

State of the Society

March 2016

Rabab Ward, President

IEEE Signal Processing Society

IEEE International Conference on Acoustics,
Speech, and Signal Processing (ICASSP), 2016
Shanghai, China

What's Happening ? ... A lot!

- Visibility Campaign
- New Conferences
- New Journals
- New Special Interest Groups
- Membership Growth
- New Educational Activities
- New Awards
- New Foundation Fund

Awareness/Visibility

- Launched SP Awareness/Visibility Campaign
- Aim: Popularize and Promote *Signal Processing* and its Appreciation
- Target audiences: High school/college students, professionals, public at large.
- Two visibility videos have been created and are on YouTube
“What is Signal Processing” and
“Signal Processing and Machine Learning”
Both are translated into Arabic , Spanish and Mandarin
- Working now with SLTC on producing a new video on speech and language processing
- With the help of a PR Firm, we have a new Tagline:
Signal Processing: The Science Behind Our Digital Life

Multi-Faceted Outreach Effort

Coming soon a new and inspiring SPS website, a centralized resource for SPS and signal processing disciplines for the specialists and non specialists.

- A **new SPS Blog**: for SPS members to engage and exchange news, educational content, etc.
- **Media outreach** efforts to promote signal processing across commercial publications, trade publications, and blogs.
- For comments or interest in supporting visibility activities, email: sp.info@ieee.org

Conferences - Upcoming

ICASSP:

- **New Orleans, LA – 2017**
- Seoul, South Korea- 2018
- Brighton, UK – 2019
- Barcelona, Spain -2020

ICIP:

- **Phoenix, AZ – 2016**
- Beijing, China – 2017
- Athens, Greece – 2018
- Taipei, Taiwan – 2019
- Abu Dhabi, UAE – 2020

GlobalSIP:

- **Washington, DC – 2016**
- To Be Determined
- Anaheim, CA - 2018

Conferences

GlobalSIP: A New Flagship

- Recently launched **symposia based** conference
 - Focused on current and emerging signal processing theoretical foundations and applications
- Emphasizes interdisciplinary research with promising impact
- - Austin, TX, 3-5 December 2013
- - Atlanta, GA, 3-5 December, 2014
- - Orlando, FL, 14-16 December 2015

Washington, DC, 7-9 December 2016,

Will have a one day (ESPA) Symposium for practicing engineers with speakers about future directions from major industry players.

Conference for Community Building ChinaSIP

- A new SPS regional conference was held in China as a unique outreach platform to
 - Help colleagues in China engage with global community
 - Provide Opportunities to network.
 - Professional development panels and industry panels
 - Some were complemented by a Summer School
- ChinaSIP in Beijing 2013
- ChinaSIP in Xian 2014
- ChinaSIP in Chengdu 2015

New IEEE SPS Signal and Data Science Forum (SIDAS)

- 25-26 April 2016 in Wuhan, China
- For **Education, Networking** and **Community Building**.
- Planned as a **networking event** similar to the VALSE Format.
- **No paper submission**, but rather Invited Talks, Plenaries and Posters, giving highlights of recent selected journals, conference works and new technological advancements.

