Welcome to ICASSP 2022!

A flagship conference of the
IEEE Signal Processing Society

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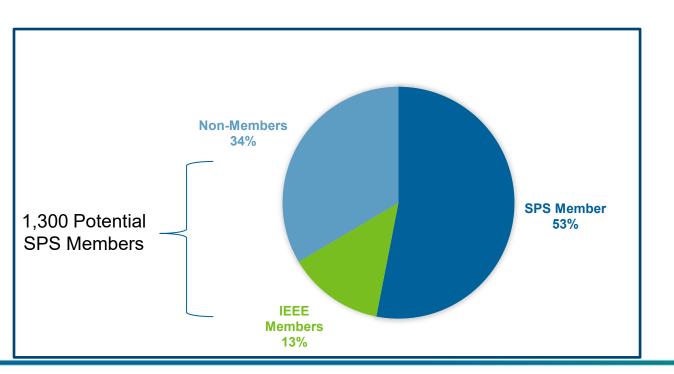**Secretariats**
Allison Law
Celine Cheong

Congratulations and thank you!
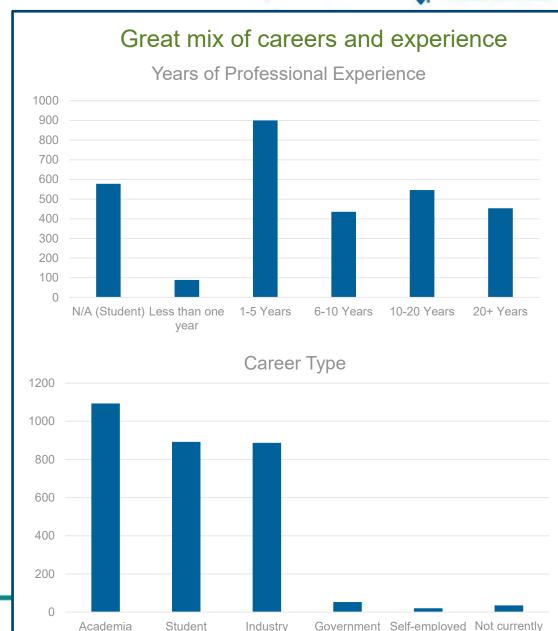
ICASSP 2022 Delegates
Over 3,000 and growing!

About 40% are First Time ICASSP Attendees!

Over 3,000 registered, 750 here in Singapore (25%)

Attendees from 63 countries

1,300 Potential SPS Members

Non-Members 34%

SPS Member 53%

IEEE Members 13%

Great mix of careers and experience

Years of Professional Experience

(Bar chart: N/A (Student) ~580, Less than one year ~90, 1-5 Years ~900, 6-10 Years ~430, 10-20 Years ~545, 20+ Years ~450)

Career Type

(Bar chart: Academia ~1090, Student ~890, Industry ~885, Government ~50, Self-employed ~20, Not currently employed ~30)

Grand Challenges of the 21st Century

14 Grand Challenges for Engineering in the 21st Century

ADVANCE PERSONALIZED LEARNING

MAKE SOLAR ENERGY ECONOMICAL

ENHANCE VIRTUAL REALITY

REVERSE-ENGINEER THE BRAIN

ENGINEER BETTER MEDICINES

ADVANCE HEALTH INFORMATICS

RESTORE AND IMPROVE URBAN INFRASTRUCTURE

SECURE CYBERSPACE

PROVIDE ACCESS TO CLEAN WATER

PROVIDE ENERGY FROM FUSION

PREVENT NUCLEAR TERROR

MANAGE THE NITROGEN CYCLE

CARBON SEQUESTRATION

ENGINEER THE TOOLS OF SCIENTIFIC DISCOVERY

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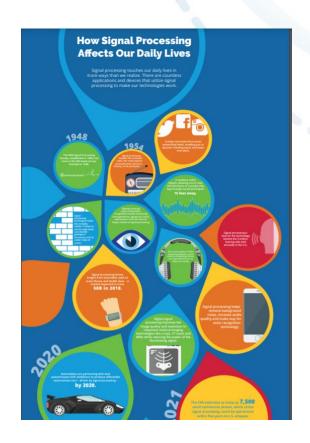
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Signal Processing – The Science Behind our Digital Lives

