187th Meeting/25th ICA Planned Special Sessions

Session Title	Cosponsors	Descriptive Sentence
ACOUSTICAL OCEANOGRAPHY		
Acoustical Oceanography at Deep Water Abrupt Topography Organized by: John Colosi, Ying-Tsong Lin, Lauren A. Freeman	UW	Dedicated to the dynamic interplay of physical, geological, and biological oceanographic processes driving acoustic field variability in the vicinity of abrupt topography. Papers are encouraged that explore both active and passive acoustics and utilize observational, theoretical and modeling methodologies.
Bioacoustic Attenuation Spectroscopy Organized by: Orest Diachok, Chris Feuillade		Measurements and theories of the effects of bioacoustic attenuation due to fish and marine biota on transmission loss and ambient noise, and methods for estimating/inverting fish parameters (length, depth, dispersed or school mode) from acoustic field data.
ANIMAL BIOACOUSTICS		
Arthropod Biotremology and Bioacoustics Organized by: Joseph Lai, Sebastian Oberst		Aimed at reporting on recent advances in understanding vibrational and/or acoustical communication in arthropods.
Distributed Acoustic Sensing (DAS) in Ocean Acoustics Organized by: Shima Abadi, Léa Bouffaut	AO, SP	Distributed Acoustic Sensing (DAS) has demonstrated abilities in detecting water-borne acoustic sounds, ranging from ship noise and active geophysical sounds to whale vocalizations. We seek contributions that advance the current knowledge of DAS in ocean acoustics, and we encourage community members to share their research findings, methodologies, and case studies.
Progress on Bioacoustics of Fish Organized by: Kelly S. Boyle, John S. Allen		Recent advances in the fundamental and applied areas of fish acoustics including active and passive monitoring , signal processing, sound production and biology.
ARCHITECTURAL ACOUSTICS		
Acoustics of Sustainable Building Assemblies and More Organized by: Arthur van der Harten, Jonathan Broyles, Ariana Astolfi		Latest work by professionals in building acoustics to with issues in building sustainability - a potpourri session in sustainability.
At the Intersection of Speech and Architecture Organized by: Kenneth W. Good, Jr., Evelyn Hoglund	NS, PP, SC	Will bring together the expertise of speech communications and architectural acoustics so that we can better understand how the speech and hearing process and the architecture must work together for successful experiences buildings. We will focus on both speech intelligibility within rooms and speech privacy between rooms.
Data-Driven Room Acoustics Organized by: Xenofon Karakonstantis, Ning Xiang	SP, CA	Focus on data-driven methods and physics-based learning for room acoustics. Topics of interest include and are not limited to: data-driven boundary estimation, room acoustic parameter estimation, geometry estimation, sound field acquisition, analysis and reproduction.
Day of ASHRAE Part 1 – Sound Standards and Codes Organized by: Karl Peterman, David Manley, Paul Bauch, Steve Wortman	NS, ASACOS, Practitioners & Industry	Will focus on updates and new developments in sound standards and codes of the built environment.
Day of ASHRAE Part 2 – Emerging Trends in HVAC Noise and Noise Control Organized by: Jerry Lily, K. Anthony Hoover, Derrick Knight	NS, ASACOS, Practitioners & Industry	Focus on emerging trends in Heating, Ventilating and Air Conditioning noise and noise control.
Day of ASHRAE Part 3 – Research, Education, Certification, and Remediation Organized by: Erik-Miller Klein, Samuel Underwood, Joseph Bridger, Kevin Herreman	NS, ASACOS, Practitioners & Industry	Developments in research, education, certification and remediation topics related to acoustics of the built environment.
Memorial Session Honoring David Lubman Organized by: Jason E. Summers, Francesco Martellotta	NS, UW	Recognizing the significant interdisciplinary work of ASA Fellow and Silver Medal awardee David Lubman, this session brings together talks across the discipline of acoustics in those areas in which David made singular contributions and served as an inspiration and encouragement to others in the field, including archeological acoustics and noise control as well as acoustics in classrooms, performance spaces, reverberation rooms, worship spaces, and underwater.

The Intersection of the Acoustic and Structural Domains in Sound Transmission in Buildings Organized by: Evelyn Way, Pablo Daroux, Jorge Patricio	SA	Structural vibration analysis is typically focused on frequencies below 20Hz, but impact sound transmission is generally only considered for frequencies 50Hz and higher, even though the deflection and resonant frequency of the building structure at the lower frequencies affect the comfort of residents. Addressing this so-called structural noise issue that relates structural and acoustic interaction through research and/or case studies is necessary as are appropriate design metrics and comfort criteria.