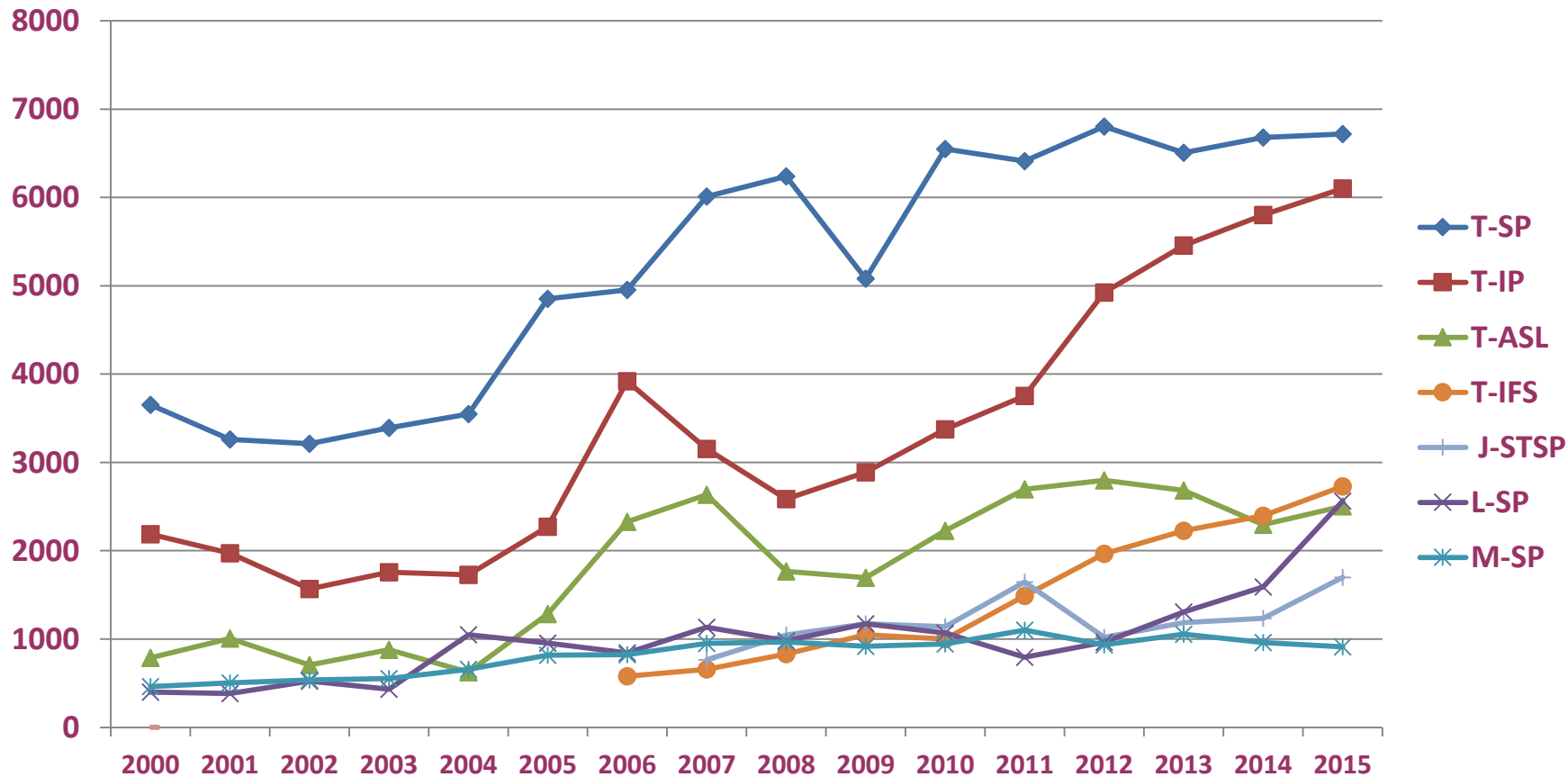
Technical Directions

Creation of Special Interest Groups - SIGS

- Provisional groups created to quickly address emerging technical areas
- Three SIGs created: Big Data, Computational Imaging and Internet of Things
- SIGS have a life-span of up to three years.
- After 3 years, the TC Review Committee determines whether the SIG continues, becomes a TC, or is disbanded.
- The Technical Directions Board identifies emerging areas and creates and receives proposals for Special Interest Groups, with approval by EXCOM.

Publications

Published Pages Per Journal (2000-2015)



Publications Total Published Pages (2000-2015)



Publications Impact

	Impact factor	Year 2014 Ranking
Signal Processing Magazine	5.9	4
Trans. on Image Processing	3.6	14
Trans. on Medical Imaging	3.4	18
Trans. on Signal Processing	2.8	27
Trans. on Audio/Speech/Lang.	2.5	35
Trans. on Wireless Comm.	2.5	33
Trans. on Mobile Computing	2.5	12 (CS-Info Sys)
Journal of Selected Topics on SP	2.4	42
Trans. Info Forensics and Security	2.4	38
Trans. on Multimedia	2.3	5 (CS-Software Engr.)
Signal Processing Letters	1.8	81

