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, 2–6 November.

Every effort will be made to schedule contributed abstracts in accordance with author and Technical 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.

The special sessions described below will be organized by the Technical Program Committee. 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 BRIEF DESCRIPTIONS

#### ACOUSTICAL OCEANOGRAPHY (AO)

**Brief Description**

Oceanographic, geological, and biological processes that impact acoustics at high latitudes. Talks addressing a broad swath of observational and theoretical topics are encouraged, including acoustic remote sensing, navigation and communication, ambient noise, scattering due to ice, water column structure, and biologics, and effects of climate change.

**Organized by:** John A. Colosi, Aaron M. Thode

#### ARCHITECTURAL ACOUSTICS (AA)

**Brief Description**

Buildings are designed, built, and operated for people, and people experience the building indoor environmental quality acoustics in terms of the quality of speech intelligibility, speech privacy, freedom from distraction and annoyance, and sound quality for audio/video program presentation.

**Organized by:** Donna Ellis, Kenneth P. Roy

**Acoustics of Multifamily Dwellings**

**Organized by:** Eric L. Reuter, K. Anthony Hoover

**AIA CEU Course Presenters Training Session**

**Organized by:** K. Anthony Hoover, Bennett C. Brooks

**Classroom Acoustics in Action**

**Organized by:** David Lubman, David Woolworth, Angelo C. Campanella

**Directivities of Musical Instruments and Their Effects in Performance Environments, Room Simulations, Acoustical Measurements, and Audio**

**Organized by:** Timothy W. Leishman, Nicholas J. Eyring
ARCHITECTURAL ACOUSTICS (AA) (cont)

Measuring Sound Fields in Healthcare Environments
(Joint with Noise)
Organized by: Gary S. Madaras, James S. Holtrop

Sustainability and Acoustics
Organized by: Lucky S. Tsaih, Ronald T. Eligator

Worship Space Acoustics: Three Decades of Design
Organized by: David T. Bradley, Erica E. Ryherd, Lauren Ronsse

ANIMAL BIOACOUSTICS (AB)

Avian Bioacoustics
Organized by: Micheal L. Dent, Robert J. Dooling

Bioacoustics Research In Latin America
(Joint with Acoustical Oceanography)
Organized by: Juliana R. Moron, Marie Trone

Comparative Neurophysiology of the Auditory System: Session in Honor of Albert Feng
(Joint with Psychological and Physiological Acoustics)
Organized by: Andrea M. Simmons, Peter M. Narins

New Discoveries in Bat Vocal Communication
Organized by: Kirsten Bohn and Michael Smotherman

BIOMEDICAL ACOUSTICS (BA)

Numerical and Analytical Modeling of Medical Ultrasound
(Joint with Physical Acoustics)
Organized by: Martin D. Verweij, Robert J. McGough

Sonothrombolysis
Organized by: Kevin J. Haworth, Kenneth B. Bader

Wave Propagation in Complex Media: From Theory to Applications
(Joint with Physical Acoustics)
Organized by: Guillaume Haiat, Pierre Belanger

ENGINEERING ACOUSTICS (EA)

Acoustic Material Characterization Methods
Organized by: Michael R. Haberman

Layered Media
(Joint with Structural Acoustics and Vibration)
Organized by: Elizabeth A. Magliula, Andrew J. Hull

Test Facilities and Acoustic Calibration
Organized by: Roger M. Logan

Vector Sensors: Theory and Applications
Organized by: Michael V. Scanlon

BRIEF DESCRIPTION

Measuring Sound Fields in Healthcare Environments
Various ways people measure sound fields in healthcare environments and their processes for concluding whether those sound fields are positive or negative for occupants of healthcare facilities

Sustainability and Acoustics
How to implement sustainable design methods and at the same time achieve optimal acoustics of spaces

Worship Space Acoustics: Three Decades of Design
Case studies from the recent publication "Worship Space Acoustics: Three Decades of Design"

Avian Bioacoustics
Production, perception, and processing of acoustic signals by birds

Bioacoustics Research In Latin America
Animal bioacoustics research conducted in Latin American countries

Comparative Neurophysiology of the Auditory System: Session in Honor of Albert Feng
Honoring Albert Feng's contributions to comparative neurophysiology of the auditory system in bats and frogs

New Discoveries in Bat Vocal Communication
A new body of research has developed recently on bat social communication, including the interaction of social calls and echolocation, and the production of complex songs

Numerical and Analytical Modeling of Medical Ultrasound
Numerical and analytical techniques for the computation of acoustic and elastic ultrasound waves in biomedical applications

Sonothrombolysis
Cover basic science, commercialization, and clinical topics in the fields of ultrasound-enhanced and ultrasound-mediated thrombolysis

Wave Propagation in Complex Media: From Theory to Applications
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

