

TECHNICAL PROGRAM AND SPECIAL SESSIONS

TECHNICAL PROGRAM

Contributed papers are welcome in all branches of acoustics. The technical program will consist of lecture and poster sessions. Technical sessions will be scheduled Monday through Friday, 4–8 December.

Every effort will be made to schedule contributed abstracts in accordance with author and Organizing Committee preferences. However, authors should be prepared to accept assignment to poster sessions. Assignments will take into account: a) author preference, b) program balance, and c) Technical Committee instructions. Abstracts will be rejected if they do not comply with the instructions.

Special sessions described below are planned for the meeting. Authors of invited papers must indicate the title of the special session in which they have been invited to participate when the abstract is submitted. Authors of contributed papers have the option to request placement of their abstracts in these sessions. If no special session placement is requested, contributed papers will be scheduled in sessions with abstracts of similar technical content.

SPECIAL SESSIONS, ORGANIZERS, AND DESCRIPTIVE SENTENCES

ACOUSTICAL OCEANOGRAPHY (AO)

Acoustic Scattering from Hydrocarbons and Hydrothermal Vents
Organized by: Christopher Bassett, Alexandra Padilla,
Daniela D'Iorio

Biological Effects on Seabed Geoacoustic Properties
(Joint with Underwater Acoustics and Physical Acoustics)
Organized by: Kevin M. Lee, Megan S. Ballard, Kelly M. Dorgan

Oceanographic Contributions to the Characteristics and Variability
of the Underwater Soundscape
(Joint with Animal Bioacoustics)
Organized by: David Barclay, Bruce Martin

ANIMAL BIOACOUSTICS (AB)

Bioacoustic Contributions to the Characteristics and Variability of
Soundscapes, Underwater or Terrestrial
(Joint with Acoustical Oceanography)
Organized by: Bruce Martin, David Barclay

In Memory of George Ioup: Acoustics in the Gulf of Mexico
(Joint with Signal Processing in Acoustics, Underwater Acoustics,
Acoustical Oceanography)
Organized by: Natalia Sidorovskaia, David K. Mellinger

Neurophysiology of Echolocation
Organized by: Dorian Houser

ARCHITECTURAL ACOUSTICS (AA)

Back to the Future: A Look at Multipurpose Spaces, How They've
Changed and What's Next
(Joint with Noise)
Organized by: Shane Jerome Kanter, Jennifer Nelson Smid

DESCRIPTIVE SENTENCES

Observations, models, and technology for studying acoustic scattering from hydrocarbons, hydrothermal vents, and other plumes of geophysical origin

Measurements and modeling of the effects of biological activity on the geoacoustic properties of the seabed, including changes to bulk density, porosity, compressional and shear wave speed and attenuation, and seafloor roughness

Natural physical processes that act as contributing sources to the sound field in the ocean, as well as the oceanographic and seabed properties that drive spatial and temporal variability of the underwater soundscape

Bioacoustic contributions to soundscapes, their diel and seasonal variability, and the tools used to identify bioacoustic contributions and variability

George Ioup's interests spanned many topics, much of it centered on the Gulf of Mexico: passive acoustic monitoring, analysis of acoustic signals, deconvolution techniques, anthropogenic impacts of sound on marine organisms, and a host of other topics. Submissions on these and other topics related to acoustics in the Gulf of Mexico are welcome

Recent advances in understanding the neurophysiological control and processing of echolocation in bats and toothed whales

A history of performance spaces, case studies of past spaces with an eye towards the future of multiuse venues

ARCHITECTURAL ACOUSTICS (AA) (continued)

Impact of Entertainment Sound on Communities
(Joint with Noise)

Organized by: David S Woolworth, Tony Hoover

Perceived Diffuseness
(Joint with Psychological and Physiological Acoustics)

Organized by: Jin Yong Jeon, Ning Xiang

Performance Spaces for Modern Music
(Joint with Musical Acoustics)

Organized by: Tony Hoover, Bruce Olson

Restaurant Acoustics

Organized by: Andy Chung, Siu-Kit Lau , Brigitte Schulte-Fortkamp

Speech Intelligibility in Reverberation and Noise

Organized by: Roger Schwenke

Speech Privacy Concerns in Open Plan Spaces

Organized by: Kenneth W Good Jr.

