ACOUSTICS VIRTUALLY EVERYWHERE SPECIAL SESSIONS

Session Title	Cosponsor	Session Organizers	Session Description
ANIMAL BIOACOUSTICS (AB)			
Celebrating Peter Narins' Contributions to Auditory Science	PP	Andrea M. Simmons Mark A. Bee	Celebration of Peter Narins' contributions to auditory science on the occasion of his retirement
ARCHITECTURAL ACOUSTICS (AA)			
Acoustics in Healthcare: Guidelines, Human Response, and the Way Forward	ASACOS, NS, SC	Jay Bliefnick Kenneth Good	Exploring the state of healthcare acoustics, ways to meet current guidelines, and opportunities for improvements in the future
New Developments in Classroom Acoustics	ASACOS, NS, ED, SC	David Lubman David Woolworth Laura C. Brill	Discussing current design trends in classroom acoustics, with emphasis on project case studies
Session in Honor of William J. Cavanaugh		K. Anthony Hoover	Honoring the contributions of Bill Cavanaugh to acoustics, consulting, education, and our professional societies
Session in Memory of Jiri Tichy	EA, NS, SP	Victor W. Sparrow Gary Elko	Celebration of the life of Professor Jiri Tichy and his contributions to architectural acoustics, noise, signal processing in acoustics, and acoustics education for over six decades
Sound Transmission and Impact Noise in Buildings	NS, ASACOS, SA	Matthew Golden Benjamin Shafer	Advancements and current research into airborne and impact sound transmission in the built environment
BIOMEDICAL ACOUSTICS (BA)			
Death to Delay and Sum: Advanced Beamforming	SP	Kenneth Bader Kevin Haworth	Advanced image formation techniques, particularly those beamforming algorithms based on data-specific metrics
Fractional Calculus Models of Compressional and Shear Waves for Medical Ultrasound	PA, SA, CA	Sverre Holm Robert McGough	Fractional calculus models of compressional and shear waves. Various numerical and analytical fractional calculus models of attenuation in medical ultrasound and also on different applications that require fractional calculus models are welcome
Modelling and Measuring Nonlinear Ultrasound Signals	PA, SP, CA	Keith Wear Thomas Szabo	Methods for characterizing acoustic and thermal effects of ultrasound signals with high harmonic content, such as those used in acoustic radiation force impulse (ARFI) imaging, pulsed Doppler, hyperthermia, lithotripsy, and high intensity therapeutic ultrasound (HITU)
New Developments in Lung Ultrasound	SP	Libertario Demi Marie Muller	Design, testing and clinical application of ultrasound approaches for the diagnosis and monitoring of lung condition. Theoretical, experimental and clinical contributions will be accepted
COMPUTATIONAL ACOUSTICS (CA)			
Acoustic Optimization: Methods and Applications	SA, UW, AO	Micah Shepherd	Application of formal optimization to improve acoustic performance, including new or improved problem formulation, multi-objective techniques, benchmark problems, algorithm development, and real-world applications
Domain Truncation Techniques for Exterior Problems	SA	Anthony Bonomo Benjamin Goldsberry	Development and application of techniques (infinite elements, perfectly matched layers, radiation boundary conditions, and others) required to model infinite or semi-infinite problems using finite computational domains
Ray Methods Across Acoustics	UW, PA,SA	Michelle Swearingen Jennifer L. Cooper	Comparison of the use of ray tracing methods in different areas of acoustics
ENGINEERING ACOUSTICS (EA)			
Advanced Materials for Acoustic Transducers	SA, PA, UW	Thomas Blanford Michael Haberman	Recent advances in active and passive materials and their application to the design of acoustic transducers
Microphones: From Rock Stars to Rockets	AA, ASACOS	Ed Okorn Sandra Guzman Neil Shaw Vahid Naderyan	History, variety, and applications of microphones used in areas such as scientific discovery, commercial electronics, medical devices, and entertainment. Microphone engineering design, technology, applications, and challenges will be addressed, in addition to current and future demands driving new designs