BIOMEDICAL ACOUSTICS		
Bubbles and Ultrasound - Physiological Considerations Organized by: Virginia Papadopoulou, Nick Ovenden, Thanasi Athanasiadis		All topics on ultrasound for physiological sensing and imaging, ultrasound-mediated gas physiology modulation, and physiologically-informed bubble kinetics and dynamics studies. Modeling, in vitro, in vivo and human studies welcome.
Double, Double, Toil and Trouble….Towards a Cavitation Dose Organized by: Christy K. Holland, Eleanor Stride	PA, SA	Monitoring cavitation activity in both diagnostic and therapeutic ultrasound is becoming increasingly important as applications expand to include thrombolysis, neuromodulation, drug/gene delivery, sonobiopsy, immunomodulation, and tissue ablation. Strategies to gauge the spatial and temporal distribution of cavitation activity and potential means of formulating a cavitation "dose" will be presented and discussed.
Super Resolution Ultrasound Imaging Organized by: Penfei Song, Libertario Demi	SP	Original research with a wide range of technical knowledge on the theme of super-resolution ultrasound imaging and its associated in vivo applications. Topics include advanced super-resolution imaging algorithms, 3D/4D super-resolution imaging, super-resolution imaging with novel contrast agents or without contrast, preclinical and clinical applications of super-resolution imaging, new tools for super-resolution imaging validation, and so on.
Technological Developments and Emerging Biomarkers in Elasticity Imaging Organized by: John Cormack, Javier Brum, Zhiyu Sheng	CA, EA, PA, SP	Highlighting emerging biomarkers based on elasticity imaging, such as viscosity and anisotropy, as well as technological developments in elasticity imaging techniques, especially those based on 3D volume imaging.
Wave Propagation and Aberration in Complex Media: From Theory to Applications Organized by: Vera Khokhlova, T. Douglas Mast	PA, SA	Devoted to recent theoretical, computational, and experimental developments on sound propagation in inhomogeneous media, with emphasis on aberration correction methods for acoustic focusing and imaging. Areas of application include diagnostic and therapeutic ultrasound, nondestructive testing, atmospheric and underwater sound, and geophysics, among others.
COMPUTATIONAL ACOUSTICS		
Computational Methods for Nonlinear Problems in Acoustics and Vibration Organized by: Samuel Wallen, John Allen, Martin Verweij	SA, PA	Novel computational methods for nonlinear problems in all areas of acoustics and vibration, such as bubbly and other complex media, acoustic and elastodynamic shock propagation, aeroacoustics, and structural dynamics.
Parabolic Equation Methods Across Acoustics Organized by: Jennifer Cooper, Michelle Swearingen, Philippe Blanc-Benon	PA, UW, AO	Applications and methods for parabolic equation methods in all areas of acoustics.
ENGINEERING ACOUSTICS		
Acoustic Holography: Advances and Applications Organized by: Randall Williams, Oleg Sapozhnikov	BA, PA	Development and use of acoustic holography in a broad sense, for a range of applications in air and in water. Topics may include, but are not limited to, the use of nearfield acoustic holography (NAH) for surface vibrometry, calibration of ultrasound transducers and arrays using acoustic holography, material characterization using angular spectrum methods, and measurement-based modeling of fields using holographic boundary conditions. New or unconventional applications of acoustic holography are especially encouraged.
Chip-Scale Phononics and Surface Acoustics Wave (SAW) devices Organized by: Abigail Juhl, Matthew Guild		New developments and applications of acoustics signals in integrated circuits, including suface acoustic wave (SAW) devices and chip-scale phononics.
Recording and Processing of Higher-order Spatial Audio Organized by: Gary Elko, Filippo Fazi		Presentatoins on the use of multi-microphone arrays and commensurate signal processing for spatial audio recording and playback.

EDUCATION IN ACOUSTICS		
Acoustics Around the World - Part 1: Education Programs at Universities Organized by: Daniel Russell, Likun Zhang, Joao Louis Ealo Cuello		Highlighting university programs (at the baccalaureate and/or graduate level) with a significant focus on Acoustics, or which offer degrees in Acoustics. Talks in this session should focus on the educational aspects of Acoustics, including courses, degree programs, educational facilities, curriculum development, enrollment trends, alumni success. If possible, a specific focus on any unique or cultural aspects of Acoustics education for students in those programs.