Acoustic Material Characterization Methods
New measurement methods for the characterization of the frequency dependent properties of acoustic materials

Layered Media
Pertains to the analysis of layered media. Topics include results from modeling, analysis and testing of layered media in Cartesian, cylindrical, and spherical coronate systems

Test Facilities and Acoustic Calibration
Series of papers to update the community on current test facilities and to review techniques, with an emphasis on recent revisions to ANSI and ISO standards

Vector Sensors: Theory and Applications
Application and theory of acoustic particle velocity sensors in air and water; including direction of arrival, separation of wind and flow artifacts, small apertures
EDUCATION IN ACOUSTICS (ED)

Effective and Engaging Teaching Methods in Acoustics
(Joint with Musical Acoustics)
Organized by: David T. Bradley, Preston S. Wilson

Hands-On Acoustics Demonstrations for Middle- and High-School Students
Organized by: Preston S. Wilson

Take 5’s
Organized by: Jack A. Dostl

Undergraduate Research Exposition
Organized by: Preston S. Wilson, Joseph Vignola

MUSICAL ACOUSTICS (MU)

Acoustical Evolution of Musical Instruments
Organized by: Whitney L. Coyle

Stick-Slip Processes in Musical Instruments
Organized by: Thomas Moore

NOISE (NS)

Damage Risk Criteria for Noise Exposure
Organized by: Hilary L. Gallagher, Richard L. McKinley

Role of Fit-Testing Systems for Hearing Protection Devices
(Joint with ASA Committee on Standards and Psychological and Physiological Acoustics)
Organized by: Melissa Theis, Elizabeth McKenna, William J. Murphy

Soundscape and Its Application
(Joint with Animal Bioacoustics)
Organized by: Brigitte Schulte-Fortkamp, Bennett C. Brooks

Thoughts on the Next Generation of ANSI Loudness Standards
(Joint with ASA Committee on Standards and Psychological and Physiological Acoustics)
Organized by: Patricia Davies

Wind Turbine Noise
(Joint with Physical Acoustics and Animal Bioacoustics)
Organized by: Nancy Timmerman, Robert D. Heliweg, Paul D. Schomer, Kenneth Kaliski

PHYSICAL ACOUSTICS (PA)

Acoustic Characterization of Critical Phenomena
Organized by: Josh R. Gladden, Veerle M. Keppens

Launch Vehicle Acoustics
(Joint with Noise)
Organized by: Kent L. Gee

BRIEF DESCRIPTION

Papers on effective and innovative teaching experiences, including education research related papers

Acoustics demonstrations for middle-school students. No abstracts will be submitted. Any acousticians wanting to participate should email Preston Wilson <pswilson@mail.utexas.edu>

For a Take-5 session no abstract is required. We invite you to bring your favorite acoustics teaching ideas. Choose from the following: short demonstrations, teaching devices, or videos. The intent is to share teaching ideas with your colleagues

A forum for undergraduates to present their research in all ASA technical areas to a broad audience. Session will be poster format and can also include overview papers on undergraduate research programs, designed to inspire and foster growth of undergraduate research throughout the Society

Acoustical comparison of musical instruments from the past to present

Research on all stick-slip processes in the field of musical acoustics, including bowed, percussion, and novel non-Western instruments

Evaluations of current and developing risk criteria measures for noise exposure

Fit-testing systems are becoming increasingly popular for use in occupational hearing conservation. This session will investigate methods for fit-testing requirements for acoustic performance of fit-testing systems and recommendations for integrating fit-testing with hearing conservation programs

Recent research and applications in urban planning, outdoor and indoor spaces

The current standard is based on Moore and Glasberg’s loudness model for stationary signals. Much of the engineering community uses Zwicker’s loudness model. In addition, time varying loudness should be considered. Discussions on adoption of the current ISO standard are also welcome

Progress in research and monitoring in wind turbine noise and other related topics

Focus on the use of acoustic tools and signatures to better understand a variety of phase transitions in materials such as (but not limited to) superconductivity, charged order transitions, structural phase transitions, and glass transitions. Effects of these transitions on elastic properties and acoustic attenuation will be of interest

Measurements and modeling of launch vehicle environments and physical characteristics of rocket noise generation and propagation
PHYSICAL ACOUSTICS (PA) (cont)

Phononic Metamaterials
Organized by: Joel Mobley

SIGNAL PROCESSING IN ACOUSTICS (SP)

Direction of Arrival (DOA) Estimation, Source Localization, Classification and Tracking using Small Aperture Arrays (Joint with Underwater Acoustics and Animal Bioacoustics)
Organized by: R. Lee Culver, Geoffrey H. Goldman

Random Matrix Theory in Acoustics and Signal Processing
Organized by: James Preisig

SPEECH COMMUNICATION (SC)

