SAM TC Meeting ICASSP 2014

7-May, 2014

Florence, Italy

Agenda

13:00   Welcome and Introduction

13:05   Lunch and Report of the Chair
- New Members
- SAM TC Updates

13:20   Workshop Reports
- CAMSAP2013 (Martin Haardt)
- SAM2014 (Mónica Bugallo)

13:30   Proposals for CAMSAP2015
- Cancun, Mexico (Petar Djurić / Jean-Yves Tourneret)
- Curaçao, Dutch Antilles (André de Almeida / Martin Haardt)

13:55   Proposals for SAM2016
- Chengdu, China (Rick Blum / Qian He)
- Rio de Janeiro, Brazil (Martin Haardt / Rodrigo de Lamare)

14:20   Discussions
- Member Diversity, Future Direction, Award Process, Associate Member

SAM   14:30   End

New Members

Mónica Bugallo, USA

Yonina Eldar, Israel

Braham Himed, USA

Jian Li, USA

Milica Stojanovic, USA

Chong Meng Samson See, Singapore

Retired Members: Andreas Jakobsson, Randolph Moses, Arye Nehorai, Shahram Shahbazpanahi, Ananthram Swami, Mats Viberg

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Updates of SAM TC

- Awards and Fellows

- TC Reviews of SAM

- Information from Technical Directions Board

- SAM Submissions in ICASSP 2014

- SAM and CAMSAP Workshops

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Awards

SPS Awards: 7 nominations, 3 successful

- *Technical Achievement Award*: Y. Eldar

- *Best Paper Award*: M. Herman and T. Strohmer (RAP)

- *Young Author Best Paper Award*: Y. Chi (APP)

Distinguished Lecturer: 2 nominations, 1 successful

- Maria Sabrina Greco

In Addition, two TC members received SPS Awards:

- Ali Sayed: *Meritorious Service Award*

- Jian Li: *Best Paper Award*

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Performance in SPS Award Nominations
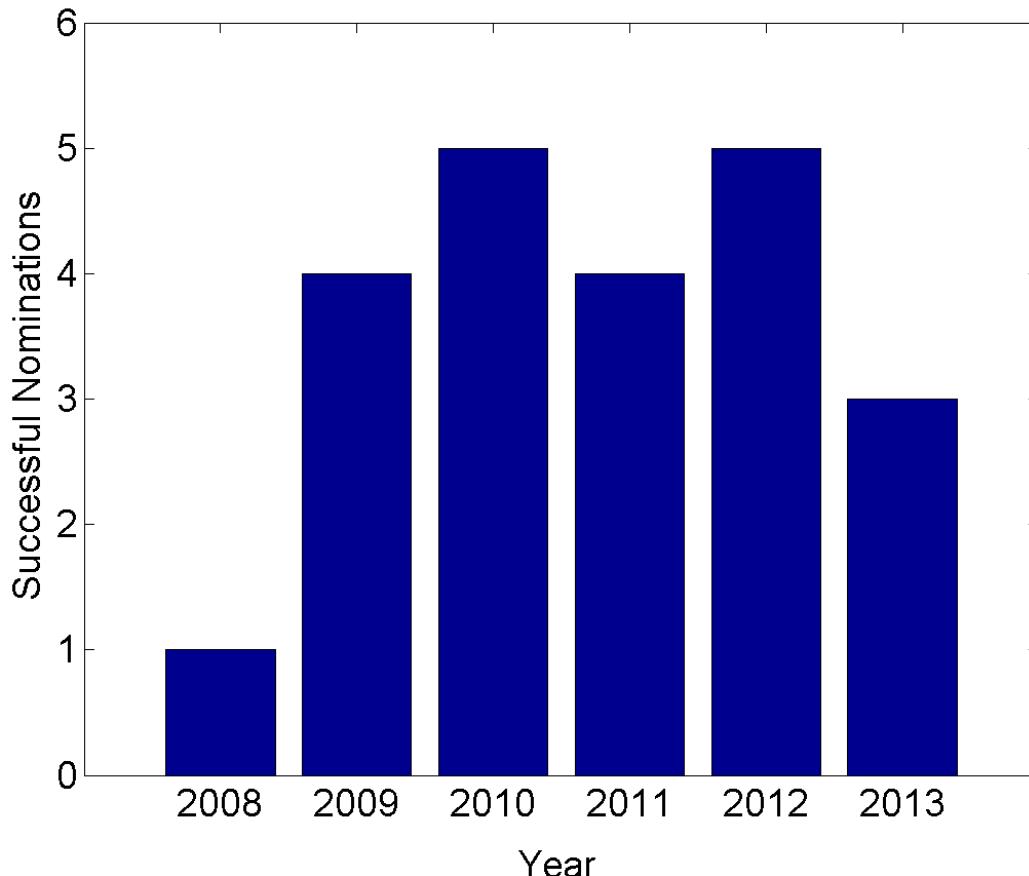
- BP nomination Success Rate: 91% (2003-2013); 100% (2009-2013)
- YA nomination Success Rate: 73% (2003-2013); 100% (2010-2013)

