

BIOMEDICAL
ACOUSTICS

BIOMEDICAL
ACOUSTICS



ASA Virtual Meeting – Biomedical Acoustics Technical Committee



Welcome to ASA 187!

- New attendees: Introduce yourselves (name, institution, advisor)!
- Sign in to the meeting!
 - See QR code or
 - Physical sign-in sheet
- BA List Serv
 - Email ASA_BATC-subscribe@googlegroups.com
 - Visit: http://groups.google.com/group/ASA_BATC
 - Or email me: jcs516@psu.edu

Sign in QR code



Fall 2024 Virtual Meeting (Nov. 18-22, 2024)

1. Tuesday am: Panel: Transitioning Technology from Idea to Industry

Chair: Tom Matula

2. Tuesday pm: Lightning Rounds: Bubble-Based Therapies

Chairs: Mitra Aliabouzar and Eric Rokni

3. Wednesday am: Debate: Nanobubbles – Can They Do Anything?

Chair: Eleanor Stride

4. Wednesday pm: ASA Keynote Dr. W. Tecumseh Fitch: Vertebrate

Bioacoustics: A Tale of Three Theories, Chair: Micheal Dent

5. Thursday am: Tutorials: 1) Hydrophone Measurement Methods for

Biomedical Ultrasound and 2) Passive Cavitation Detection

and Passive Acoustic Mapping Methods and Uses

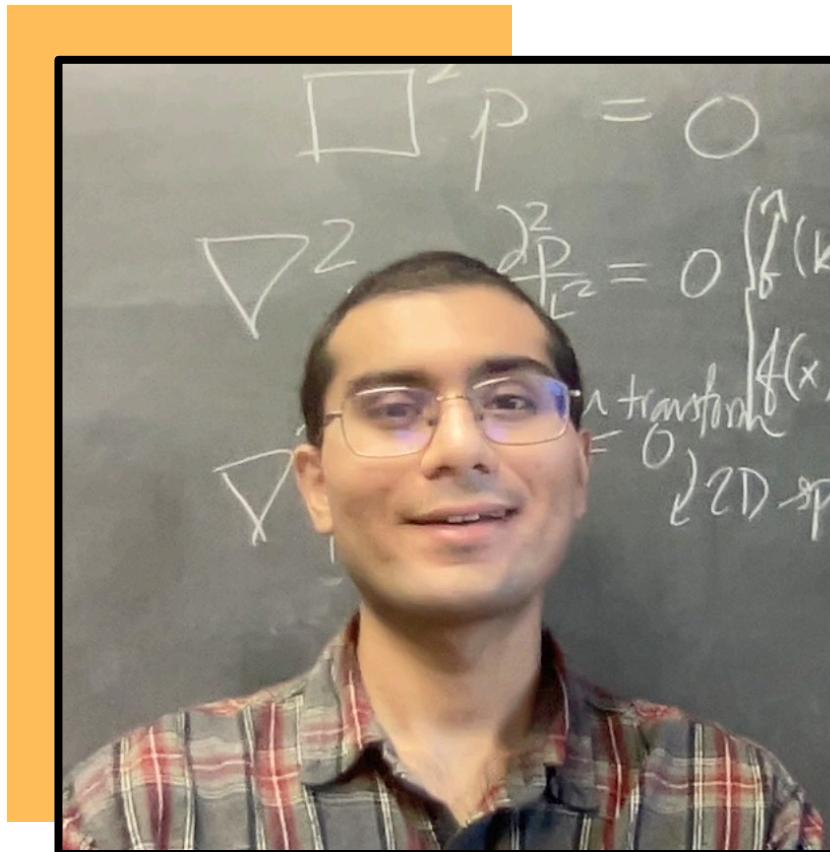
Chair: Jeff Ketterling

6. Thursday pm: Lecture: Show Me Your Lab Crib!

Chairs: Tim Hall and Ellen Yeats

Student Council Rep

TC: Biomedical Acoustics



Term: Fall 2023 - Spring 2025



Chirag Gokani
University of Texas at Austin
Graduate Program in Acoustics

Interested in joining Student Council?