(Ranking category is **electrical and electronic engineering**, unless otherwise noted)

Recently Approved Journals

Financially Co-Sponsored

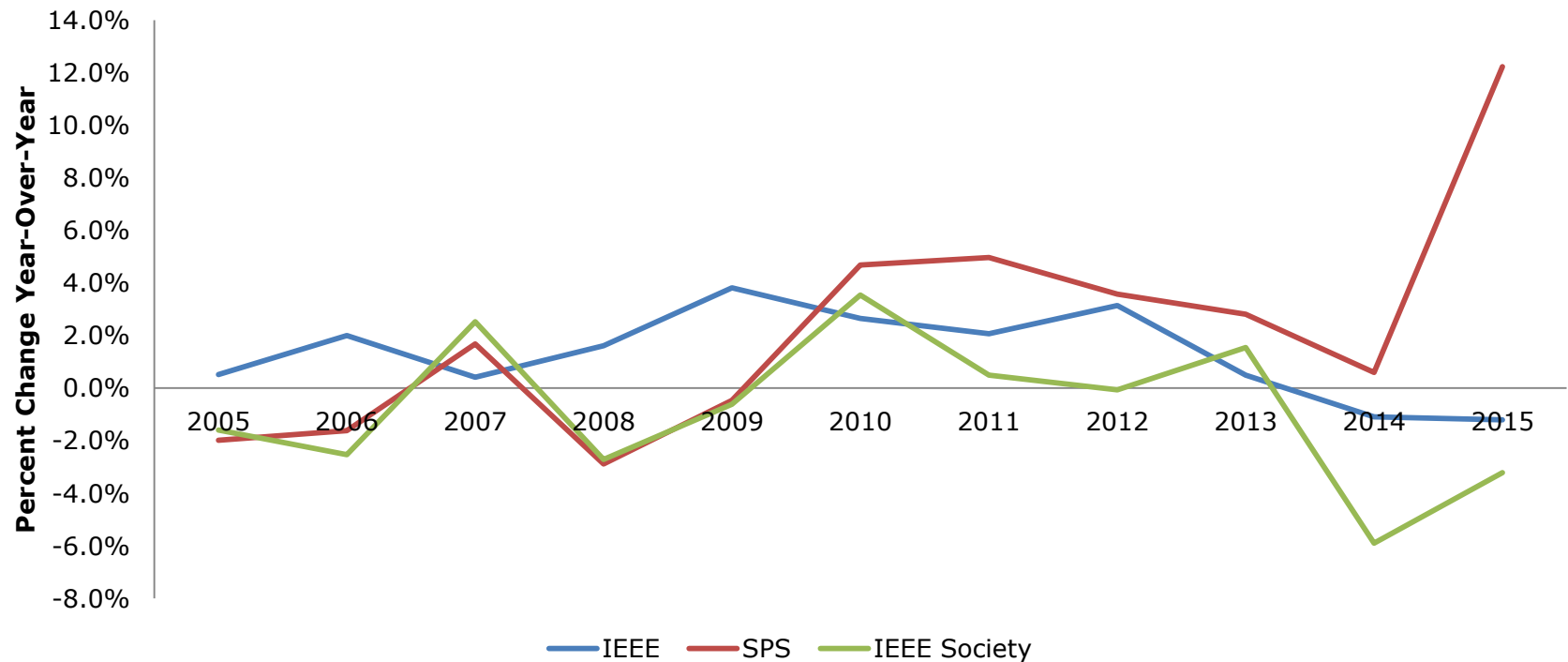
- **Trans. on Computational Imaging (70%)** - *newly launched*
- **Trans. on Signal & Info. Processing over Networks (70%)** - *newly launched*
- Journal of Biomedical Health & Informatics (15%)
- Trans. Cognitive Communications and Networking (20%)
- Trans. on Big Data (7.5%)

Technically Co-Sponsored

- Internet of Things Journal
- Trans. on Affective Computing
- Life Science Letters
- Trans. on Cloud Computing
- Trans. on Network Science & Engineering
- Trans. on Computational Social Systems
- Trans. on Molecular, Biological, and Multi-Scale Communication
- Cloud Computing Magazine