- **Signal Processing is the Enabler Technology to Meet the Challenges of the 21st Century**

- SP models and analyzes data representations of physical events to extract information

- The models can be based on insight on the physical event (traditional model-based approaches), or can be extracted automatically using training data (machine learning)
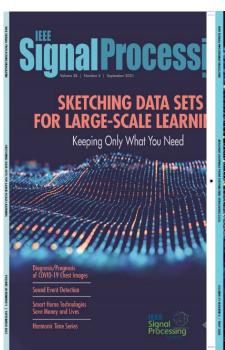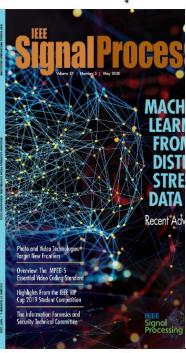
IEEE Signal Processing Society

- IEEE's first society is the world's premier professional society for signal processing scientists and professionals.

- Established in 1948, Celebrating 75 years in 2023!

- More than 19,000 members across 120+ countries

- Through high quality publications, conferences, technical and educational activities, and leadership opportunities, SPS

  o advances and disseminates state-of-the-art scientific information and resources

  o educates the signal processing
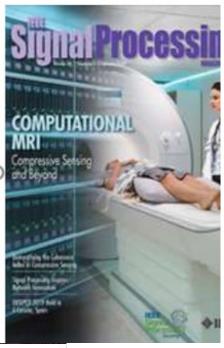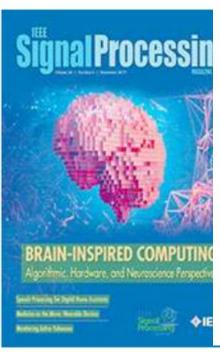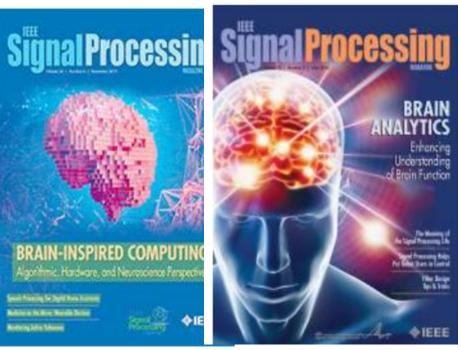
  o gives members the opportunity to influence the future of SP

IEEE Signal Processing Society
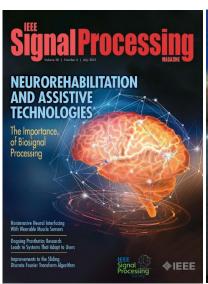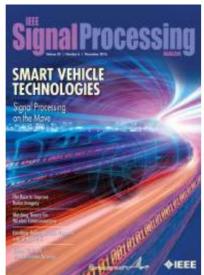
Advances tools of discovery

IEEE Signal Processing Society

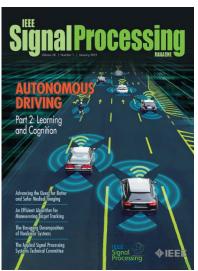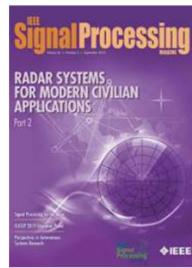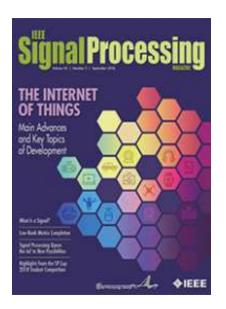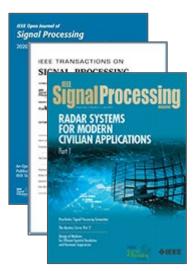## Advances tools that improve our lives