Acoustics Education Research for Newbies: The Science of Teaching and Learning Organized by: Kimberly Riegel, Daniel Russell	MU	Education research is a well-established field of scholarly activity. This session will focus on the application of education research methods to acoustics education. One goal of this session is to help faculty learn how to initiate research in acoustics education in their programs and courses. Talks could cover how to implement proper assessment of pedagogical changes; the effectiveness of educational tools; evaluation of programs, teaching practices, and student learning; IRB approvals, metrics for assessment, and funding sources.
MUSICAL ACOUSTICS		
Discrimination Tests: Methodologies and Applications Organized by: Andrew Piacsek, Claudia Fritz	AA, PP, NS	The development and use of perceptual discrimination studies in acoustics.
Musical Instruments in Jazz Organized by: Jonas Braasch, D. Murray Campbell, E. K. Ellington Scott		Dedicated to acoustic studies on musical instruments and voice used in Jazz and related genres.
String Instruments Organized by: Vasileios Chatziioannou, Montserrat Pamies-Vila, Mark Rau	CA	Experimental and numerical investigations on the acoustics of plucked, hammered and bowed string instruments.
NOISE		
Assessment of Low-Frequency Sound in Noise Criteria Organized by: Walter Montano, Bhisham Sharma, David Woolworth		High levels of low-frequency noise in both indoor and outdoor environments, from arenas, HVAC, traffic, industries, wind farms, etc., have raised significant concerns in society, there is a necessity to address new Standards and criteria to assess them.
Exposure Response and Community Tolerance Level Organized by: Kenneth Kaliski, David Michaud		Papers comparing noise exposure and reactions, such as annoyance and sleep disturbances. Form of annoyance response functions such as the Community Tolerance Level will be encouraged, especially considering the Sandy Fidell session beforehand.
From Boom to Zoom: Department of Defense and Noise Organized by: Kent Gee, James Potter, Erica Rohr	PA, CA	As Department of Defense leverages all applicable technologies to achieve its unique mission, there are unparalleled opportunities to advance the science of acoustics through observation and partnership. This session will cover DoD-related studies of noise characterization and reduction.
History of Acoustics and Evolution of Sound Measurement Organized by: Walter Montano, Brandon Cudequest	Archives and History	The history of sound level meters, its early use cases, and connection to modern-day meters. Possible topics include public awareness of acoustics in the early 20th century, notable milestones in sound measurement, early specifications, or patents critical to the development of the sound level meter.
Sandy Fidell Memorial Session Organized by: Richard Horonjeff		Sandy Fidell's contributions to advances in community noise research, teaching on aircraft noise impacts, and service as JASA associate editor will be highlighted, along with reminisces from friends and colleagues.
PHYSICAL ACOUSTICS		
Acoustic Holograms and Wavefront Modulation Techniques Organized by: Noé Jiménez, Kai Melde	BA	Holographic systems, passive beamforming strategies, exotic acoustic beam generation, acoustic lenses and metamaterials for wavefront modulation, and their applications.
Acoustic Manipulations of Objects: Theories and Applications Organized by: Joao Ealo, Likun Zhang	BA, EA	Recent advances in theories and applications of using acoustic forces and torques to manipulate objects, particles, fluids, etc.
Acoustic Radiation Force and its Applications Organized by: Mohamed Ghanem, Oleg Sapozhnikov	BA	Acoustic waves interact with objects to impart acoustic radiation forces, enabling numerous remote-based applications.

Acoustofluidics Organized by: James Friend, Max Denis, Charles Thompson	BA	Physical acoustics in fluids at small scales produces interesting physics and new applications: acoustofluidics.
Celebrating Steven L. Garrett's Fifty Years of Contributions in Acoustics Organized by: David A. Brown, Robert Smith	ED, EA	Steven Garrett has had a prolific career in acoustics with contributions in low temperature physics, fiber optic and piezoelectric Transducers, materials characterization, thermoacoustics engines, heat pumps, and education including the book Understanding Acoustics: An Experimentalist's View of Sound and Vibration, 2nd ed.
Infrasound Organized by: Philip Blom, David Green, Stephen Arrowsmith	CA	Research highlights related to infrasound and atmospheric acoustics including source and propagation physics, data analysis methods, sensors, and related topics.
