

IN THIS ISSUE

Report from the Chair

Bob Tomko

These are exciting times in the Noise Control and Acoustics Division. In 2011, we had a very successful track in the International Mechanical Engineering Congress and Exposition (IMECE) in Denver, Colorado. Special thanks are in order to Liang-Wu Cai, who organized the NCAD sponsored track on *Sound, Vibration, and Wave Propagation*. The IMECE is the conference in which the division normally participates. However, we find that it is useful to our members if we periodically participate jointly with other societies interested in noise control and acoustics. In 2008, we joined with the International Noise Control Engineers (INCE) in Detroit, Michigan for a noise and acoustics conference (Noise-Con 2008). This was so successful and so well received by our membership that we've chosen to join with them again in the summer of 2012 in New York City as part of Internoise. Brent Paul has been diligently working to make this conference a success, and we hope to see you there. Brent will have more to say about this conference later in the newsletter. We also plan a lower level participation in IMECE 2012 in order to maintain a presence at this conference and to serve our members who prefer to publish as part of IMECE. Liang-Wu Cai has graciously volunteered to once again chair a track on *Sound, Vibration, and Wave Propagation*.



Last year, Steve Hambric of the Penn State Applied Research Laboratory completed his commitment on the NCAD executive committee. We will greatly miss Steve's efforts to enhance our division. It was Steve's vision to jointly develop a conference with INCE as a means to reach out to people outside of the ASME and to offer new venues for our members. Steve made the NOISE-CON/NCAD conference an enormous success acting in both capacities as a member of the NCAD executive committee and as liaison for INCE, where he participates as an executive committee member. He is acting as INCE liaison again for Internoise 2012, so he continues to dedicate himself to our division. I would like to personally thank Steve for his tireless efforts over the past six years to expand our division.

As Steve Hambric departed, Noah Schiller (NASA) agreed to volunteer as incoming executive committee member. Additionally, Jeff Viperman (University of Pittsburgh) will be departing this summer as his term expires. Kristin Cody (Bechtel Machine Propulsion Corporation) will be the next incoming member; her term will begin this summer. These volunteers are the only way that the division remains active, relevant, and a service to its members.

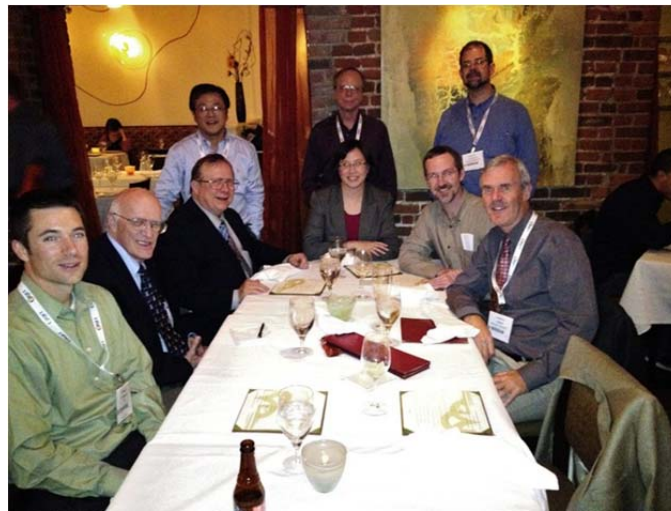
Volunteers are the life blood of this division. Therefore, I welcome you to help to keep the division alive and well by volunteering some of your time. There are a number of ways that you can help, and it's important to note that you can help without a long-term commitment and without a large commitment of your time. We welcome you to submit papers to the conference under our sponsored tracks and to attend the sessions at the conferences. We are always in need of people who can review papers submitted to our sessions; to do so, simply send an e-mail to any technical chair or any executive committee member. We hold our technical and general committee meetings during the conferences (this year it will be at Internoise); please come and join us, all are welcome. It's a great way to interface with others who share the same interests as you.

This past year's annual IMECE was held in the Hyatt Regency Denver and the Colorado Convention Center in the heart of Denver on November 11-17, 2011. Boasted as the mile-high city, Denver presents its visitors with many natural scenic attractions. But for the Congress attendees, the large variety of topics in all areas encompassing mechanical engineering is much more captivating. Overall, there were 22 technical tracks plus a poster track, with a total of 2500 presentations.