Session Title	Cosponsor	Session Organizers	Session Description
EDUCATION IN ACOUSTICS (ED)			
Acoustics Demonstrations for Classroom Teaching	MU, PA, SA, NS, AA	Daniel Russell	Innovative and novel apparatus for demonstrating acoustics concepts in the classroom, for introductory, advanced, and graduate level courses. Classical demonstrations are welcome, but we are especially looking for demonstrations from a wide variety of topical areas, demonstrations of phenomena that can be difficult to understand or visualize, and new or innovative ways of demonstrating acoustics and vibration concepts
Hands-On Demonstrations	Women in Acoustics	Keeta Jones Daniel Russell	Demonstrations of musical instruments and other acoustics devices that can be made or assembled from everyday household items. Specifically targeted toward home schooling and elementary or middle school aged children and their parents and teachers
Undergraduate Research Symposium Poster Session		Daniel Russell	Poster session for undergraduate students to present their research on acoustics topics related to all technical committee's areas
INTERDISCIPLINARY (ID)			
Acoustics in the COVID-19 Pandemic		Adam Maxwell	Interdisciplinary poster session for all technical areas to present research on acoustical topics related to the COVID-19 pandemic and response
Graduate Programs in Acoustics Poster Session	Student Council	Kieren Smith	Poster session for graduate programs to present their programs to students seeking to study acoustics
MUSICAL ACOUSTICS (MU)			
Musical Acoustics Education at the Undergraduate Level	ED	Andrew Morrison	Discussions of innovative ways of teaching musical acoustics at the undergraduate level -- including demonstrations, laboratory experiments, simulations, and other classroom activities to promote active learning
NOISE (NS)			
Advances in Hearing Protection Devices	PP, ASACOS	Cameron J Fackler William J. Murphy Elliott Berger	Advances and research in hearing protection devices, including fit testing, speech intelligibility, sound localization, impact noise, and comfort
Forty-One Years of Responding to External Stimuli: A Session in Honor of Elliott Berger	ASACOS	Cameron J. Fackler Laurie Wells William J. Murphy	Honoring Elliott Berger's career and his contributions to the field of hearing loss prevention and acoustic standards
Impact of Transportation Noise on Buildings	AA, SA, ASACOS	Benjamin E. Markham James E. Phillips	Noise impacts of transportation sources - rail, aircraft, vehicular – on buildings. Relevant topics include source characterization and measurement, means of attenuation/mitigation, prediction methods, validation procedures, and others
In Memory of Richard Lyon	SA, AA	Patricia Davies Greg Tocci (TBC)	Presentations by former students, collaborators, and colleagues of Richard Lyon and people inspired by Dick's body of work. Presentations will highlight Dick's contributions to the field of acoustics. Family and friends will also participate so that they can enjoy how Dick was valued by his acoustics colleagues
Larry H. Royster Memorial Session	ED	Elliott H. Berger Noral D. Stewart	Honoring the contributions of Larry Royster to hearing conservation, noise control, student support, and the society with additional current papers on effective hearing conservation programs
Noise Standards	ASACOS, AA, SP	Christopher J. Struck James Philips	Applications, measurement methods, analyses, and data processing involving ANSI/ASA S12 and/or ISO noise standards
Perception of Vehicle Noise	SA, ASACOS, PP	Patricia Davies Roland Sottek	Presentations on perception of interior and exterior vehicle noise are welcome. Perception of the noise of all types of vehicles is of interest, including IC engine, hybrid, and electric vehicles, as is perception of noise in autonomous vehicles
PHYSICAL ACOUSTICS (PA)			
Acoustical Measurements Through Optical Principles	BA, MU	Gregory Lyons Thomas Moore	Recent advances and applications in measurement of both linear and nonlinear acoustic fields though optical methods

Session Title	Cosponsor	Session Organizers	Session Description
PHYSICAL ACOUSTICS (PA) (cont)			
Acoustofluidics	BA, EA, SA	Max Denis Kedar Chitale Charles Thompson Mark Meacham	Topics related to interaction of acoustics and fluidics
PSYCHOLOGICAL AND PHYSIOLOGICAL ACOUSTICS (PP)			
Honoring William Yost's Contributions to Psychological Acoustics		Robert Lutfi	Recognizing and honoring the contributions and influences of the work of William Yost to the field of psychoacoustics
SPEECH COMMUNICATION (SC)			
Developing a Cross-Platform Federated Code Repository for Speech Research		Charles Redmon Matthew C. Kelley Benjamin Tucker	Bring together developers and contributors to packages and code repositories in R, Python, Julia, MATLAB, and Praat, and discuss what resources are currently available, what is in preparation, and what principles to adopt if these resources were to be integrated into a single cross-platform code base with common standards for documentation and review
Listening in Challenging Circumstances	NS, AA, PP	Kristin Van Engen Melissa Baese-Berk	Bring together researchers who are investigating challenges to human speech recognition (e.g. noise, hearing loss, unfamiliar accents), with a focus on the cognitive and neural mechanisms involved in coping with these challenges
Reintroducing the High-Frequency Region to Speech Perception Research	PP	Ewa Jacewicz Robert Allen Fox	New research-based evidence regarding the nature of information available in the high-frequency region in the perception of speech and voice, which has a potential to enhance talker and word recognition in noise. Implications for the advancement of communication technologies and medical applications
SIGNAL PROCESSING (SP)			
Acoustic Localization	AO, AB, EA, UW, NS, AA	Zoi-Heleni Michalopoulou Kainam Thomas Wong Paul Gendron	Theory and real-data applications of acoustic localization
Knowledge Discovery and Information Representation for Signal Processing in Acoustics	AB, UW, CA, AO	Ananya Sen Gupta Benjamin Taft	Knowledge representation and information discovery across a wide range of acoustic signal processing applications. Topics will involve computational techniques that create informed data representations that bridge the gap between physical models and statistical ones. Applications include, but are not limited to, underwater acoustics, speech signal processing, biomedical acoustics, and animal bioacoustics
Machine Learning in Acoustics	AB, UW, CA, AO	Erin Fischell Daniel Plotnick Wu-Jung Lee	Machine learning applications to all kinds of acoustic data, including for parameter estimation and classification. Best-practice machine learning techniques based on different acoustic feature space complexities
Random Matrix Theory in Acoustics	UW	Kathleen E. Wage John R. Buck	Application of random matrix theory to acoustic signal processing and wave propagation
STRUCTURAL ACOUSTICS AND VIBRATION (SA)			
Acoustic Metamaterials	PA,EA	Christina Naify Alexey Titovich Bogdan Popa	Theoretical and computational analysis of new metamaterial structures, experimental validation, and characterization of prototype unit cells or bulk materials, and demonstrations of the uses for acoustic metamaterials
Active or Tunable Structural Acoustics	EA, SP, NS	Christina Naify Ben Beck	Recent developments in actively attenuating, tuning, or modifying sound and vibration fields
Non-contact Vibration Measurement Methods	EA, PA, MU	Ben Shafer Tyler J. Flynn	Methods for inducing and/or measuring vibration that are accomplished without physical contact with test specimen or source
Soft and Compliant Metamaterials	PA, EA	Ryan Harne Katie Matlack Stephanie Konarski	Designs, models, and experiments to investigate metamaterials composed of soft and compliant media. Interests in all types of polymers, including additively manufactured materials, as built up to metamaterials that may manipulate waves, shock, and vibrations in air and underwater