BATC website: <https://biomedicalacoustics.github.io/>

Biomedical Acoustics Technical Committee



[Home](#)

[Leadership](#)

[Fellows](#)

[Awards](#)

[Meeting notes](#)

[Poster competition](#)

[Student resources](#)

[General resources](#)

The Biomedical Acoustics Technical Committee (BATC), one of fourteen Technical Committees (TCs) of the [Acoustical Society of America](#), consists of researchers, educators, and students who study the interaction of acoustic and elastic waves with biological materials. Relevant areas of interest include, but are not limited to:

- Acoustic propagation and scattering in heterogeneous biological media
- Biological effects of exposure to acoustic and elastic waves
- Characterization and processing of biological materials
- Diagnostic and therapeutic applications of acoustics in medicine
- Instrumentation
- Medical image and signal processing
- Physiological measurements
- Ultrasound contrast agents
- Ultrasound field calibration, exposimetry and dosimetry

The BATC is very active in the ASA, hosting numerous special sessions at the biannual meetings, contributing to ASA programs like [SURICA](#), and providing opportunities for students to present their research. Interest has grown significantly over the past 25 years, and over 500 ASA members currently list the BATC among their top three TCs of interest.

[See here](#) for a short video by the ASA on biomedical ultrasound.

A little history

The history of the BATC goes back to 1984, when the Bioresponse to Vibration Technical Committee was born. Prior to then, the [Physical Acoustics Technical Committee](#) typically acted as the home for biomedical-related research at ASA meetings.

As member interest evolved, ultrasound applications became more visible within the TC and, in 1996, the name was modified to "Bioresponse to Vibration/Biomedical Ultrasound." Ultrasound then rapidly overtook bioresponse as the primary interest and in 1998, the name was changed to "Biomedical Ultrasound/Bioresponse to Vibration."

In 2010, the name of the TC was changed to its current form, "Biomedical Acoustics." The members of the TC felt this name was broad enough to encompass its diverse interests.

More details on the history of the BATC can be found in Ch. 7 of the commemorative volume [ASA at 75](#) (R. O. Cleveland, editor). A [web-based history of medical ultrasound](#) has also been written by J. Woo, which includes a chronology of technology and scientific contributions to the area.