Advancing Methods for Analyzing Dialect Variation (Joint with Signal Processing in Acoustics)
Organized by: Cynthia G. Clopper

Development of Speech Production and Perception Across the Lifespan
Organized by: Mary E. Beckman, Valerie L. Hazan

STRUCTURAL ACOUSTICS AND VIBRATION (SA)

Aircraft Interior Noise Reduction (Joint with Noise)
Organized by: Hasson M. Tavossi

Flow-Induced Vibration (Joint with Engineering Acoustics and Physical Acoustics)
Organized by: Robert M. Koch

Novel Treatments in Vibration Damping
Organized by: Kenneth A. Cunefare

Nonlinear Techniques for Nondestructive Evaluation (Joint with Signal Processing in Acoustics and Physical Acoustics)
Organized by: Brian E. Anderson

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

Structural Acoustics and Vibration in Buildings (Joint with Noise and Architectural Acoustics)
Organized by: Benjamin M. Shafer, James E. Phillips

Transient Nearfield Acoustical Holography (Joint with Noise and Signal Processing in Acoustics)
Organized by: Nicolas Valdivia

BRIEF DESCRIPTION

Phononic metamaterials have enabled a wide range of possibilities for the manipulation of acoustic fields and material properties. This session is concerned with the novel properties and phenomena facilitated by these media, including device applications and fabrication methods.

Many applications are constrained to small aperture arrays, i.e. ~O(1 wavelength). In such cases, the presence of multiple targets or interferers makes DOA estimation, target classification and tracking a difficult problem that is not easily solved using conventional techniques.

Theory and applications of random matrix theory in the modeling acoustic phenomena and the development and analysis of signal processing algorithms.

Methods for analyzing phonetic dialect variation beyond traditional vowel spaces defined by static measures of first and second formant frequencies.

Recent advances in our understanding of how speech production and perception develop across the lifespan, with emphasis on differentiating effects of internal factors (such as the child's maturing motor control or physical changes to the vocal tract at puberty and in senescence) from external factors (such as shifts in production norms in the speech community).

Methods for reducing aircraft interior noise.

Vibration induced by the flow of a fluid over a structure and the interaction between the structure and the fluid.

Latest developments in vibration damping and applications.

Nonlinear acoustic techniques used to locate or image cracks, delaminations and other structural flaws.

Review and discussion of current standards in structural acoustics and vibration.

Prediction, measurement, and control of vibration and structureborne noise in buildings.

Studies of the transient nearfield acoustical holography (TNAH) technique utilized to reconstruct non-stationary sound fields over a vibrating structure.
UNDERWATER ACOUSTICS (UW)

50 Years of Underwater Acoustics under ASA
(Joint with Acoustical Oceanography, Signal Processing in Acoustics, and Animal Bioacoustics)
Organized by: David L. Bradley, John A. Colosi

Environmental Variability Impact on Shallow Water Acoustics
(Joint with Signal Processing in Acoustics)
Organized by: Nicholas P. Chotiros, Brian T. Hefner

BRIEF DESCRIPTION

Celebrating the 50th anniversary of Underwater Acoustics as part of the ASA: History and future

Influence of sediment, water column, and sea surface variability on transmission, reverberation, and scattering in shallow water

OTHER TECHNICAL EVENTS AND INFORMATION

OPEN MEETINGS OF TECHNICAL COMMITTEES

Technical Committees will hold open meetings on Tuesday, Wednesday, and Thursday evenings. These are working, collegial meetings. Much of the work of the Society is accomplished by actions that originate and are taken in these meetings including proposals for special sessions, workshops and technical initiatives. All meeting participants are cordially invited to attend these meetings and to participate actively in the discussions.

HOT TOPICS

A “Hot Topics” session sponsored by the Tutorials Committee will cover the fields of Acoustical Oceanography, Animal Bioacoustics and Underwater Acoustics.

UNDERGRADUATE RESEARCH EXPOSITION

The 2015 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 2015 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 August 15, 2015. Recipients will be notified by 15 September.

TUTORIAL LECTURE ON SONIC BOOMS: A “SUPER” SONIC SAGA

A Tutorial Presentation on “Sonic Booms: A “Super” Sonic Saga” will be given by Victor W. Sparrow of Pennsylvania State University, on Monday, 2 November at 7:00 p.m. Lecture notes will be available at the meeting in limited supply. Those who register by 5 October 2015 are guaranteed receipt of a set of notes. To partially defray the cost of the lecture, a registration fee is charged. The fee is USD$15 for registration received by 5 October 2015 and USD$25 thereafter including on-site registration at the meeting. The fee for students with current ID cards is USD$7 for registration received by 5 October 2015 and USD$12 thereafter, including on-site registration at the meeting. Register online at AcousticalSociety.org or use the form on page 18.