SPS Publications

Society publications

▸ IEEE Signal Processing Magazine – *Ranked #4*

▸ IEEE Open Journal of Signal Processing

▸ IEEE Journal of Selected Topics in Signal Processing – *Ranked #25*

▸ IEEE Signal Processing Letters

▸ IEEE/ACM Transactions on Audio, Speech, and Language Processing

▸ IEEE Transactions on Information Forensics and Security – *Ranked #21*

▸ IEEE Transactions on Image Processing – *Ranked #9*

▸ IEEE Transactions on Signal Processing

▸ IEEE SPS Content Gazette

Joint publications

▸ IEEE Transactions on Computational Imaging

▸ IEEE Transactions on Signal and Information Processing over Networks

▸ IEEE Transactions on Multimedia

▸ IEEE Transactions on Big Data

▸ IEEE Journal on Biomedical and Health Informatics

▸ IEEE Transactions on Cognitive Communications and Networking

▸ IEEE Transactions on Medical Imaging

▸ IEEE Transactions on Mobile Computing

▸ IEEE Transactions on Wireless Communications

▸ IEEE Wireless Communications Letters

Other publications

IEEE Biometrics Compendium, IEEE Sensors Journal, IEEE Cloud Computing Magazine, IEEE Transactions on Affective Computing, IEEE Computing in Science & Engineering Magazine, IEEE Transactions on Cloud Computing, IEEE Internet of Things Journal, IEEE Transactions on Computational Social Systems, IEEE Life Science Letters, IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, IEEE MultiMedia Magazine, IEEE Transactions on Network Science and Engineering, IEEE Reviews in Biomedical Engineering, IEEE Transactions on Smart Grid, IEEE Security & Privacy Magazine

SPS Conferences and Workshops

IEEE International Conference on Acoustics, Speech, and Signal Processing

IEEE International Conference on Image Processing

Solely-sponsored

▶ IEEE Workshop on Automatic Speech Recognition & Understanding (ASRU)

▶ IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)

▶ IEEE Data Science Workshop (DSW)

▶ IEEE Workshop on Image, Video, and Multimedia Signal Processing (IVMSP)

▶ IEEE Workshop on Machine Learning for Signal Processing (MLSP)

▶ IEEE Workshop on Multimedia Signal Processing (MMSP)

▶ IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)

▶ IEEE Workshop Spoken Language Technology (SLT)

▶ IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)

▶ IEEE Workshop on Statistical Signal Processing (SSP)

▶ IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)

▶ IEEE International Workshop on Information Forensics and Security (WIFS)

Co-sponsored

▶ IEEE International Conference on Multimedia & Expo (ICME)

▶ IEEE International Symposium on Biomedical Imaging (ISBI)

▶ IEEE Conference on Advance Video and Signal-Based Surveillance (AVSS)

▶ ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN)

▶ IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)

▶ IEEE Workshop on Signal Processing Systems (SiPS)

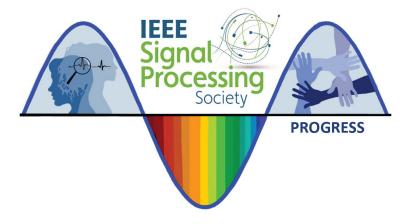# IEEE Signal Processing Society – Strategic Plans

- Improve our visibility

- Improve our diversity

- Outreach

- Create value through curated SPS education content

- Engage Industry

- Entrepreneurship Forum

- Organize Challenges and Competitions

- Open access

- Hybrid conferences

Promoting Diversity in Signal Processing (PROGRESS)

Held virtually, May 21, 22

www.ieeeprogress.org

- **Diversity and inclusion are pillars of innovation**

- The key to increasing diversity and inclusion in signal processing is a more diverse faculty, who will offer role models, draw women and underrepresented minorities to the field and inspire them for excellence.

- PROGRESS aims to motivate and support women and underrepresented minorities to pursue academic careers in signal processing

2022 Outreach efforts to K-12 students in Baltimore, Chicago, Los Angeles and Philadelphia!

Education-Oriented Short Courses at ICASSP 2022

Happening this week – it's not too late to sign up – visit the registration desk!

IEEE

Parallel tracks providing deep and multi-sided understanding of a topic

▶ 10-hour courses in three sessions (Tuesday, Wednesday, Thursday)
▶ Hands-on experience and deep dive into topic areas
▶ Professional development certificate (PDH) for training hours provided upon completion of course and quiz

Thank you to all the volunteers who made this possible!

ICASSP Education Program Chairs:
Ngai-Man (Man) Cheung, Kenan Emir Ak, Rongshan Yu, Eng Siong Chng

SPS Education Board

All of the Course Instructors!

