, the new officers starting on 1st January 2019 are:

- Fabrizio Granelli, Chair
- Steve Hranilovic, Vice-Chair
- Walter Cerroni, Secretary

In addition Walter Cerroni, will serve also as the TAOS appointed webmaster while Mauro Biagi (Sapienza University of Rome, Italy) will be the new TAOS appointed newsletter editor.

2.3 TAOS Policies and Procedures

No revisions or amendments to the TAOS Policies and Procedures (P&P) were made during 2018. All TAOS meetings, activities and elections in 2018 complied with these P&P, which remain consistent with the COMSOC regulations.

2.4 Website and Mailing list

The TAOS website follows the ComSoc guidelines and has been properly maintained and updated. Furthermore, it look professional but also modern and functional.

The total number of subscribers in the TAOS mailing list in Dec 2018 was 1447 (from 52 different countries). Figure-1 shows the six countries with number of subscribers greater than 30.

2.5 Membership and Nominations Updates

The TAOS meeting at ICC 2018 in Kansas City was attended by 18 members and the meeting at Globecom 2018 in Abu Dhabi had an attendance of 18.

In 2018 the TAOS chairs for the sponsored symposia were

- ICC 2018, SAC-ANS: Steven Hranilovic (McMaster University, Canada)
- ICC 2018, GCSN: Cicek Cavdar (Royal Inst. of Tech. Stockholm, Sweden)

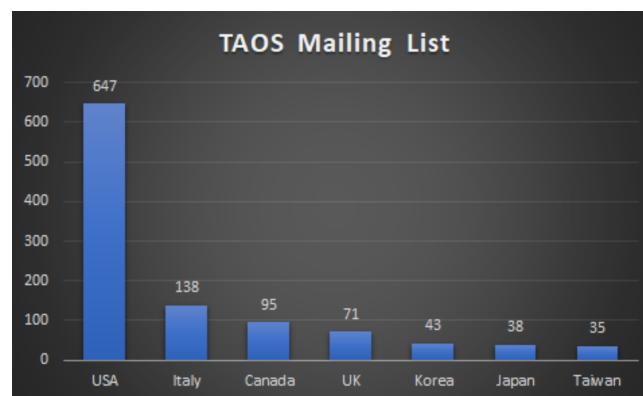


Figure 1: TAOS Subscription List for countries with more than 30 subscribers.

- ICC 2018, ONS: George Rouskas (North Carolina State University, USA)
- Globecom 2018, SAC-ANS: Mamoun Guenach (Nokia Bell Labs)
- Globecom 2018, GCSN: Jaafar Elmirghani (University of Leeds)
- Globecom 2018, ONS: Paolo Monti (KTH Royal Institute of Technology)

In addition, a number of nominations were made in 2018 from our pool of TAOS members by following the new GITC guidelines. In particular, on 28th Feb 2018 TAOS made 3 co-Chair nominations for ICC 2020 (Dublin) to Luiz A. DaSilva (TPC Chair). However, it is a norm these days the TPC Chairs not to inform directly the TC Chairs about their final chair selection. However, by checking the GITC website <http://community.comsoc.org/groups/gitc> the approved chairs are as follows, were our ONS nomination has not been approved for a second time:

- Chair for **SAC-ANS**: Fabrizio Granelli (approved)
- co-Chair for **GCSN**: Taisir E. H. Elgorashi (approved)
- co-Chair for **ONS**: ² (not approved)

Furthermore, on 1st Nov 2018 we submitted our nominations (pending approval) for Globecom 2020 (Taipei) to Dr. Li-Chun Wang (TPC Chair) as follows:

- Chair for **SAC-ANS**: Mamoun Guenach (Nokia Bell Labs)

²name has been deliberately removed

- co-Chair for **GCSN**: Daniel So (University of Manchester)
- co-Chair for **ONS**: Abdelmoula Bekkali (KDDI Research Inc, Japan)

3 Conferences and Publications

TAOS minutes of meetings and meetings' slides provide details about our 2018 Technical Activities are posted online on the TAOS website. For the calendar year 2018 these can be found as follows:

- For ICC 2018 (Kansas City, USA):

http://taos.committees.comsoc.org/files/2018/12/minutes_of_meetingICC18slides.pdf

- For Globecom 2018 (Abu Dhabi):

http://taos.committees.comsoc.org/files/2018/12/gc2018_meeting_slides.pdf

4 Contributions to ComSoc Leadership

In 2018, TAOS continues to provide ComSoc with senior/leadership personnel in numerous technical and administrative areas. Currently, an updated comprehensive list is compiled by the TAOS secretary about with main editorial activities of TAOS members. Furthermore, TAOS has supported several FIEEE nominations of its members in 2018 and Tarek El-Bawab is currently a Distinguished Lecturer (2018-2019, 2nd term)

5 TAOS Awards

The 2018 TAOS technical committee (TC) best paper awards for the sponsored symposia/tracks in both ICC (Kansas City) and Globecom (Abu Dhabi) are given below and include a plaque which is designated to each author of the awarded papers.

5.1 Best Paper Awards in the ICC 2018 (Kansas City)

- **Access Networks and Systems (ANS) Track of the Selected Areas in Communications (SAC) Symposium:**

No award

- **Optical Networks and Systems (ONS) Symposium**

[Achieving Minimum Error in MISO Optical Spatial Modulation](#)

Authors:

- Anil Yesilkaya (The University of Edinburgh, UK);
- Tezcan Cogalan (The University of Edinburgh, UK);
- Erdal Panayirci (Princeton University);
- Harald Haas (The University of Edinburgh, UK);
- H. Vincent Poor (Princeton University).

- **Green Communications Systems and Networks (GCSN) Symposium:**

[Realizing Green Symbol Detection Via Reservoir Computing: An Energy-Efficiency Perspective](#)

Authors:

- Rubayet Shafin (Virginia Tech, USA);
- Lingjia Liu (Virginia Tech, USA);
- Jonathan D Ashdown (Air Force Research Laboratory, Rome, NY, USA);
- John D. Matyjas (Air Force Research Laboratory, Rome, NY, USA);
- Michael Medley (Air Force Research Laboratory, Rome, NY, USA);
- Bryant Wysocki (Air Force Research Laboratory, Rome, NY, USA);
- Yang Yi (Virginia Tech, USA).

5.2 Best Paper Awards in the Globecom 2018 (Abu Dhabi)

- **Access Networks and Systems (ANS) Track of the Selected Areas in Communications (SAC) Symposium:**

No award

- **Optical Networks and Systems (ONS) Symposium**

Impact of Receiver FOV and Orientation on Dense Optical Networks

Authors:

- Iman Abdalla (Boston University);
- Michael Rahaim (University of Massachusetts Boston);
- Thomas DC Little; (Boston University & NSF Lighting ERC);

- **Green Communications Systems and Networks (GCSN) Symposium**

Energy-Efficient Resource Allocation in NOMA Heterogeneous Networks with Energy Harvesting

Authors:

- Haijun Zhang, (University of Science and Technology Beijing, P.R. China);
- Mengting Feng (University of Science and Technology Beijing, P.R. China);
- Keping Long (University of Science and Technology Beijing, P.R. China);
- George K. Karagiannidis (Aristotle University of Thessaloniki, Greece);
- Victor C.M. Leung (University of British Columbia, Canada).