Check out our website:
asastudents.org

CONTACT US

@students_ASA

@asastudents

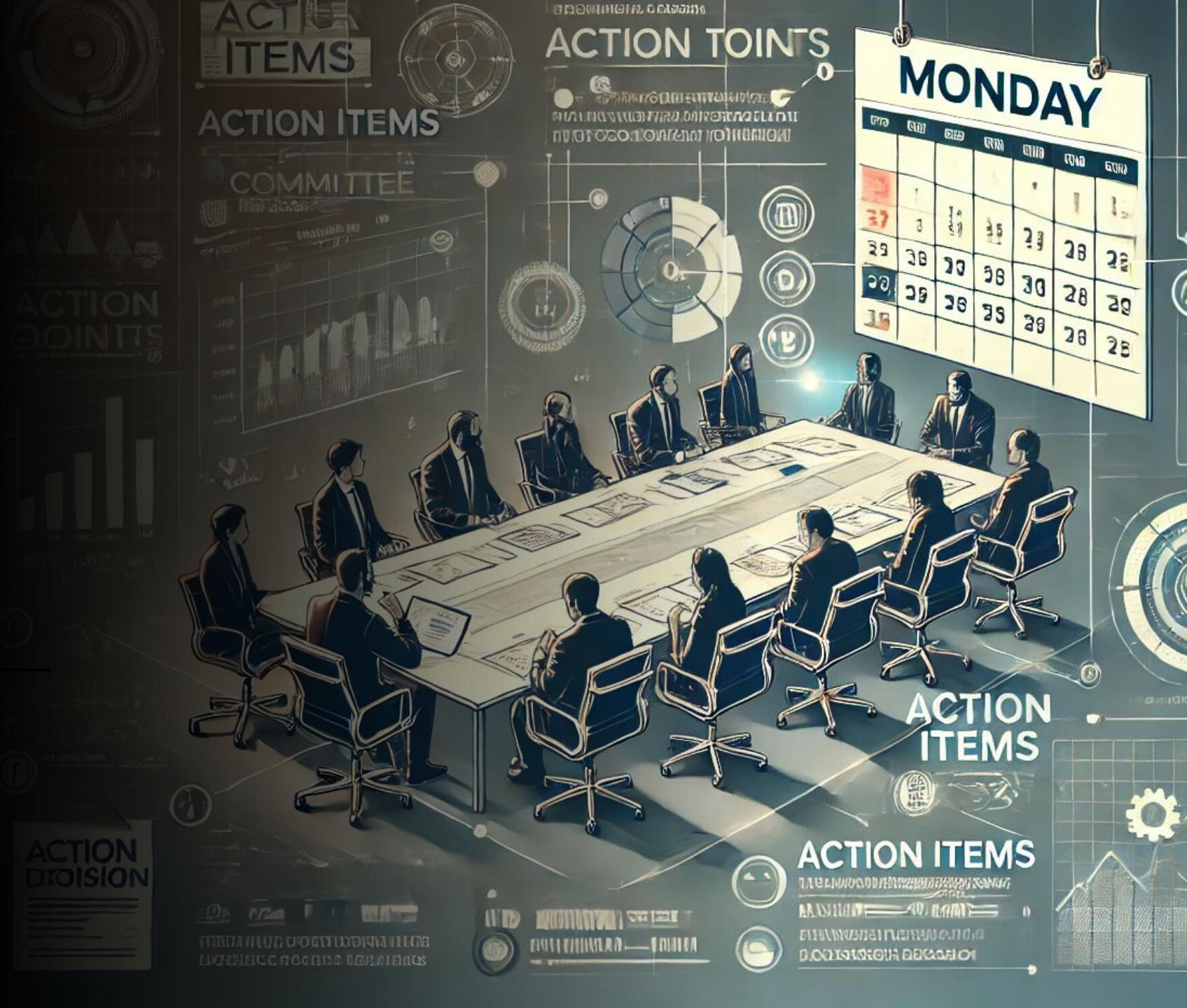
@ASASStudents

Acoustical Society of America Students

asastudentcouncil@gmail.com

NEW!
LinkTree
@asastudents

Report from Monday TC Meeting



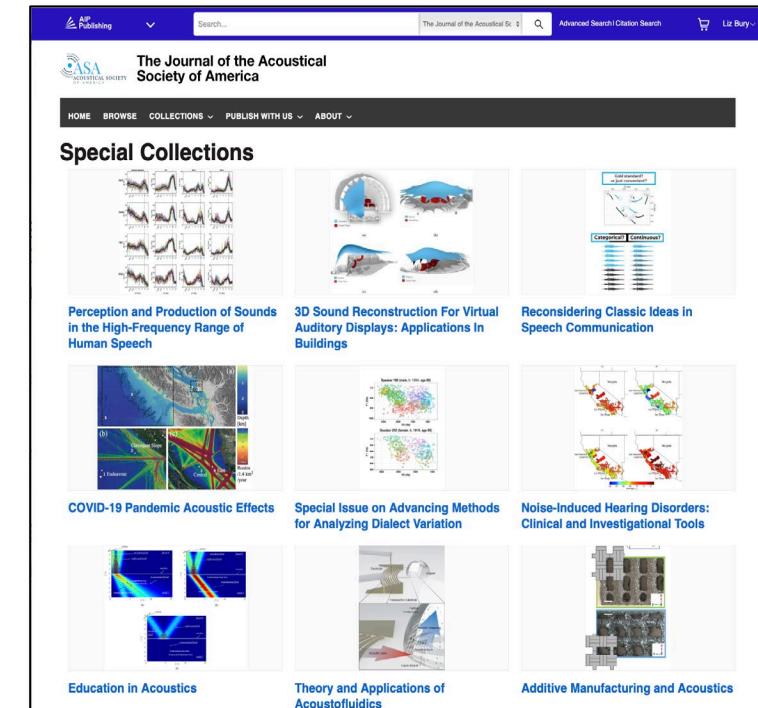
Standards Committee Update

- Many standards are out of date – looking for people to help update!
- Working on a new product – practical application/implementation of standards (and how to market)
 - If interested, contact Nancy Blair DeLeon – nblairdeleon@acousticalsociety.org
 - Or Stephen Lind – standards@acousticalsociety.org



