



**IEEE  
COMMUNICATIONS  
SOCIETY**

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

Annual Summary Activity Report 2017  
(Period: 1st Jan 2017 to 31st Dec 2017)

by

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# 1 2017 Strategic Focus

After the elevation of “Green Communications” track in 2016 to a new symposium entitled “Green Communication Systems and Networks” (GCSN), TAOS continued to keep Green Communications as a special Strategic Theme of its TC’ technical activities. Thus, in 2017 TAOS has co-sponsored at both ICC 2017 (Paris) and GC 2017 (Singapore) the GCSN Symposium while, at the same time, continued to be the sole sponsor of the Access Networks and Systems (SAC) track. Furthermore, in 2017, TAOS continued its traditional activities in the area of optical system and has co-sponsored the Optical Networks and Systems (ONS) Symposium at both ICC 2017 and Globecom 2017 conferences.

In Summary, the overall strategic focus of TAOS is on wireless, wireline and optical systems and networks, including "green" communication aspects.

# 2 Organization and Administrative Updates

## 2.1 Officers

With effect from 1st January 2017, Athanassios Manikas (Imperial College London) assumed the position of TAOS Chair and Fabrizio Granelli (Univ Trento, Italy) was elevated to the position of Vice Chair. Steve Hranilovic (McMaster University, Canada), who was elected as new Secretary at Globecom 2016, assumed this position on 1st January 2017. Hence, TAOS elected officers serving for the calendar years 2017 and 2018 are:

- Athanassios Manikas, Chair ,
- Fabrizio Granelli, Vice-Chair,
- Steve Hranilovic, Secretary.

In addition, the following offices continued to serve as follows:

- Walter Cerroni as the TAOS appointed webmaster and
- Jochen Maes as the TAOS appointed Industry Liaison officer

## 2.2 TAOS Policies and Procedures

During 2017 the Policies and Procedures (P&P) remained consistent with the COMSOC regulations and all TAOS meetings and activities complied with these P&P. No revisions or amendments to the P&P were made during 2017.

## 2.3 Website and Mailing list

The new TAOS website has been properly maintained and it continuous to look professional but also modern and functional while, at the same time, it follows the ComSoc guidelines.

The TAOS mailing list has also continued to increase to more than 1400 members from more than 40 different countries.

## 2.4 Membership and Nominations Updates

TAOS is bringing new blood to co-Chairing both ICC and Globecom symposia, to serve as TPC members and/or to play leading roles in technically co-sponsored workshops and conferences.

The TAOS meeting at ICC 2017 in Paris was attended by 24 attendees and the meeting at GC 2017 in Singapore had an attendance of 16.

In 2017 the TAOS chairs for the sponsored symposia were

- ICC 2017, SAC-ANS: Steven Hranilovic (McMaster University, Canada)
- ICC 2017, ONS: George Rouskas (North Carolina State University, USA)
- ICC 2017, GCSN: Cicek Cavdar (Royal Inst. of Tech. Stockholm, Sweden)
- Globecom 2017, SAC-ANS: Mamoun Guenach (Nokia Bell Labs)
- Globecom 2017, GCSN: Jaafar Elmirghani (University of Leeds)
- Globecom 2017, ONS: Paolo Monti ( KTH Royal Institute of Technology)

In addition, a number of nominations were made in 2017 from our pool of TAOS members. In particular, on 6th June 2017 TAOS made 3 nominations for ICC 2019 (Shanghai, China) co-Chairs and on 16th August 2017, the ICC 2019's TPC Chair (J. Wang) informed us that only the following nominations were approved

- Chair for **SAC-ANS**: Vidhya Sridhar (approved)
- co-Chair for **GCSN**: Daniel So (approved)
- co-Chair for **ONS**: <sup>2</sup> (not approved)

As our ONS nomination was not approved and the ICC 2019's TPC Chair did not follow good practices for selecting chairs, I made, as the TAOS Chair, a formal written complain to GITC. I received a response by the GITC chair and I was re-assured that my comments were taken seriously, and they have motivated GITC to update their policies regarding how symposium chairs are nominated and selected.

Furthermore, on 15th September 2017 we submitted our nominations for Globecom 2019 (Hawaii) to its TPC Chair Hsiao-Hwa Chen. Note that, I never received from Hsiao-Hwa Chen any information if our nominations have been approved or not - which is quite disappointing. Nevertheless, I found out the following final decisions:

- Chair for **SAC-ANS**: <sup>2</sup> (not approved)
- co-Chair for **GCSN**: Kyng Sup Kwak (approved)
- co-Chair for **ONS**: Mohan Gurusamy (approved)

where, it is clear that our traditional ANS nomination has not been approved while its focus in Globecom 2019 has been diluted to "Access Networks/Systems and Power Line Communications" with two co-chairs. This is totally unacceptable to our TC.