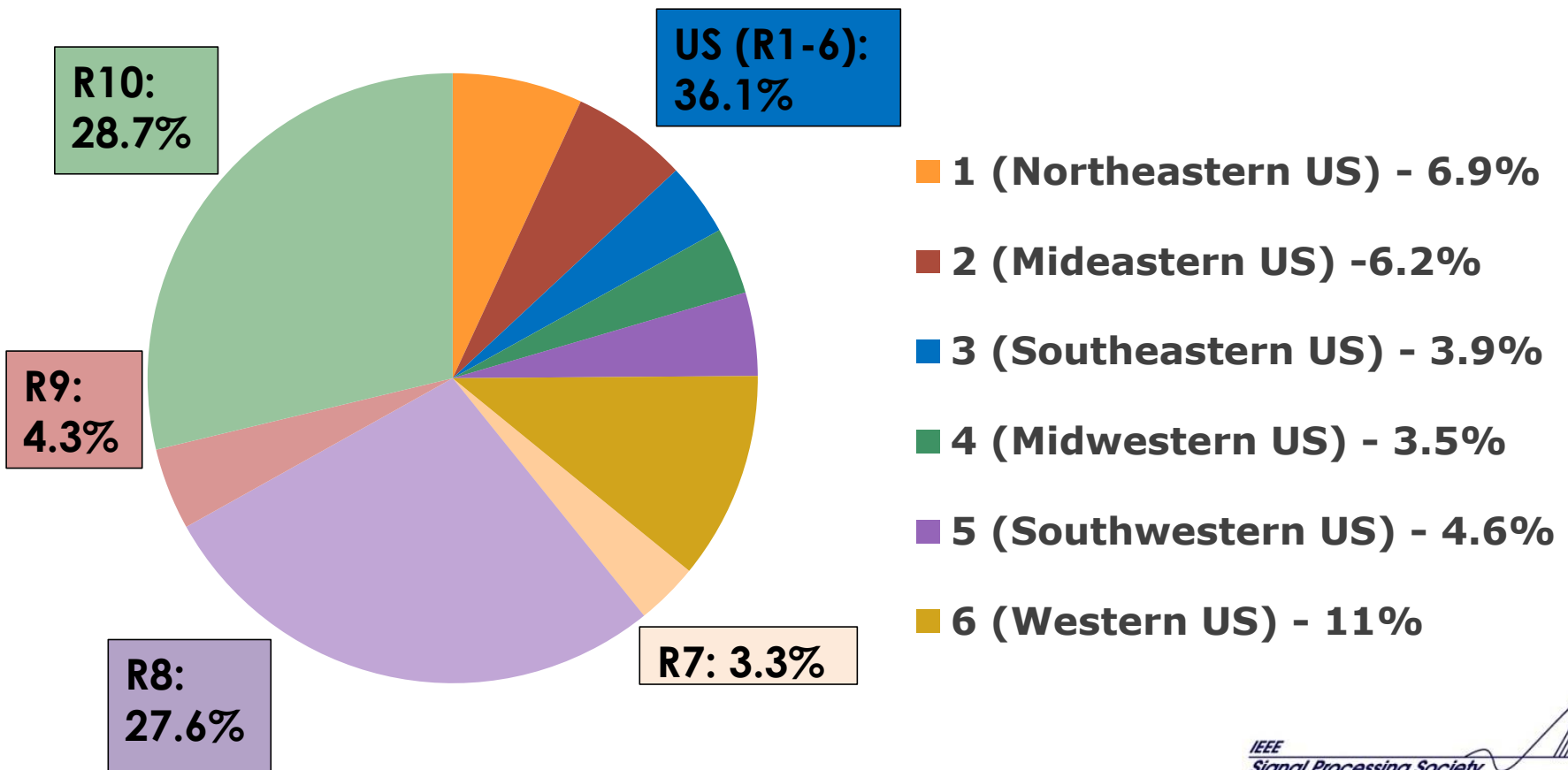
Membership: Changes in IEEE/ Societies/SPS Membership by %

Percent Changes in IEEE/SPS/Society Membership, 2005-2015



Membership - By Region

- SPS is fourth largest technical society in the IEEE
- Approximately 19,683 members – Dec 2015



Membership SPS Chapters



There are about 176 SPS chapters worldwide.