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Fellow

One member newly elected to be fellows of IEEE

- **Philip Schniter**
  - for contributions to signal processing in communications

Fellow Endorsement

- Kristine Bell (past SAM Chair)

- Olivier Besson (current member)

- Mounir Ghogho (current member)

- Hongbin Li (past member, SAM2012 Co-Chair)

- Marco Lops (current member)

Evaluations from TC Review (2013)

- "It is a technically strong and vibrant TC. Congra-tulations!"

- Strength:
  - Outstanding success at awards (lessons shared with other TCs to support the award process)
  - Proactive in addressing its challenges

- Challenges Requiring Attention:
  - Industrial, gender and geographic diversities
  - SWOT analysis, future trends and how to react

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Strengths, Weaknesses, Opportunities, Threats

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Member Diversity

- ## Industrial:

Count	Academic	Industry	Gov-Lab
2013	33	1	3
2014	**32**	**1**	**4***

*two will retire in 3 years

- ## Gender:

Count	Male	Female
2013	34	3
2014	**30**	**7**

- ## Geographic:

Percentage	Rg.1-6	Rg. 7	Rg. 8	Rg. 9	Rg. 10
2013	38 %	3 %	51 %	0%	8 %
2014	**41 %**	**0 %**	**49 %**	**0 %**	**10 %**
IEEE (2012)	41 %	3 %	30 %	3 %	23 %

Regions: 1:6 (USA), 7 (Canada), 8 (Europe), 9 (Latin America), 10 (Asia Pacific)

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Info From Technical Directions Board

- Uniform TC Award Nomination Selection Procedure

- Special Interest Groups

- TC Community Building (Affiliate Member)

- Society Name Change

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SPS Special Interest Group (SIG)

Big Data

Chair: A. Ortega (USC)

- Y. Eldar (Technion)
- A. Hero (UMich)
- G. Giannakis (UMN)
- R. Liu (UMD)
- S. Narayanan (USC)
- J. Moura (CMU)
- V. Poor (Princeton)
- K. Ramchandran (UCB)
- P. Vandergheysnt (EPFL)
- M. Vanderschaar (UCLA)
- K. Varshney (IBM)
- L. Varshney (IBM/UIUC)
- V. Veeravalli (UIUC)

Internet of Things

Chair: Yen-Kuang Chen (Intel)

- A. Abdelgawad (Central Michigan)
- J. Apostolopoulos (Cisco)
- M. Bayoumi (U Louisiana)
- Z. Chen (Wuhan U)
- R. Cheung (City U HK)
- S. Y. Chien (National Taiwan U)
- F. L. Luo (Element CXI)
- N. Memom (Aalborg U)
- S. Patil (NMIMS U)
- M. Potkonjak (UCLA)
- S. Saponara (U Pisa)
- Z. H. Tan (Aalborg U)
- A. Wu (National Taiwan U)

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SAM Submissions in ICASSP 2014

- 222 submissions received, 106 accepted (48%)

- SAM submissions comparable to previous years in percentage:

  - 2014: 222/3544 = 6.26%
  - 2013: 216/3362 = 6.42%
  - 2012: 171/2615 = 6.54%

- Papers allocated to 4 oral and 7 poster sessions

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SAM Submission Statistics, ICASSP 2014