The conference has been a great success for the Noise Control and Acoustics Division (NCAD). There were a total of 64 presentations, distributed into 12 technical sessions in 6 topics within the "Vibration, Acoustics and Wave Propagation" Track. The topics included: acoustics in porous media; vibration and acoustics measurement techniques and facilities; active and passive noise control; phononic crystals and acoustic metamaterials; numerical methods in vibration and acoustics; and noise, vibration and reliability in vehicle systems. Some high-profile researchers gave presentations in, and attended, many technical sessions, such as the Editor-in-Chief of the Acoustical Society of America, Dr. Allan D. Pierce. In addition to contributed technical topics, the NCAD also organized two plenary topics to round up the track. One of the plenary topics is the annual NCAD Tutorial (coordinated by Adam Smith) on Noise and Hearing Loss Prevention, given by Dr. A. Azman of the Hearing Loss Prevention Branch of the National Institute for Occupational Safety and Health of the CDC. Another plenary topic is the Rayleigh Lecture (more details below). In comparison with previous years, there were two notable changes. The first is that all the NCAD sessions saw a significant increase in attendance. The second is the participation from foreign countries, especially from China, improved, in part due to a change in an approval process for international travels using grant funds from the Chinese government.

The success of NCAD at IMECE 2011 was only achievable because of the volunteers who donated their time to organize sessions, to review papers, to ensure that schedules were met, and to run the sessions at the conference. I would like to offer my sincere thanks to these volunteers for their invaluable efforts. We welcome volunteers for future conferences and, if you are willing to help coordinate sessions or review papers, please contact any of the coordinators for the upcoming and Internoise 2012 and IMECE 2012.



Rayleigh Lecturer dinner with Executive Committee. From left to right, seated: Noah Schiller, Allan Pierce (ASA editor-in-chief), Henry Scarton, Kristin Cody, Steve Hambric, Andrew Norris. Standing: Liang-Wu Cai, Bob Tomko, Jeff Vipperman.



Rayleigh Lecturer Andrew Norris (L) with Bob Tomko (R).



Kristin Cody (L) with Student Paper Winner Dion Antao (R).

Rayleigh Lecture

At IMECE 2011, Professor Andrew Norris of Rutgers University gave the NCAD annual Rayleigh Lecture with a title "*Metamaterials in Acoustics and Vibration: From Theory to Practice*". The Rayleigh Lecture is presented at the annual NCAD technical conference to a top researcher who has had a distinguished career in the science and applications of acoustics and noise control. Professor Norris is professor in Mechanical Engineering at Rutgers, was Co-Editor in Chief of the journal *Wave Motion*, is an associate editor of the *Journal of Acoustical Society of America*, and has served on the editorial boards of many other journals related to waves and acoustics. His lecture provided a review of recent developments in acoustic metamaterials, as one of the hot emerging topics in acoustics, and potential applications with such materials. The lecture was heavily attended and well received by the audience, some of which were in standing-room only. The lecture was immediately followed by the annual NCAD Wine and Cheese Reception where the attendees had opportunities to interact with Professor Norris, as well as mingling with other attendees who share the same enthusiasm in research developments in acoustics and noise control. Professor Norris' Rayleigh Lecture will be made available on the NCAD website soon. Other Rayleigh Lectures, as well as other tutorials that have been sponsored by NCAD, are available at the NCAD Resources website: <http://divisions.asme.org/NCAD/Resources.cfm>.

Per Bruel Gold Medal Recipient, Mardi C. Hastings

The Per Bruel Gold Medal for Noise Control and Acoustics was established in 1987 in honor of Dr. Per Bruel, who pioneered the development of sophisticated noise and vibration measuring and processing equipment. The medal recognizes eminent achievement and extraordinary merit in the field, including useful applications of the principles of noise control and acoustics to the art and science of mechanical engineering.



Mardi C. Hastings, P.E., Ph.D., professor in the George W. Woodruff School of Mechanical Engineering at Georgia Institute of Technology in Atlanta, is recognized for research and international leadership in marine bioacoustics, particularly the increased understanding of effects of underwater noise on marine life and the research efforts toward the mitigation of anthropogenic sound in the ocean.

Dr. Hastings has served on more than a dozen oversight panels, including the National Academy of Sciences' Study Committee on Potential Impacts of Ambient Noise on Marine Mammals.