Membership – 2015 New Chapters

12 New Chapters in 2015:

- Providence Chapter - Region 1
- Dayton Chapter - Region 2
- Central North Carolina Chapter - Region 3
- Los Alamos/Northern New Mexico Chapter - Region 6
- Seattle Chapter - Region 6
- Windsor Chapter - Region 7
- France Chapter - Region 8
- Harbin Chapter - Region 10
- Delhi Chapter - Region 10
- Kharagpur Chapter - Region 10
- Shenzhen Chapter - Region 10
- Tokyo/Fukuoka/Hiroshima/Nagoya/Sapporo/Shin-Etsu Shikoku Chapter - Region 10

Membership – 2015 New Chapters

- **12 New Student Branch Chapters in 2015:**
 - San Jose State University - Region 6
 - Instituto Federal de Educação, Ciência e Tecnologia da Paraíba - Region 9
 - Universidad Nacional del Sur - Region 9
 - Adi Shankara Institute of Engineering and Technology - Region 10
 - Indian Institute of Technology-Kharagpur - Region 10
 - National Institute of Technology-Karnataka - Region 10
 - Narsee Monjee Inst of Mgnt/High Studies-Shirpu - Region 10
 - R. C. Patel Institute of Technology - Region 10
 - PSNA College of Engineering and Technology - Region 10
 - Vellore Institute of Technology - Region 10
 - Vidya Jothi Institute of Technology - Region 10
 - Vidya Pratishthan's College of Engineering - Region 10

Membership – Chapter of the Year




- The Chapter of the Year Award is presented annually to a Chapter that has provided their membership with the **highest quality of programs, activities and services**. The award consist of a certificate and a check in the amount of \$1,000 to support local chapter activities.
- **Recipients:**
 - **2015 – Gujarat Chapter**
 - 2014 – Malaysia Chapter
 - 2013 – Italy Chapter
 - 2012 – Tainan Chapter
 - 2011 - Malaysia Chapter

Membership - Seasonal Schools

- **Main objective** of Seasonal Schools in Signal Processing Program (established in 2010)
 - Membership development for students with interests in signal processing
 - www.signalprocessingsociety.org/community/seasonal-schools/
- **Upcoming Seasonal Schools:**

Dates	Location	Topics
25-27 April 2016	Ghent, Belgium	"2016 School on Signal Processing for Next Generation Satellite Communications (SPNGS 2016)"
17-19 May 2016	Pittsburgh, USA	"2016 IEEE SPS Summer School on Signal Processing and Machine Learning for Big Data (S3PBigData 2016)"
4-10 Sept. 2016	Cavalese, Italy	"2016 IEEE SPS Summer School on Signal Processing Semantics in Media (S3P-2016)"
19-24 Sept. 2016	Rhein, Germany	"2016 Joint IEEE SPS and EURASIP Summer School on Robust Signal Processing (ROSIP 2016)"

Membership - SigView

- **SigView** is an **online video library** (www.sigview.org)
- An open benefit for all SPS members, to create, host, link and distribute videos of lectures, tutorials or other media. It puts tutorials created by the world's leading signal processing experts at your fingertips.
- SigView will be **transitioning to** the IEEE Signal Processing Society's NEW media **Resource Center!**
- **During the transition period**, the Society has moved its video library to a **temporary location on IEEETv**. You may access the video library using the same link as you have in the past: www.sigview.org.
- **SigView Chief Editor: John McAllister**
- Keeping up-to-date with social media:
 -  IEEE Signal Processing Society Group
 -  www.facebook.com/ieeeSPS
 -  @SPSotl

Membership - SigPort



- **Signal Processing Repository** – www.sigport.org
 - The online archive of
 - Presentation Slides**
 - Teaching Notes**
 - Reports**
 - Posters**
 - Draft Manuscripts**
 - Thesis Abstracts & more**
- **Provide an early citable access and high visibility**

Average download number for conference presentations:

GlobalSIP'15: **29.9** downloads per document in the 1st month

WIFS'15: **23.4** downloads per document in the 1st month

- **Official Launch in March 2016 @ ICASSP' 16!**

Membership - Student Services

■ **Student Career Luncheon:**

- A new activity organized for students and companies to meet
- The fourth Luncheon will be held at ICASSP 2016 on 23 March
- Approx. **170 students/fresh graduates and about 10 companies** registered to attend the event.
- Total sponsorship expected is approx. \$7,000.

