



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

Annual Summary Activity Report

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1 2014 Themes and Strategic Focuses

Broadband Access and Green Communications continued as two special *Strategic Themes* for TAOS' technical activities. Both areas are also of particular interest to the Telecom industry, thereby providing opportunities to engage industrial membership. The two TAOS' sponsored ICC/GC SAC Tracks, i.e. the Access Networks and Systems (ANS) Track and the Green Communication Systems and Networks (GCSN) Track, have been successful tracks since their launch and continued to be so throughout 2014. In June 2014 (Sydney Australia), TAOS presented to GITC a proposal to elevate the GCSN Track to Full Symposium. This proposal was approved in December 2014 (Austin Texas). GITC decided that the first of such symposium will take place in Globecom 2016. ICC 2016 (Kuala Lumpur, Malaysia), however, has declared that it will do the same and will thereby be the first ICC/GC conference to have a GCSN Symposium.

TAOS continued its traditional activities in the area of optical system and has sponsored the ICC/GC Optical Networks and Systems (ONS) Symposium in 2014. After several years of decline, the number of submissions to this symposium is finally picking up and rising. Thanks to the steadily increasing submissions in the *systems* area in recent years (mainly attributed to TAOS community), the Symposium is better positioned now for future growth.

2 Organization and Administrative Updates

2.1 Officers

Tarek El-Bawab finishes his second term as TAOS Chair as of December 31, 2014. As of January 1, 2015, Ahmed Kamal will be elevated to position of Chair, and Athanasios Manikas will be Vice Chair. In

December 2014 (Austin, Texas), Fabrizio Granelli was elected new Secretary. Hence, TAOS elected officers serving next year (2015) are:

- Ahmed Kamal, Chair
- Athanassios Manikas, Vice Chair
- Fabrizio Granelli, Secretary

Appointed officers continue as Frank Effenberger (Standards Liaison), Filippo Cugini (Industry Liaison), and Walter Cerroni (Webmaster)

2.2 TAOS Policies and Procedures

TAOS Policies and Procedures (P&P) have been updated and a new version has been approved and published on our website. The new version was the basis for TAOS 2014 elections.

2.3 Website and Mailing list

The new TAOS website is now complete, up and running. Work on this site, which was carried out in phases throughout 2014, is now finished (<http://committees.comsoc.org/taos/index.html>). The new site incorporates several improvements in design, content, and appearance. New sections have been introduced in areas such as TAOS' History, Awards, Newsletter, and others. Meanwhile, old sections have been redesigned and updated.

The TAOS mailing list has now grown to record subscription figure. The list membership has exceeded 1400 subscribers by the end of 2014.

2.4 Membership and Leadership Updates

Throughout 2014, TAOS maintained the traditions of attracting new members/blood, and launching new activities. The TC meetings enjoy steady growth in attendance and diversity, i.e., technical, geographical, and professional. TAOS introduces new faces to Co-Chairing ICC/GC symposia, new colleagues to serve as TPC members, and others TC members playing leading roles in technically co-sponsored conferences.

Nominations for conferences co-chairs are drawn from pools of active TAOS members who exhibited excellent service in past reviewing and TPC assignments. Officers' nominations by TAOS' Steering Committee, on the other hand, are drawn out of a continuously updated pool of active members with remarkable contributions to the TC. TAOS enjoys a rich base of experienced professionals.

3 Conferences and Publications

TAOS' 2014 minutes of meetings and meetings' slides provide details about our 2014 Technical Activities. The ICC minutes and slides are posted online on the TAOS website. At the time of this writing, the Globecom 2014 minutes is under preparation, but the meeting slides are posted on the website too. Minutes and slides can be found on:

[http://committees.comsoc.org/taos/docs/minutes_of_meeting\(ICC14\)_v3.1\(A+T+A+W\)+slides.pdf](http://committees.comsoc.org/taos/docs/minutes_of_meeting(ICC14)_v3.1(A+T+A+W)+slides.pdf)

http://committees.comsoc.org/taos/docs/gc2014_meeting_slides_v3.2.pdf

4 Contributions to ComSoc leadership

We continue to provide ComSoc with senior/leadership personnel in numerous technical and administrative areas. TAOS leads all ComSoc TCs in this regards:

- Stefano Bregni, Tarek El-Bawab, and Steve Gorshe serve in ComSoc Board of Governors
- Stefano Bregni: VP, Members Relations
- Tarek El-Bawab: Director, Conference Operation
- Steve Gorshe: Director of Magazines
- Michael Devetsikiotis: Chair of GITC
- Michael Devetsikiotis, Tarek El-Bawab, and Fabrizio Granelli are Board Member, Education and Training Board (ETB)
- Tarek El-Bawab Chairs the ETB's Work Group on Telecommunication Engineering Education (TEE) in the US. The six-year old TEE movement to recognize Telecommunication Engineering as distinct engineering education discipline has now come to fruitful conclusion:
 - o New ABET Accreditation Criteria for Electrical, Computer, Communications, Telecommunication(s), and Similarly Named Engineering Programs have been approved by ABET Engineering Accreditation Commission (EAC) in July 2014 and by ABET Board of Directors on November 1, 2014.
 - o The new criteria will be effective as of Fall 2015
 - o IEEE and ComSoc Articles/Releases published¹² in recognition of this accomplishment, which was led by TAOS Chair
- Jaafar Elmirghani is Co-Chairing the IEEE Green ICT initiative, hosted by ComSoc. Tarek El-Bawab represents TAOS in this Group
- Members elevated to Fellow Grade in 2014: Jean Armstrong and Frank Effenberger
- Editorships: Ahmed Kamal, IEEE Communications Surveys and Tutorials; Tarek El - Bawab, Frank Effenberger, and Ravi Subrahmanyam, IEEE Communications Magazine; Ahmed Kamal and Filippo Cugini, Elsevier's Journal of Optical Switching and Networking (OSN)
- The 2014 IEEE ComSoc Best Tutorial Paper Award was given to Jean Armstrong for her paper "OFDM for Optical Communications [Invited Tutorial]," IEEE Journal of Lightwave Technology, Vol. 27, No. 3, February 2009, pp. 189 - 204.
- Distinguished Lecturers during 2014: Jaafar Elmirghani, Fabrizio Granelli, Ahmed Kamal and Anura Jayasumana
- Fabrizio Granelli represents TAOS in ComSoc Rapid standardization activity, and Chairs the Research Group on Software Defined and Virtualized Wireless Access
- Walter Cerroni represented of TAOS in the 2014 ComSoc's Student Competition Program
- Please, see the ICC 2014 and Globecom 2014 slides for more.

5 Awards

- Best Paper Award in ICC 2014 Access Networks and Systems (ANS) Track, Symposium on Selected Areas in Communications was presented to the paper: "How Vectoring in G.fast May Cause

¹ <http://theinstitute.ieee.org/career-and-education/university-education/telecommunications-engineering-is-now-a-distinct-education-discipline>

² <http://www.comsoc.org/blog/breaking-news-telecommunication-engineering-now-official-accreditation-criteria>

Neighborhood Wars,” by Eduardo Medeiros, Thomas Magesacher, Per-Erik Eriksson, Chenguang Lu, and Per Ödling.

- Best Paper Award in the ICC 2014 Green Communications and Computing (GCSN) Track, Symposium on Selected Areas in Communications was presented to the paper: “Dynamic Resource Management in Virtualized Data Centers with Bursty Traffic,” by Martin Valdez-Vivas, Nicholas Bambos, and John Apostolopoulos
- Best Paper Award in the Globecom 2014’s Access Networks and Systems (ANS) Track, Symposium on Selected Areas in Communications (SAC) is presented to the paper: “Experimental Evaluation of TCP Performance over 10 Gb/s Passive Optical Networks (XG - PON),” by Jerome A. Arokkiyam, XiuchaoWu, Kenneth N. Brown, and J. Sreenan
- Best Paper Award in the Globecom 2014’s Green Communication Systems and Networks (GCSN) Track, Symposium on Selected Areas in Communications (SAC) is presented to the paper: "Energy - Aware De - allocation of Lightpaths in WDM Networks," Juliana De Santi and Nelson L. S. da Fonseca
- TAOS’ Service Award to Stefano Bregni In Recognition of His Excellent Leadership and Contributions to TAOS
- TAOS’ Service Award to Steve Gorshe In Recognition of His Excellent Leadership and Contributions to TAOS
- TAOS’ Service Award to Michael Kincaid In Recognition of His Excellent Leadership and Contributions to TAOS
- TAOS’ Service Award to Walter Cerroni For His Remarkable Contribution to Designing and Developing TAOS Website