Publications News

- JASA Impact Factor down to 2.1 for 2023 (~2.4 in 2021 and 2022)
- Time from first submission to final decision constant at ~160 days
- LinkedIn is the most popular social media platform for JASA
- Podcasts are becoming increasingly popular
- Acoustics Today is moving to twice/year in 2025
 - Art Popper's last issue released soon, Keith Wilson is the new editor
 - AT is looking for ideas of industry sponsors for ads





POMA Student Paper Competition

POMA is holding a society-wide student paper competition for a POMA submission based on a presentation or poster from the 187th (*Virtual*) Meeting of the ASA

Award Amounts



Up to five student papers will receive an award of USD \$300. Additionally, the student paper winners will be noted on the POMA cover page and their article will be promoted in email and social media campaigns.

Qualifications



- To qualify for the award, an author must:
- be enrolled as a student at least half-time (graduates are eligible if the presented work was performed as a student within one year of the meeting). *Note that the student author does not need to be a member of the ASA to qualify.
 - be listed as the first author on the submitted abstract and POMA manuscript and present the paper at the meeting.
 - submit the POMA manuscript by the competition deadline, which is 30 days after the conclusion of the meeting.

To enter



Indicate your paper is part of the POMA Student Paper Competition by selecting this option during the POMA submission process.

Selection



The papers will be rated by the POMA Associate Editor corresponding to the technical area in which the paper was presented. The top-related papers will be evaluated by the POMA Editor, POMA Assistant Editor, and POMA Manuscript Manager and up to five winning papers will be selected. Note that the paper judging will take place concurrently with the ordinary editorial review of a POMA submission; each judged paper will be returned with comments and a publication decision.

Additional Instructions



- To ensure the article passes the initial quality check, please use either the MS Word or LaTeX manuscript templates and follow all [manuscript preparation and submission instructions](#). Articles that do not pass the initial quality check are ineligible for the competition. See the submission checklist at the POMA Author Resources page.
- **The competition deadline is 11:59 pm Eastern Daylight Time, 23 December 2024.**
- Any manuscripts received after this will be considered for publication in POMA but will be ineligible for the competition.
- Regardless of the competition outcome, the opportunity to publish an editor-reviewed proceedings paper will enhance your CV/resume and help you take an important intermediate step toward a peer-reviewed publication.



Submit today at <https://pubs.aip.org/asa/poma/pages/manuscript>

For questions or comments please contact poma@acousticalsociety.org

The *Journal of the Acoustical Society of America* (JASA) and *JASA Express Letters* are calling for papers for a joint Special Issue on

Climate Change: How the Sound of the Planet Reflects the Health of the Planet

Benefits of publishing in the joint special issue

Benefits for JASA

- No mandatory page fee, even if the article exceeds 12 print pages.*
- Articles will be freely available online for 1 year after publication.

*Optional publication (gold open access with CC-BY) charges still apply.

Benefit for JASA-EL

- 25% discount on the article processing charge

Topics of interest include (but are not limited to):

- Long-term studies documenting shifting soundscapes as global temperatures warm
- Investigations of ethological alterations and health of aquatic and terrestrial life forms (e.g., foraging, migratory patterns, communication) resulting from climate change
- Tracking changes in ocean temperature (e.g., ocean acoustic thermometry)
- Measurements of ocean acidification
- Monitoring changing weather patterns (including precipitation)
- Studies of environmental transformations caused by climate change
- Effects of green energy on the soundscape (e.g., wind turbines)
- Novel instrumentation and signal processing algorithms for monitoring climate change
- Modeling the acoustical effects of climate change



Deadline for
manuscripts
30 Jun 2025

Guest Editors:

Megan S. Ballard, University of Texas at Austin

Edward J. Walsh, University of Minnesota

Lauren A. Freeman, Naval Undersea Warfare Center Division Newport

Daniel T. Blumstein, University of California Los Angeles

Ying Tsong Lin, Scripps Institution of Oceanography, UCSD



Other society news/discussion

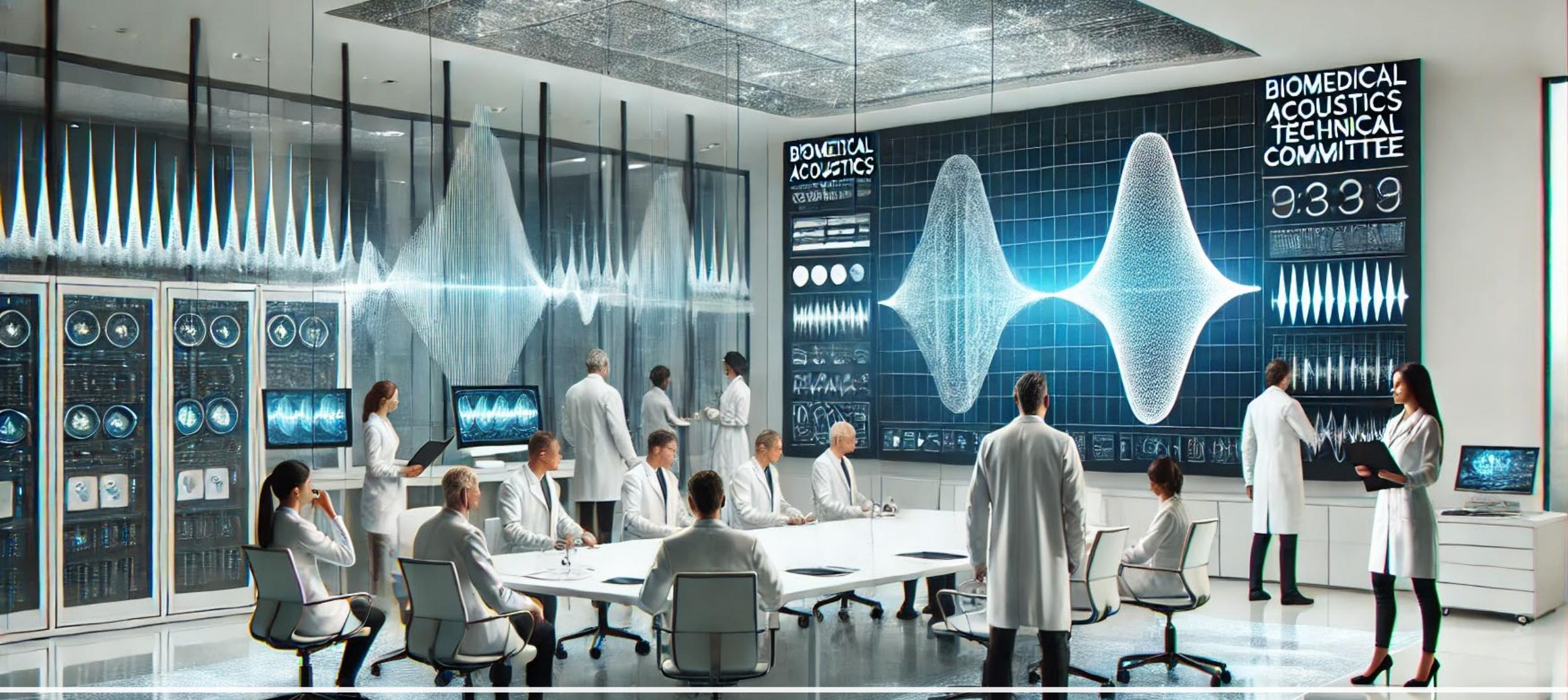


**5-year strategic planning
process is nearly complete.**

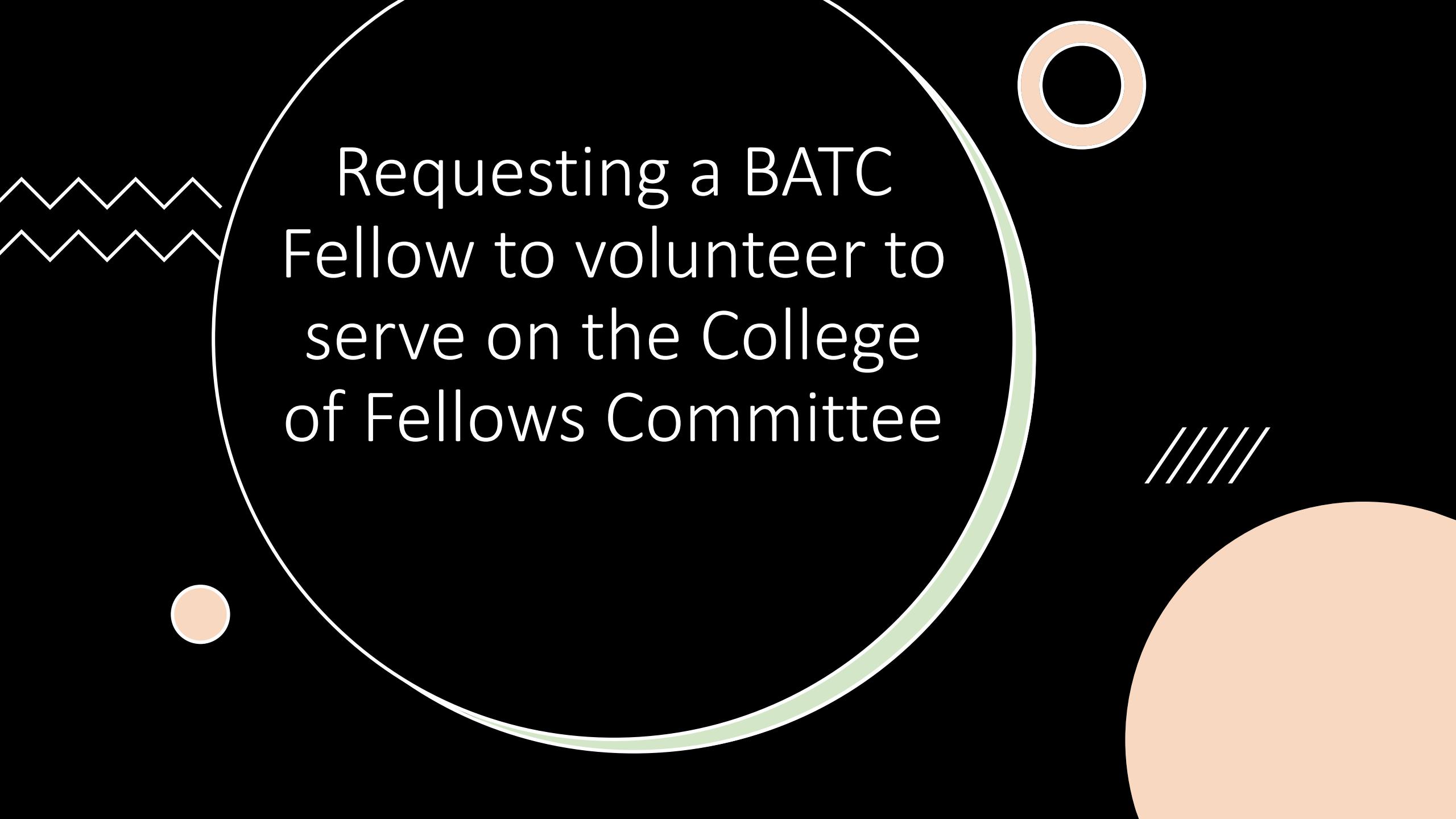
Look for focus groups at the Spring 2025
to begin enacting the plan!



Policy on absent presenters?



Other Business of BATC



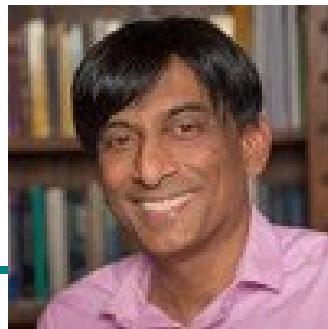
Requesting a BATC
Fellow to volunteer to
serve on the College
of Fellows Committee

Ad-hoc Committee on Industry and Practitioners

Mission Statement:

The Ad Hoc Committee on Practitioners and Industry advocates for increased participation and engagement among ASA members and potential members interested in applications of acoustics. We will achieve this by developing programs and initiatives to attract and retain members, determining needs and barriers to participation, organizing events at and beyond ASA meetings, and acting as a centralized resource to the Society for issues relating to practitioners and industry. The Ad Hoc Committee will also advocate for appropriate representation in Society leadership.