Student Paper Award

Every year, NCAD sponsors a Student Paper Competition at its annual technical conference. This year, the competition was held at IMECE 2011. A committee was formed to choose the best paper; the committee members read each paper and attended the presentations. The 2011 Best Student Paper winner was Dion Antao from Drexel University, who is advised by Professor Farouk. The award winning paper was entitled, "*Experimental and Numerical Characterization of an Orifice type Cryogenic Pulse Tube Refrigerator*" (IMECE2011-65027). Congratulations to Dion, who received a \$1000 award for his paper and presentation. More information on the next year's student paper award is given in the next section.

Future NCAD Meetings

Brent Paul

Internoise 2012, 19-22 August 2012, New York City, NY

This year, NCAD will be joining with INCE (Institute of Noise Control Engineering) for Interoise 2012. The conference will be held at the Marriott Marquis hotel in New York City and will be sponsoring sessions on a wide range of noise, vibration, and acoustics. The focus of Interoise is "Quieting the World's Cities". There will also be joint sessions with SAE (Society of Automotive Engineers). In addition to the technical program the following will be featured,



- A sold out exposition of over 60 vendors displaying noise and vibration control materials, analysis software, and measurement systems and instrumentation
- A series of 14 short courses on noise and vibration preceding and following the conference
- Plenary sessions on City Noise Codes, the Effects of Noise on Children, and Airport Noise

Some key dates for this conference are as follows:

- February 15, 2012: Abstract submittal deadline
- March 22, 2012: Notification of abstract acceptance and assignment to session
- May 15, 2012: Full-length draft paper submission deadline
- June 18, 2012. Final paper and copyright form submission deadline

Pertinent information on Interoise can be found at the conference website: <http://www.internoise2012.com>. The left hand side of the page holds links to Abstract submissions and other items of interest.

NCAD will continue to host a student paper competition, with a \$1000 prize for the winner. Students must be the first author and the presenter at the conference to be considered for this award. Brent Paul (bpaul@alionscience.com) will chair the student paper award committee. Please send an e-mail to confirm your eligibility for the competition if you would like a paper to be considered for this award.

NCAD will also continue its tradition to honor a distinguished researcher in the area of noise control and acoustics to present the prestigious Rayleigh Lecture. For Interoise 2012 the tentative topic of the Rayleigh Lecturer will be in the area of computational aeroacoustics. Additionally, a special tutorial session will be held to provide an in-depth examination of a topic of interest to NCAD members. The tentative topic of this year's tutorial is transmission properties of acoustic materials.

As an ASME member, please check the "ASME Paper" box when submitting your abstract. This will ensure that the paper is registered to the ASME system. This will allow for increased recognition of NCAD, as well as additional revenue for NCAD that can be used to support future endeavors. In addition all ASME papers will be peer-reviewed, which are often held in higher regard than non-reviewed papers.

2012, ASME IMECE, 9-15 November 2012, Houston, TX

NCAD will continue to have a presence at IMECE, albeit at a low level. NCAD will continue to sponsor a track on acoustics and vibrations entitled *Sound, Vibration, and Wave Propagation*. More information on IMECE will be sent out to our members and our Facebook page this summer.

2013: ASME IMECE, TBD

In 2013 NCAD will be back with ASME IMECE. The location and time has not been established for IMECE 2013 yet.

We are looking for other opportunities to participate in joint conferences (e.g. Internoise/NCAD in 2012). If you have any suggestions please contact a member of the Executive Committee.

News and Notes from NCAD Members

Brent Paul

Opportunity for Overseas Experience

Dr Paul Bland runs a Structural Dynamics Lab in Thailand, at the TGGS Graduate School, King Mongkut's University of North Bangkok. He is open to applications, for a variety of types of placement, such as Masters internship or Thesis, Ph.D. or PostDoc research, and staff exchange, for time periods of between 4 to 12 months, with flexible start dates, and either for credit (if approved by your home University) or not for credit.

The rationale of the experience is both technical and inter-cultural. Applicants must appreciate inter-culture diversity, and have a strong background in Mechanical Engineering, with an emphasis on vibration. All projects or research will have a central link to modal testing and analysis. Full details can be explored via email. If interested, contact (bland.p.mesd@tggs-bangkok.org), and include: background and experience, project topic suitability, timing, funding, links to your home University staff or co-supervisors, and so on. Note that funding or financial support needs to be found on a case by case basis.