BIOMEDICAL ACOUSTICS (BA)

Ultrasound-Mediated Neuromodulation

Organized by: Parag V. Chitnis

Wave Propagation in Complex Media: From Theory to Applications
(Joint with Structural Acoustics and Vibration and Physical Acoustics)

Organized by: Guillaume Haiat, Pierre Belanger

ENGINEERING ACOUSTICS (EA)

Thermophone Transduction

Organized by: Thomas R. Howarth, Andrew R. Barnard

EDUCATION IN ACOUSTICS (ED)

Hands-On Acoustics Demonstrations for Middle- and High-School Students

Organized by: Keeta Jones, Traci Neilsen

Listen Up and Get Involved
(Joint with Women in Acoustics)

Organized by: Keeta Jones, Traci Neilsen

DESCRIPTIVE SENTENCES

Acoustical environment, soundscapes, annoyance, benefits, regulations, and cultural/economic issues resulting from entertainment in communities. Current work, case studies, methods, and measuring for controlling indoor and outdoor entertainment sound in communities

Perceptual aspects and evaluation of diffuse sound fields and diffusely reflecting surfaces

All aspects of acoustics for design and renovation of spaces for modern music performance, such as rock, jazz, country, and pop

The sound environment of a dining place, either indoor or outdoor affects the atmosphere, the appetites and the joyfulness of the diners. It also relates to the occupational health of the workers at the restaurant. This session invites views and experience sharing

Speech intelligibility prediction and measurement in reverberation and noise in rooms ranging from video conference to sports arenas

Challenges of planning, designing, retrofitting , implementing and /or qualifying speech "privacy" in open spaces. May include open office spaces, as well as healthcare spaces such as pharmacies, reception areas, nurse's stations and call centers

Novel ultrasound-based approaches for noninvasively stimulating or suppressing activity in central or peripheral nervous system; Mechanistic studies of interaction between ultrasound and the nervous system

The understanding of the interaction between an acoustic wave and a complex medium is an important problem in various applications such as nondestructive evaluation or biomedical ultrasound. This session will focus on experimental issues as well as on modeling and simulation works, including the development of inversion procedures

Ongoing research about acoustic transduction devices featuring devices that convert heat to sound

Acoustics demonstrations for middle- and high-school students. Anyone interested in volunteering to lead a demonstration should email the ASA Education and Outreach Coordinator, Keeta Jones <kjones@acousticalsociety.org>. A short training session will be provided for volunteers just prior to the session. No abstracts are submitted for this session

Acoustic demonstrations for local Girl Scouts troupes. Anyone interested in volunteering to lead a demonstration should email the ASA Education and Outreach Coordinator, Keeta Jones <kjones@acousticalsociety.org>. A short training session will be provided for volunteers just prior to the session. No abstracts are submitted for this session

EDUCATION IN ACOUSTICS (ED) (continued)

Synthetic Aperture Sonar for Youngsters
(Joint with Physical Acoustics, Signal Processing in Acoustics,
Engineering in Acoustics and Underwater Acoustics)
Organized by: Murray Korman

Undergraduate Research Exposition
Organized by: Preston S. Wilson, Murray S. Korman

INTERDISCIPLINARY (ID)

ASA Hunt Postdoctoral Research Fellows: Through the Years
Organized by: Logan E. Hargrove, Lily M. Wang

Guidance from the Experts: Applying for Grants and Fellowships
(Joint with Student Council)
Organized by: Ela Warnecke, Martin Lawless

Standards: Practical Applications in Acoustics
(Joint with ASA Committee on Standards)
Organized by: Christopher J. Struck, Robert D. Hellweg,

MUSICAL ACOUSTICS (MU)

Cajun Music: Accordions, Culture, and History
Organized by: James P. Cottingham

Marching Band Instruments
Organized by: Murray Campbell, Thomas Moore

Measurement Methods and Instrumentation for Musical Acoustics
Organized by: Wilfried Kausel, Thomas Moore

New Orleans Musical Styles
Organized by: Edgar Berdahl

NOISE (NS)

Acoustics and its Role in Accessibility (e.g. Americans with
Disabilities Act)
(Joint with Architectural Acoustics, Speech Communication,
Psychological and Physiological Acoustics, and ASA Committee
on Standards)
Organized by: David A. Manley

Evaluation of Acoustics in Hospitals and Healthcare Facilities
(Joint with Architectural Acoustics and ASA Committee on
Standards)
Organized by: Jay Bliefnick, Jonathan Weber

Jet Aeroacoustics
(Joint with Physical Acoustics)
Organized by: Kent Gee, Alan Wall

DESCRIPTIVE SENTENCES

Presentation of Synthetic Aperture Sonar or air acoustic imaging in a way that would be useful to motivate young people and get them involved. Could include questions about how to effectively teach acoustic imaging to young people could be addressed, demos or visualizations of certain interesting aspects of acoustic imaging could be presented

Special poster session for undergraduate students to present their research pertaining to any area of acoustics. 4 awards, up to \$500 each, will be made to help undergraduates with travel costs associated with attending the meeting and presenting a poster. Undergraduate student must be listed as first author. See Call for Papers for full details