Liaisons with Technical Committees



Raghu Raghavan: Liaison with TC on Biomedical Acoustics

I have worked on ultrasonic streaming to enhance drug delivery and am currently PI on an NSF and another NIH grant for novel method of acquisition of ultrasound diagnostic images.

Goal: Increase membership amongst biomedical acoustics industry and non-academic practitioners.

Suggested approach: Focused program on one day (whole or part of day) to attract industry.

Method: Work with TC to generate such a program at future ASA meeting (2026?)

News from the Public Relations Committee

Media Liaisons

ASA routinely receives media inquiries to help identify individuals with expertise in acoustics, often needing quick responses. Each TC requires providing at least 2 media liaisons, or individuals willing to respond to media requests in a timely manner. The PR committee offers resources to help you feel more comfortable talking to the media, including occasional media training sessions during conferences. Please contact our chair if you're interested becoming a media liaison. [TCs missing at least one liaison – EA, PA, SA]

TC Representative

We are looking to fill our committee with at least 1 representative from each TC to best represent our committee and relay news during your TC meeting. This can be one of your media liaisons, but is not required. Please contact our chair if interested.

Acoustics Lay Language Papers (ALLP)

A reminder that ASA offers all those with a conference abstract to submit lay language papers. These are 300-500 word summaries of meeting presentations written by scientists for a general audience. Authors are recommended to submit papers before conferences to help promote their talks, but papers can be submitted at any time after conferences. Unlike JASA or POMA, lay language papers do not need to be peer reviewed, offer a quick path to disseminate work, and help create media interest. See acoustics.org/lay-language-papers/ for more information.

ASA Diversity Initiatives

Committee to Improve Racial Diversity and Inclusivity

- Stay up to date on diversity initiatives
- Contribute to initiatives focused on equity and inclusion within the society
- Want to learn more? Join our mailing list:

<https://acousticalsociety.org/keep-me-informed/>

James E. West Fellowship

- \$30,000 minority fellowship
- Next available in 2026!

Spanish Speaking Acousticians Chapter

- Join by emailing ssaacousticalsociety@gmail.com

Women in Acoustics

- Chair: Jessica Clements
jessica.clements@smithgroup.com

SURIEA 2025 Mentor Applications

The Summer Undergraduate Research and Industry Experience in Acoustics (SURIEA) provides undergraduate students with hands-on opportunities through 10–12-week mentored experiences in academia and industry.

Early Bird Application

- Guaranteed mentee match if selected
- Must provide student support funding (>\$9600)
- Limited to 5 mentors (or regular consideration)
- **Deadline: 12/08/24**

Regular Application

- Traditional application process
- Funding provided by ASA for up to 5 students
- Matching based on program funding
- **Deadline: 01/31/25**

SEEKING MENTORS FROM ALL TECHNICAL AREAS, IN PARTICULAR:

Musical Acoustics

Acoustical Oceanography

Animal Bioacoustics

Computational Acoustics

Underwater Acoustics

Structural Acoustics and Vibrations

For more information or to submit an application, visit <https://acousticalsociety.org/suriea/>

A collage of three travel destinations. On the left, the Philadelphia skyline is reflected in a river at dusk. In the center, Waikiki Beach in Honolulu features tall buildings and palm trees along a sandy shore. On the right, a bridge spans a river in a city at night.

FUTURE MEETINGS

Spring 2025 ASA/ICA New Orleans, May 19-23

1. Wave propagation and aberration in complex media: from theory to applications (PA) - Vera Khokhlova and T. Doug Mast
2. Super resolution imaging – Pengfei Song and Libertario Demi
3. Bubbles and ultrasound - physiological considerations– Virginie Papadopoulou
4. Technological Developments and Emerging Biomarkers in Elasticity Imaging (CA, EA, PA, SP) – Javier Brum, John Cormack, and Zhiyu Sheng
5. Double, Double, Toil and Trouble.... Towards a Cavitation Dose (PA) – Christy Holland and Eleanor Stride
6. Biomedical Acoustics Student Poster Competition – Kevin Haworth and Ken Bader

