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| **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 |

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| **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 |

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| **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 |