Country	Authors	%
P.R. China	144	21.2
USA	100	14.7
Germany	53	7.8
Italy	48	7.1
France	43	6.3
United Kingdom	37	5.4
Sweden	24	3.5
Canada	23	3.4
Singapore	19	2.8
Australia	17	2.5
Japan	17	2.5
Switzerland	14	2.1
Brazil	13	1.9
Finland	13	1.9
Iran	12	1.8
Turkey	9	1.3
Israel	8	1.2
India	7	1.0
Saudi Arabia	7	1.0
Korea	6	0.9

Country	Authors	%
New Zealand	6	0.9
Greece	6	0.9
Taiwan	5	0.7
Belgium	5	0.7
Spain	5	0.7
The Netherlands	5	0.7
Austria	5	0.7
Denmark	5	0.7
Norway	4	0.6
Hong Kong	4	0.6
Estonia	3	0.4
Portugal	2	0.3
Tunisia	2	0.3
Russia	2	0.3
UAE	2	0.3
Croatia	1	0.1
Colombia	1	0.1
Algeria	1	0.1
Sudan	1	0.1
Argentina	1	0.1
Total	**680**	

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SAM Statistics in ICASSP 2014, By Region

Submission

Region	Authors	%
Europe, Middle East, Africa	317	46.6
Asia/Pacific	225	33.1
United States	100	14.7
Canada	23	3.4
Latin America	15	2.2
unknown	0	0.0

Accepted

Region	Authors	%
Europe, Middle East, Africa	179	52.5
Asia/Pacific	74	21.7
United States	67	19.6
Canada	12	3.5
Latin America	9	2.6
unknown	0	0.0

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SAM Topic Statistics, ICASSP 2014

Group	Topic	Count
1 Sensor Array Processing	**1.1 Beamforming**	**29**
	1.2 Physics-based sensor array processing	11
	1.3 Inverse methods	5
	1.4 Array calibration methods	6
	1.5 Synthetic aperture methods	4
	1.6 Signal detection and parameter estimation	**45**
	1.7 Direction-of-arrival estimation	**48**
	1.8 Source localization, classification, and tracking	**48**
	1.9 Blind source separation and channel identification	9
2 Adaptive Array Signal Processing	2.1 Adaptive beamforming	14
	2.2 Space-time adaptive processing	11
	2.3 MIMO radar and waveform diversity	16
	2.4 Computational advances in array processing	9
3 Multi-channel Signal Processing	3.1 Channel modeling and equalization	4
	3.2 Multi-channel transceiver design	3
	3.3 Sparsity structures in multichannel signal processing	15
	3.4 Multi-channel processing with non-wave based sensors	1
	3.5 Tensor-based signal processing for multi-sensor systems	5

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SAM Topic Statistics, ICASSP 2014

| Group	Topic	Count
4 Multi-antenna and Multi-channel Signal Processing for Communications	4.1 MIMO systems and algorithms	11
	4.2 Space-time coding and decoding algorithms	0
	4.3 MIMO space-time code design and analysis	2
	4.4 Multi-user MIMO networks	5
	4.5 Array processing for wireless communications	16
	4.6 Multi-antenna/multi-channel processing for cognitive radios	4
5 Sensor and Relay Networks	5.1 Sensor and relay network signal processing	21
	5.2 Network beamforming and coding	8
	5.3 Distributed and cooperative processing	18
	5.4 Data fusion and decision fusion from multiple sensor types	7
	5.5 Multi-Sensor processing for smart grid and energy systems	5
	5.6 Network agent activity monitoring	0
	5.7 Wireless acoustic sensor networks	9
6 Applications of Sensor Array and Multi-channel Signal Processing	**6.1 Radar array processing**	**30**
	6.2 Sonar array processing	9
	6.3 Microphone array processing	**31**
	6.4 Hyperspectral processing and unmixing	5
	6.5 Integrated multi-model sensing	1
	6.6 Super-resolution sensing and reconstruction	9
	6.7 Multi-channel imaging	4
	6.8 Multi-channel biological & medical modeling & processing	4
	6.9 Sensor array applications of compressive sensing	18
	6.10 Fusion techniques for big data applications	3
	6.11 Other applications of SAM signal processing	16