Poster session in celebration of the 40th anniversary of the ASA Frederick V. Hunt Postdoctoral Research Fellowship in Acoustics program, highlighting the career paths of past Hunt fellows

The Panel will include successful fellowship winners, selection committee members, and fellowship agency members organized by the Student Council. The panelists will briefly introduce themselves and answer questions regarding grant and fellowship opportunities and application advice

Papers describing diverse applications in acoustics and the role a particular standard or standards played in it

Studies of Cajun music and culture with emphasis on role of accordion

Acoustics of musical instruments which have been used in military and civilian marching bands from all periods and cultures

New methods and instrumentation for the assessment of characteristics and quality related parameters of musical instruments and rooms as well as for applications in performance science

The role of acoustics on the creation of New Orleans musical styles

Discussions of ADA acoustical requirements for public assembly spaces, expansion of assisted listening to additional types of spaces, challenges and successes implementing both existing (IR, RF) and new technologies such as hearing loop systems

Evaluation of hospital and healthcare acoustics and the impact on occupants

Hearing protection, community noise, and acoustic fatigue of structures all benefit from the characterization and reduction of jet aeroacoustic noise

NOISE (NS) (continued)

Urban Planning Using Soundscape
(Joint with ASA Committee on Standards)
Organized by: David S. Woolworth, Brigitte Schulte-Fortkamp

Wind Turbine Noise
(Joint with ASA Committee on Standards, Structural Acoustics
and Vibration)
Organized by: Nancy Timmerman, Paul D. Schomer

PHYSICAL ACOUSTICS (PA)

Acoustofluidics
(Joint with Biomedical Acoustics)
Organized by: Max Denis, Charles Thompson

Acoustics of Detecting Gravitational Waves using LIGO
(Joint with Engineering Acoustics, Structural Acoustics and
Vibration and Signal Processing in Acoustics)
Organized by: Josh R. Gladden, Kenneth Gilbert

Nonlinear Elasticity in Geomaterials
(Joint with Structural Acoustics and Vibration)
Organized by: Marcel Remillieux, Pierre-Yves Le Bas

Sound Used as an Investigative Tool for Industrial Solutions
Organized by: Gabriela Petculescu

30th Anniversary of the National Center for Physical Acoustics
Organized by: Richard Raspet, Craig Hickey, Joseph R. Gladden

SIGNAL PROCESSING IN ACOUSTICS (SP)

Detection, Classification, Localization and Tracking (DCLT) Using
Acoustics (and Perhaps Other Sensing Modalities)
(Joint with Underwater Acoustics)
Organized by: Ballard Blair, R. Lee Culver

Signal Processing in Acoustic Metamaterials
(Joint with Structural Acoustics and Vibration and Physical
Acoustics)
Organized by: Jeff Rogers, Matthew Guild

Signal Processing Methods Exploiting the Information Content
Provided by Sources of Opportunity
(Joint with Underwater Acoustics, Acoustical Oceanography,
and Animal Bioacoustics)
Organized by: Kay L. Gemba

Source Tracking with Microphone/Hydrophone Arrays
(Joint with Underwater Acoustics and Engineering Acoustics)
Organized by: Kainam Thomas Wong, Siu Kit Lau

DESCRIPTIVE SENTENCES

Techniques and case studies of urban planning informed by soundscape techniques and in integrating local experts

Wind turbine noise is one of the inevitable problems for clean energy policy. The essential issues such as characteristics of noise itself and the effective evaluation method would be candidates for discussion

Background to the fundamental physics in microfluidics and the application to the excitation of acoustic fields for ultrasonic cell and particle manipulation

The gravitational wave (GW) special session described the physics and engineering of W detection for a general acoustics audience. The session features three invited speakers who will cover topics that include: the physics of GW generation by astrophysical sources; the remarkable fidelity of the waves on their journey across the Cosmos; the vibration isolation and signal processing that are crucial for GQ detection on Earth; and the future science that present and future generations of GW detectors may enable

Because of their internal structure made of hard grains and soft bonds, geomaterials, and rocks, in particular, exhibit a nonlinear elastic behavior. This session is aimed at exposing the latest experimental and modeling results on this topic

When changes in material (solid, fluid) properties due to intrinsic or extrinsic effects affect sound propagation significantly, the result can be used towards decisions impacting safety or/and cost. How physical processes interact with the acoustic field to make sound an effective investigative tool, is the point of the session.