It's Not physics Organized by: Steven Garrett, Roger Waxler	ED	Focus on the dwindling role occupied by acoustics within university physics departments across the U.S. and the implications for education and research in acoustics.
Mesoscopics in Acoustics and Elasticity Organized by: John Yoritomo, Marco Scalerandi, Sandrine Rakotonarivo	SA	Mesoscopics refers to "in-between," neither micro nor macro, neither ballistic nor diffusive, neither purely quantum nor classical. This session invites research on mesoscopic systems in acoustics and elasticity.
Meteorological Acoustics Organized by: Roger Waxler, Natalia Sidorovskaia	UW, AO	Submissions on acoustical observations of meteorological phenomena.
Nonlinear Acoustics for Nondestructive Testing Organized by: Mourad Bentahar, Christopher Kube	SA	Highlight recent developments in nonlinear acoustics applied to the nondestructive testing of materials and structures. The session is open to all fields of application (aerospace, civil engineering, nuclear, etc.).
Nonlinear Waves in Architected Solids Organized by: Michael Haberman, Vincent Tournat	ED, SA	Recent research on nonlinear acoustical and mechanical wave propagation in architected solids or mechanical metamaterials. Topics of interest include materials with nonlinear and multistable constitutive behaviors leading to nonreciprocal, reconfigurable, adaptable, and "intelligent" behavior
Session in Honor of Richard Raspet Organized by: Gregory W. Lyons, Keith Attenborough, Jeremy Webster, W. C. Kirkpatrick Alberts, II	CA	The late Richard Raspet is widely known and respected for his contributions to the acoustics community as a researcher, teacher, and mentor. In this session, his colleagues, coworkers, students, and friends remember and honor his life and career.
Topological Aspects of Acoustic Waves Organized by: Georgios Theocharis, Vassos Achilleos, Vincent Pagneux	EA, SA	Researchers studying acoustical, mechanical, and elastic topological metamaterials, with a focus on the design and study of the simplest possible structures yielding robust topological protection, with a view of straightforward implementation in emerging technologies. Submissions investigating the addition of non-Hermiticity and nonlinearity to enrich the phenomenology of topological structures are also welcome.
Viscothermal Effects in Phononic Crystals and Acoustic Metamaterials Organized by: Jose Sanchez-Dehesa, Vicente Cutanda Henriquez, Matthew Guild, S. Hales Swift	CA, EA, SA	Recent advances in the theoretical, experimental and numerical analysis of microstructural viscothermal effects on the design and performance of phononic crystals and acoustic metamaterials.
PSYCHOLOGICAL AND PHYSIOLOGICAL ACOUSTICS		
Auditory Cognition in Interactive Virtual Environments Organized by: Janina Fels, Virginia Best		Research where multi-sensory VR technology is used to investigate auditory perception and cognition in more complex scenes, reflecting real-life environments.
Cadenza Machine Learning Challenge (CAD2): Improving Music for People with Hearing Loss Organized by: Trevor Cox, William Whitmer, Alinka Greasley	SP	The second Cadenza Challenge (CAD2) had two tasks: Improving the intelligibility of lyrics for pop/rock music and rebalancing the level of instruments within a small classical music ensemble (https://cadenzachallenge.org/). The session will feature the results from the challenge plus invited papers from the challenge entrants. Highly relevant papers from non-entrants are also welcome.
The Hartmann Effect: Bill Hartmann's Influence on Monaural and Binaural Hearing Research Organized by: Matthew Goupell, Virginia Best		Fesearch inspired and informed by the work of Bill Hartmann and his colleagues.

Virtual Thunder: Top Presentations from the P&P Trainee Lightning Round Competition Organized by: Varsha Rallapalli, Gregory Ellis, William Whitmer		Presentations by the winners of the P&P Trainee Lightning Round competition held at the ASA fall 2024 Virtual meeting.
SIGNAL PROCESSING IN ACOUSTICS		
Acoustic Array Processing and Sound Field Reconstruction Organized by: Efren Fernandez-Grande, Peter Gerstoft	AO	Focuse on recent advances in array processing, sound field analysis and reconstruction. Relevant topics include source localization, identification, sound field measurement, reproduction and control, with a focus on new signal processing techniques and machine learning.
Machine Learning in Underwater Acoustics Organized by: Kendal Leftwich, Shaun Pies, Youngmin Choo	AO, CA	Machine learning applications and parameter development for underwater acoustics.