Spring 2025 ASA/ICA New Orleans, May 19-23

- Fees:
 - Full Registrant – Pre: \$795/ On-site \$950
 - Students: Pre: \$200/ On-site \$250
- Estimate 1800 registrants



- **Abstracts due January 6!**

Fall 2025 ASA/ASJ Honolulu Meeting, Dec 1-5, 2025

- Request for ASJ co-chairs: Kenji Yoshida (kenyoshi1980@chiba-u.jp)
- Please email me session description or enter info into the form by tomorrow (Thurs)
 1. Lung Ultrasound - Libertario Demi and ASJ?
 2. In vivo applications of quantitative ultrasound – Jonathan Mamou and Tadashi Yamaguchi
 3. Ultrasound super-resolution and brain imaging – Chengzhi Shi, Fabian Kiessling, and Norio Tagawa
 4. Ultrasound blood flow imaging/quantification – Michel Versluis, Chris de Korte, Yoshifumi Saijo, and Hideyuki Hasegawa
 5. High Frequency Sound – Keith Wear and Yoshifumi Saijo
 6. Sound propagation in inhomogeneous media – Mami Matsukawa, Guillaume Haiat and Pierre Belanger
 7. Data driven focused ultrasound interventions – Costas Arvanitis and Shin Yoshizawa
 8. Issues with Tissues: In situ tissue property measurements for therapeutic ultrasound procedures – Tanya Khokhlova, Michael Gray, Shin Yoshizawa



Spring 2026: Philadelphia Meeting – May 11-15

- No special requests/requirements for sessions ☺
- Co-sponsor with PA: Tribute to Allan Pierce - Chairs: Andy Piacsek and T. Doug Mast



2025 Technical Initiatives and Reminders

- BA currently listed as sponsor/co-sponsor:
 - International Lung Ultrasound Symposium - \$1200
 - Winter School on Therapeutic Ultrasound - \$5000
 - International Symposium on Nonlinear Acoustics (Co-sponsor with PA) - \$8500
- Remember Tech Initiatives are due the fall meeting the year before funds are needed
- If funds remaining, small requests can be made at the spring meeting in the year you're requesting funds.
- Funds can also be requested in advance (2026)
- Please let me know if you are listing BA as a sponsor!



ILUS2025

International Lung Ultrasound Symposium

4-6 June 2025

Trento - Italy

Winter School on THERAPEUTIC ULTRASOUND

Les HOUCHES, France

Ecole de Physique des Houches, France

Organizers:

G. ter Haar (UK), V. Khokhlova (USA/Russia)
and J.-F. Aubry (France)

March 9rd-14th, 2025



This Winter School will explore the rapidly emerging field of therapeutic ultrasound.

Topics will range from an introduction to the physics and biophysics necessary for understanding these techniques through to their clinical application.

Each topic will be covered by an invited speaker who is a world authority in the field.

Participants of the School



2023

Registration is open !

The link is

<https://www.physicsformedicine.espci.fr/2025-winter-school-on-therapeutic-ultrasound/>

Registration is in two steps:

- First step : [please fill this online pre-registration form.](#)
 - Second step : after validation by the organization team, you will be able to confirm your pre-registration and proceed with the payment.
- Registration fees include lodging and all meals from Sunday dinner to Friday lunch included. Prices will apply as follows:
- Industry: 950€ Postdocs & faculty: 800€ PhD students: 700€



NANJING, CHINA / June 30 - July 4, 2025

WELCOME TO ISNA 2025

International Symposium on Nonlinear Acoustics 2025

[Important Dates](#)

[Hotel Reservation](#)

[City Tour Suggestion](#)

[Download Conference Photos](#)

[Download Abstract Book of ISNA](#)

Thank you BATC Reps!

- Membership Committee: Bob McGough
- Medals and Awards: Vera Khokhlova
- ASACOS: Wayne Kreider
- Archives and History Committee: Juli Simon
- Research and Education: Vera Khokhlova
- TPOM: John Cormack and James Kwan
- CIRDI Rep: Eric Rokni
- Student Rep: Chirag Gokani



Sign in QR code