**SAM**

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Trends in SAM Submissions: ICASSP
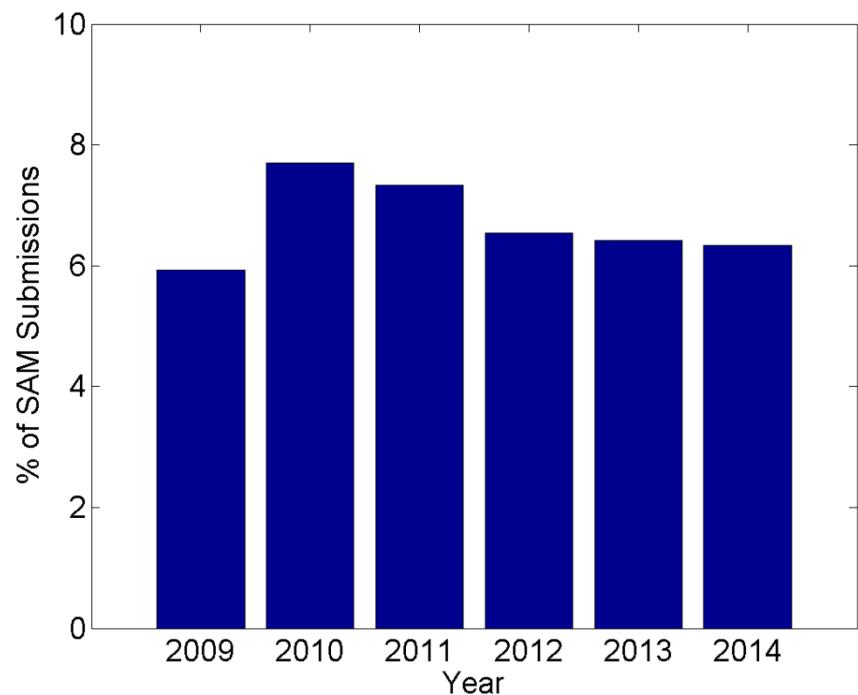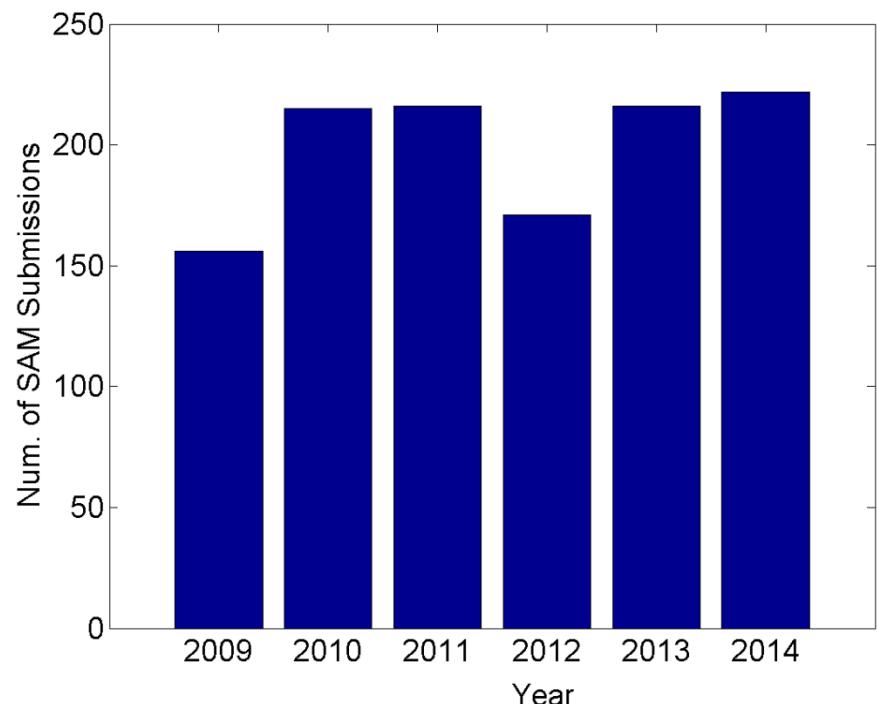
– ICASSP-2009 was in Taiwan
– ICASSP-2012 was in Japan