Historical talks on research conducted over the past 30 years at NCPA with a focus on the evolution of research areas and people NCPA has touched

Novel signal processing approaches to DCLT problems involving acoustics. Possible applications include bi-static or multi-static geometries, acoustic color, automation, small aperture methods, high clutter scenarios, and non-stationary target and noise statistics

Recent advances in acoustic meta materials has given rise to new modalities of sensing leading to potentially novel methods of signal processing

Signal processing solutions using opportunistic sources to extract parameters of interest. Possible examples of uncontrolled sources include but are not limited to vocalizing marine mammals, ship noise, natural noise, and structures (or any object with an uncontrolled radiating or modulating process). The acoustic energy provided by these objects could be exploited to extract parameters associated with the environment or other sources of interest

Microphone and hydrophone arrays are used to adaptively track a source or target reflector. Session covers the signal processing methods and implementations employed as well as field experimentation and at sea tests that serve to validate the methods

SPEECH COMMUNICATION (SC)

Articulatory and Acoustic Characteristics of Nasalization
Organized by: Liran Oren

Teaching Phonetics and Speech Science in the New Millennium:
Challenges and Opportunities
(Joint with Education in Acoustics)
Organized by: Catherine L. Rogers, Benjamin V. Tucker

The Southern States: Social Factors and Language Variation
Organized by: Wendy Herd, Irina Shport

STRUCTURAL ACOUSTICS AND VIBRATION (SA)

Acoustic Metamaterials
(Joint with Physical Acoustics and Signal Processing in Acoustics)
Organized by: Christina J. Naify, Michael R. Haberman

Standards in Structural Acoustics and Vibration
(Joint with ASA Committee on Standards)
Organized by: Benjamin Shafer

Structural Acoustics and Vibration Applications of Finite Element
Analysis, Boundary Element Analysis, and Statistical Element
Analysis Computational Methods
Organized by: James E. Phillips, Elizabeth Magliula

UNDERWATER ACOUSTICS (UW)

Seagrass and Macroalgae Acoustics
Organized by: Jean-Pierre Hermand, Preston S. Wilson

Sediment Characterization Using Direct and Inverse Techniques
(Joint with Acoustical Oceanography, Physical Acoustics, and
Signal Processing in Acoustics)
Organized by: David P. Knobles, Preston S. Wilson

Session in Honor of Chester McKinney
Organized by: Thomas Muir, Clark S. Penrod

DESCRIPTIVE SENTENCES

Research on structures and movements that contribute to nasalization

The new millennium has ushered in vast changes in university funding, course delivery and student profiles; this session will address current and emerging trends in teaching, how they may be adapted to the teaching of phonetics and speech science, and the special challenges and opportunities presented to new and established university teachers

Research that examines the influence of ethnicity, gender, region and other factors on the perception and production of sound patterns in the U.S. South, including questions pertaining to language contact and multi-dialectalism

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

Focus on the current standard structural acoustics and vibration-related testing/metrics methodology and calculation, as well as new and innovative standard methods for measuring and characterizing sound and vibration

Advances, practical applications, and case studies in the use of Finite Element Analysis, Boundary Element Analysis, and Statistical Energy Analysis for the prediction and control of structural acoustics interactions and vibration

Physics of sound interaction with seagrasses and macroalgae across multiple spatial scales, from the cell to the tissue to the plant to the ecosystem

Characterization of sediment acoustical properties using both direct and indirect techniques

Honors the late Chester McKinney and his contributions to underwater acoustics research, scientific and engineering leadership, development of U.S. Navy sonar, directorship of the Applied Research Laboratories at the University of Texas, and service to the Society, including serving as President and receiving the Society's Gold Medal

UNDERGRADUATE RESEARCH EXPOSITION

The 2017 Undergraduate Research Exposition is a forum for undergraduate students to present their research pertaining to any area of acoustics and can also include overview papers on undergraduate research programs, designed to inspire and foster growth of undergraduate research throughout the Society. It is intended to encourage undergraduates to express their knowledge and interest in acoustics and foster their participation in the Society. The Exposition is a special poster session sponsored by Education in Acoustics. To participate, a student must submit an abstract by the deadline as outlined in this Call for Papers and specify that it is for the special session entitled "Undergraduate research exposition." The student must be the first author of the abstract and present the poster at the meeting. Students currently enrolled as undergraduates in a college or university, or those who have completed their undergraduate degree in 2017 are invited to submit an abstract and present a poster in this session. Four awards, up to \$500 each, will be made to help undergraduates with travel costs associated with attending the meeting and presenting a poster. Awards will be presented by check at the Exposition. Applicants for these awards should submit a brief request for support that includes an estimate of their travel expenses, a copy of their abstract, and a 1-page resume by e-mail to Preston Wilson at pswilson@mail.utexas.edu by 15 August. Recipients will be notified by 15 September.