Physics-Inspired Neural Networks (PINNs) in Underwater Acoustics Organized by: Ananya Sen Gupta, Monika Aggarwal	AO, CA	Will highlight recent and ongoing work on incorporating physics-driven models in underwater acoustic applications. While the main focus will be on PINNs, which directly incorporate physics into neural network architectures, interesting work incorporating physics and machine learning techniques for underwater acoustics in other ways (E.g., testing AI architectures over model simulations) will also be welcomed.
Universal and Doubly Adaptive Methods for Signal Processing Organized by: John Buck, Kathleen Wage, Andrew Singer	UW	Algorithms which adapt model structures as well as model parameters, including blended and context tree algorithms.
SPEECH COMMUNICATION		
Speech Perception Beyond Intelligibility Organized by: Melissa M. Baese-Berk, Susannah Levi	PP	Speech perception involves more than just how many words a listener understands. In this session, we will address a variety of other metrics for perception beyond intelligibility.
STRUCTURAL ACOUSTICS AND VIBRATION		
Acoustic Metamaterials and Phononic Crystals Organized by: Christina Naify, Alexey Titovich, Bogdan Popa, Behrooz Yousefzadeh, Hussein Nassar	EA, PA	Exploring design and properties of acoustic metamaterials and phononic crystals.
Active and Tunable Acoustic Metamaterials Organized by: Chistina Naify, Michael Haberman, Bogdan Popa, Serife Tol	EA, PA	Recent research on acoustic metamaterials with tunable functionality and/or whose effective acoustic properties are determined by embedded active elements.
Aerospace and Structural Acoustics Organized by: Peter Kerrien, Bhisham Sharma		Structural acoustics and vibrations are critical topics in the aerospace community to ensure the safety and success of the program. This special session is open to all related research and practical industry applications. Potential Topic Areas: Modal Analysis of Aerospace Structures, Environmental Testing of Aerospace Structures, Structural and Acoustical Design and Analysis of Aerospace Structures.
Constrained Layer Damping Organized by: Benjamin Shafer, Michael Dickerson, Ian Bacon		Review and discussion of constrained-layer damping theory, materials, and application in current sound and vibration isolation solutions.
Friction Acoustics Organized by: Trevor Jerome, Kathryn Matlock, Vasileios Chatziioannou, Eric Rokni	MU	Exploration of the link between acoustics and contact mechanics. Topics include the physical mechanisms of energy transmission via friction from solid contacting surfaces into surrounding solid and fluid media, stick-slip acoustics, acoustic emissions, the influence of material and surface properties on friction acoustics, and the temporal evolution of systems as influenced by friction phenomena such as dwell time and wear. Experimental studies and numerical or analytical formulations that highlight the interaction of contact mechanics and acoustics. Consideration of applications and challenges of acoustics and vibration in engineering, nature, and art that stem from contact mechanics, such as rail and brake noise, bolted joint vibration, insect stridulation, and stringed instruments.

UNDERWATER ACOUSTICS		
Ambient Sound Measurements and Models Organized by: Martin Siderius, Bruce Martin, Kai Gemba, Jie Yang	AO, CA, SP	Focuse on advances in ocean ambient sound measurement techniques and modeling, particularly on the comparisons between the two. All contributions to the ambient sound field are of interest such as from wind, rain, shipping, and biologic sources.
Bill Kuperman (1943-2024): Contributions to the Field of Underwater Acoustics Organized by: Kevin Heaney, Chris Verlinden, David Barclay	AO	Honoring Bill Kuperman, past ASA president, loved colleague, mentor and researcher who's 50 year career was a force still present in underwater acoustics.
Boundary Interactions Including Shear Wave Effects in Underwater Acoustics Organized by: D. Benjamin Reeder, Anatoliy N. Ivakin	AO	Papers discussing observation, theory, and modeling of underwater acoustic propagation and reverberation dominated by boundary interactions with the seabed and sea ice to include compressional and shear wave phenomena.
Directional Sensing: Applications and Methods Organized by: Kaus Raghukumar, Aaron Thode, Kerri Seger, Ludovic Tenorio	AO, SP	Directional acoustic sensing techniques are powerful tools that can provide source localization, ambient sound characterization, and geoacoustic inversion. This session will explore new tools and techniques in underwater directional acoustic sensing using technologies such as acoustic vector sensors and tetrahedral arrays.