■ **IEEE SPS Travel Grants:** The committee is responsible for selecting travel grantees to attend ICASSP, ICIP and GlobalSIP.

<http://www.signalprocessingsociety.org/membership/sps-travel-grants/>

Membership - Student Services

- **“Signal Processing Cup” Competition for Students:**
 - Grad & undergrad students form teams to solve a challenging real-world problem using signal processing techniques and methods.
2016 Competition title: **Exploring Power Signatures for Location Forensics of Media Recordings**
 - Sponsored by MathWorks: financial support and software!
 - Third event was at ICASSP 2016 on 20 March.
 - 52 teams registered
 - 33 teams submitted their work for the competition
 - 3 teams were selected for the final

WIKI Project

- Wikipedia has become one of the most widely-used resources on signal processing
 - Nyquist–Shannon sampling theorem page **is viewed on average 1000x a day**
 - Editing of a Wikipedia article can easily exceed the impact and visibility of writing a paper
- **Wikipedia Information**
 - http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Signal_Processing
 - Under “Signal Processing”, there are 293 pages and 19 categories.
 - Under those 19 main categories, there are 989 pages and another 77 categories.

Awards - SPS

New Society Awards with an Industry focus:

- Industrial Leader Award
- Industrial Innovation Award
- Conference Best Paper Award for Industry

Awards - SPS

▪ IEEE Level Awards

- IEEE Jack S. Kilby Signal Processing Medal (est. 1995)
- IEEE James A. Flanagan Speech and Audio Processing Technical Field Award (est. 2002)
- IEEE W.R.G. Baker Prize Paper Award (reinstated 2011)
- IEEE Fourier Award for Signal Processing

▪ SPS Major Awards

- Education Award
- Meritorious Service Award
- [Industrial Leader Award](#) (newly approved)
- [Industrial Innovation Award](#) (newly approved)
- Society Award
- Technical Achievement Award

▪ SPS Paper Awards

- Best Paper Award
- [Conference Best Paper Award for Industry](#) (newly approved)
- Overview Paper Award
- Signal Processing Letters Best Paper Award
- Signal Processing Magazine Best Paper Award
- Signal Processing Magazine Best Column Award
- Sustained Impact Paper Award
- Young Author Best Paper Award

New Foundation Fund

- The Society established a dedicated IEEE Foundation Fund, called the **Signal Processing Student and Young Professional Fund (SP-SYP)**.
- Depends on Funding from Industry
- SP-SYP Fund uses are for:
 - Travel grants for Students and Young Professional to attend a Signal Processing conference or other educational experience.
 - Special events to promote Signal Processing to Students and Young Professionals.
 - Scholarships and Fellowships for students pursuing a career in Signal Processing.
 - Production of educational media in multiple formats, aimed to educate and promote Signal Processing to students and young professionals.

Volunteering Opportunities

- Many Educational and Networking Activities in Your Chapter
- Accept to Review papers for journals/conferences
- Organize conferences and seasonal schools
- Propose tutorials for online education program
- Get involved in technical committees
 - Practically any SPS member and even some non-members can become Affiliate Members (non-elected, non-voting members) of a particular TC
- Volunteer for elected leadership positions
- (more)

Where to Find This Talk?

- Go to IEEE Signal Processing Society at <http://www.signalprocessingsociety.org/>
 - Under “About SPS”, see “State of the Society”
 - Additional slides at end provide more information

What Can We Do for You?

- **President:** Rabab Ward
- **President-Elect:** Ali H. Sayed
- **Vice President-Membership:** Kostas Plataniotis
- **Vice President-Conferences:** Carlo Regazzoni
- **Vice President-Publications:** Thrasyvoulos N. Pappas
- **Vice President-Technical Directions:** Walter Kellermann