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SAM Workshop, CAMSAP

SAM Workshop
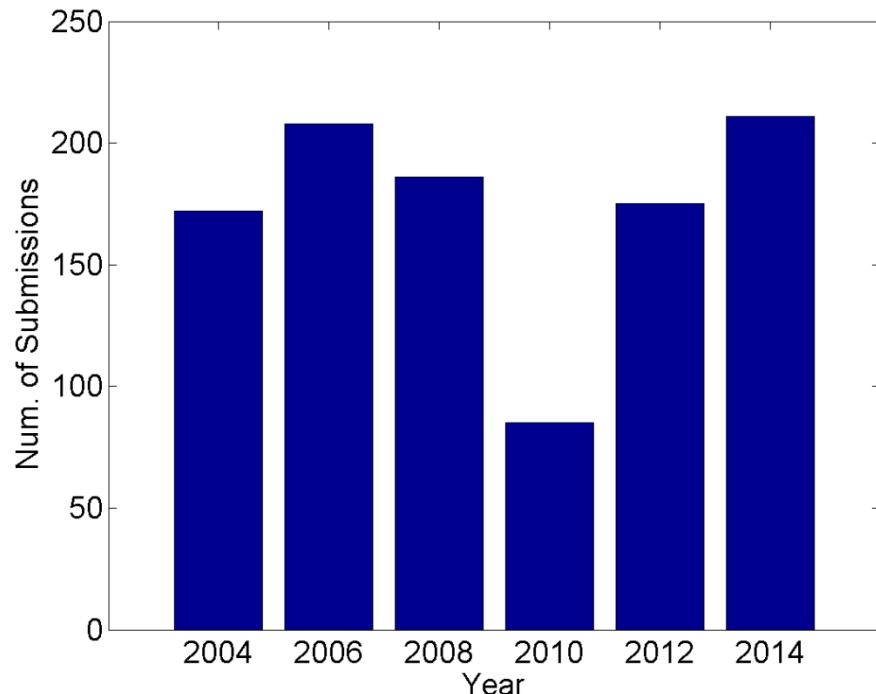
CAMSAP
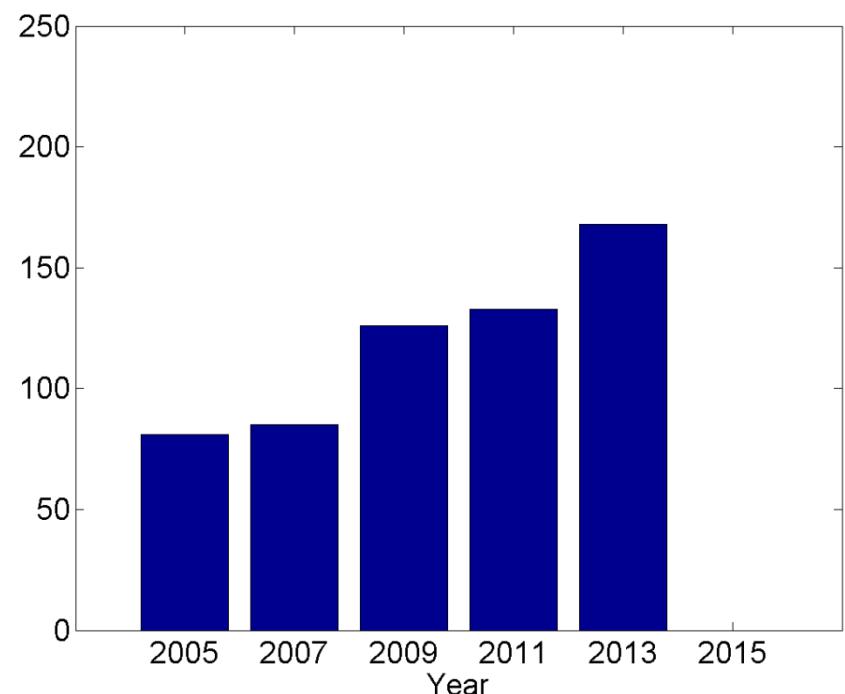
- SAM-2010 was in Israel
- SAM-2014 broke the record of submissions (211)
- CAMSAP-2013 broke the record of submissions (168)

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Schedule

- DL Nomination(s) (Mar. – May)

- SPS Awards Nominations (Apr. – Aug.)

- SP Cup Proposal (May – Jun.)

- Newsletter (Jun.)

- SAM 2014 (Jun. 22-25)

- Vice-Chair Election (Aug. – Oct.)

- Member Election (Aug. – Oct.)

- ICASSP 2015 Paper Review (Nov./14 – Jan./15)

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