Presented Live in Singapore to In-Person and Virtual Attendees	Presented Virtually to Virtual Attendees
Low-Dimensional Models for High-Dimensional Data: From Linear to Nonlinear, Convex to Nonconvex, and Shallow to Deep	Signal Processing and Learning from Network Data
Inclusive Neural Speech Synthesis –iNSS	Speech Technology for Health: From Technical Foundations to Applications
Biomedical Signal Analysis and Healthcare	Transformer Architectures for Multimodal Signal Processing and Decision Making

IEEE Signal Processing Society

Courses will also be offered on-demand for SPS Members in the SPS Resource Center!

Inaugural SPS Entrepreneurship Forum

Held Live in Singapore and Virtually Sunday, May 22

Training a new generation of signal processing entrepreneurs!

Full day Forum consisted of:

- ▶ Sharing of entrepreneurship journeys
- ▶ Educational talks
- ▶ Challenges and opportunities in translating signal processing research into commercial applications
- ▶ Forum for pitching ideas

Sessions will also be offered on-demand for SPS Members in the SPS Resource Center!

Thank you to all the volunteers who made this possible!

Chairs:
Eliathamby Ambikairajah
Wilson Teng

Keynote Speaker:
IEEE President & CEO, K.J. Ray Liu

IEEE Entrepreneurship Session:
Omar Zahr
Armando Vera Carvajal
Michael A. Oblon

And all the speakers and panelists and organizers!

IEEE Signal Processing Society

Members enjoy:

▶ Access to the latest leading-edge signal processing research

▶ *IEEE Signal Processing Magazine*

▶ Discounts on SPS conferences

▶ Access to SPS continuing education materials

▶ Networking, events and resources and grants for students, young professionals, and women

▶ **Coming in 2023:** SPS scholarships

▶ **Build** your network, receive **recognition**, and **amplify** signal processing research, mission, and initiatives

2022 Pricing - *Effective now for membership until 31 December 2022!*

IEEE

Essential
$22/year ($1 for St...

Join now for half price starting at US$11/year (US$.50 for Students)!

- Electronic and digita... *IEEE Signal Processing M...*

- Monthly e-delivery of Inside... Signal Processing eNewsletter

- SPS Content Gazette

- SPS Resource Center

Preferred
$39/year ($20 for St...

Join now for half price starting at US$19.50/year (US$10 for Students)!

- Electronic, digital, and... of *IEEE Signal Processing... Magazine*

- Signal Processing Digital Library

- Monthly e-delivery of Inside Signal Processing eNewsletter

- SPS Content Gazette

- SPS Resource Center

Plus discounts on conferences, discounts on publishing on *IEEE Open Journal on Signal Processing*, eligibility for leadership roles, networking opportunities, and more.

IEEE Signal Processing Society

Developing Nations and Low Income Economies

More accessible pricing for our members

Essential Membership	Preferred Membership	Developing Nations	Low Income Economies
US$22 /year	US$39 /year	US$11 /year	US$4 /year

▶ SPS now offers discounted pricing for those members who reside in **developing nations** and **low income economies**

- Visit the IEEE website for list of eligible countries
- Discounted Society pricing available only to IEEE electronic members
- Applies only to Society *essential package*. Student Members not eligible.

Volunteer Opportunities

▶ Join our global network of more than 1,000 volunteer leaders making their mark across Society activities. Opportunities available Society-wide, including:

- Technical Activities
- Membership
- Publications
- Conferences
- Education
- Awards
- Public Visibility
- Diversity and Inclusion
- and more!

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President

Min Wu
President-Elect

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Vice President-Technical Directions

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Vice President-Conferences

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Vice President-Membership

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Vice President-Publications

Rich Baseil
Executive Director (non-voting)

Thank you for your service!

Ahmed Tewfik
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2020-2021

Tulay Adali
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2019-2021

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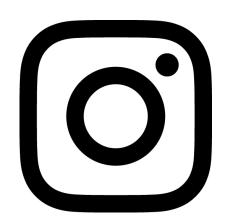
Stay Connected

Follow SPS on social media for more Society events, resources, and more!

@ieeeSPS on all platforms

Thank you, and enjoy your time at ICASSP 2022!