### 3 Conferences and Publications

TAOS' 2017 minutes of meetings and meetings' slides provide details about our 2017 Technical Activities are posted online on the TAOS website. For the calendar year 2017 these can be found as follows:

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<sup>2</sup>name has been deliberately removed

- For ICC 2017 (Paris):

[http://taos.committees.comsoc.org/files/2017/12/minutes\\_of\\_meetingICC17slides.pdf](http://taos.committees.comsoc.org/files/2017/12/minutes_of_meetingICC17slides.pdf)

- For Globecom 2017 (Singapore):

[http://taos.committees.comsoc.org/files/2018/05/minutes\\_of\\_meetingGC17slides.pdf](http://taos.committees.comsoc.org/files/2018/05/minutes_of_meetingGC17slides.pdf)

## 4 Contributions to ComSoc Leadership

In 2017, TAOS continues to provide ComSoc with senior/leadership personnel in numerous technical and administrative areas. Some representative examples are, to mention but a few, as follows:

- Chair of the IEEE Standardization Research Group on “Software Defined and Virtualized Wireless Access”: Fabrizio Granelli;
- Distinguished Lecturers: Anura Jayasumana (2nd term), Tarek El-Bawab (2016-2017), Abdallah Shami (2016-2017), Athanassios Manikas (2016-2017);
- Co-Chairing the IEEE Green ICT initiative: Jaafar Elmirghani;
- Vice-President for Member Relations of the IEEE Communications Society: Stefano Bregni (2016-17);
- Board member of the IEEE Educational Activities Board (EAB) and of the EAB’s Committee on Global Accreditation Activities (CGAA): Tarek El-Bawab;
- Various Editorial Boards: Ahmed Kamal, Fabrizio Granelli, Paolo Monti, Athanassios Manikas, Jaafar Elmirghani.

## 5 TAOS Awards

In 2017 the TAOS technical committee (TC) gave the best paper awards for the sponsored symposia/tracks in both ICC (Paris) and Globecom (Singapore) as this

is shown below. This includes a plaque which is designated to each author of the awarded papers.

## 5.1 Best Paper Awards in the ICC 2017 (Paris)

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

### **"A delay-based cross-layer scheduler for adaptive DSL"**

– Authors:

- \* Jeremy Van den Eynde, (University of Antwerp, Belgium)
- \* Jeroen Verdyck, (KU Leuven, Belgium)
- \* Marc Moonen, (KU Leuven, Belgium) and
- \* Chris Blondia, (iMinds - University of Antwerp, Belgium)

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

### **"Physical Layer Security for Optical Attocell Networks"**

– Authors:

- \* Zhe Chen (The University of Edinburgh, United Kingdom)
- \* Harald Haas (The University of Edinburgh, United Kingdom)

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

### **"Energy-aware Coflow and Antenna Scheduling for Hybrid Server-Centric Data Center Networks"**

– Authors:

- \* Tao Li, (TU Dresden, Germany)
- \* Silvia Santini (Università della Svizzera Italiana (USI), Switzerland)

## 5.2 Best Paper Awards in the Globecom 2017 (Singapore)

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

### **"Exploring Field Noise on G.fast Frequencies"**

– Authors:

- \* Benoît Drooghaag, Nokia Belgium
- \* Jochen Maes, Nokia Bell Labs, Belgium
- \* Mehdi El Fani, Université de Mons (UMONS) & Faculté Polytechnique, Belgium
- \* Véronique Moeyaert, Université de Mons (UMONS) & Faculté Polytechnique, Belgium

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

### **"TDM EPON Fronthaul Upstream Capacity Improvement Via Traffic Classification and Sifting"**

– Authors:

- \* Yu Wu, University of California, Davis, USA;
- \* Massimo Tornatore, Politecnico di Milano Italy, University of California, Davis, USA;
- \* Yongli Zhao, Beijing University of Posts and Telecommunications, P.R. China;
- \* Biswanath Mukherjee, University of California, Davis, USA

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

### **"Energy Cooperation for Sustainable Base Station Deployments: Principles and Algorithms"**

– Authors

- \* Angel Fernandez Gambin, University of Padova, Italy,
- \* Michele Rossi, University of Padova, Italy.