Ungar Receives ASA Gold Medal

Dr. Eric E. Ungar, Chief Engineering Scientist at Acentech, Inc. of Cambridge, MA has received the Gold Medal of the Acoustical Society of America at the society's 25 May 2011 meeting in Seattle, Washington. His citation reads "...for contributions for over six decades to acoustics, vibration isolation, and noise control and for service to the Society."

Brooks Elected President of NCAC

Mr. Bennett Brooks, PE, was elected President of the National Council of Acoustical Consultants (NCAC) and will complete his term in June 2012. NCAC, headquartered in Indianapolis, IN is an international organization committed to supporting the acoustical profession by recognizing expert acoustical consultants and engineers, promoting peer interaction, and providing a reference tool for the public. Mr. Brooks heads Brooks Acoustics Corporation, a consulting firm with offices in Vernon, CT and Pompano Beach, FL. He credits his participation in the ASME Standards program, particularly his work

with other NCAD members on PTC-36, Measurement of Industrial Noise, for helping to advance his career while affording him the opportunity to contribute to the engineering community.

Job Offer: Hearing Loss Prevention Branch

The Hearing Loss Prevention Branch (HLPB) at the Pittsburgh, PA facilities of the NIOSH Office of Mine Safety and Health Research is seeking candidates for positions performing noise control work in the field and laboratory. The mission of HLPB is to eliminate hearing loss in the mining industry. Research is focused on reducing noise-induced hearing loss among mine workers through engineering noise controls and other workplace changes. A critical element of this research is evaluating the effectiveness of the noise controls through field studies of noise exposure and reduction. Noise control researchers are involved in experimental and analytical approaches in developing noise controls that culminate in publications and workplace interventions. Ideal candidates will have a Master of Engineering degree or higher and demonstrated expertise in noise and vibration measurement and vibro-acoustic analysis. For more information, contact Nanette Sowers, Hearing Loss Prevention Branch, 412-386-6715, NSowers@cdc.gov.

Passing of Dr. Maurice Sevik

The Noise Control and Acoustics Division of ASME notes the death of one of its early leaders, Dr. Maurice M. Sevik. Dr. Sevik's life was both varied and highly accomplished. He was born and raised in Turkey and during the height of World War Two moved to England where he received his Master's degree. Soon afterward Dr. Sevik moved to Canada to work for an aeronautical company. This served as a stepping stone for moving to Pennsylvania State University in State College Pennsylvania where he received his Ph.D., joined the faculty, and later became both Director of the University affiliated Garfield Thomas Water tunnel and Assistant Director of the University's Applied Research Laboratory. In 1972 Dr. Sevik left university life to become the Head of the Signatures Department at the Carderock Division of the Naval Surface Warfare Center where he provided technical leadership in all aspects of submarine and surface ship quieting until his retirement in 1998. Dr. Sevik's contributions to the engineering profession are exemplified by not only the honors and recognitions he received but also by the effort he put into promoting the profession. Examples of his recognition include election to the National Academy of Engineering (NAE), receiving the American Society of Naval Engineers Gold Medal, presented with L' Ordre du Mérite from the Ambassador of France, and most notably, received the ASME Per Bruel Gold Medal. Dr. Sevik's commitment to the Division's growth in its early years is particularly notable (see Dr. Akay's 'Birth of a Division: NCAD Quarter of A Century' in the Summer 2004 Division Newsletter for further background on the Division's founding and growth). Dr. Sevik was an early member of the Division's Executive Committee, served as the Division Chair in 1986, and was instrumental in helping establish the ASME Per Bruel Gold Medal for Noise Control and Acoustics. His ASME honors include being elected Fellow in 1986, presenting the Division's Rayleigh Lecture on 'Information Extraction from the Scattered Acoustic Field of Waterborne Structures' in 1995, and in 1996 he received the Society's Per Bruel Gold Medal. Dr. Sevik was truly an accomplished individual. He passed away on 20 October in Oakland, CA.

Paul Promoted to Principal Engineer

Mr. Brent Paul has been promoted to Principal Engineer at Alion Science and Technology. Mr. Paul has been with Alion for seven years and works in the Hydrodynamic and Acoustics Research and Development Group. In that group he supports the design and analysis of Navy and commercial vessels. He has a BS and MS degree in Aerospace Engineering from The Pennsylvania State University and is currently working on a doctorate in Acoustics from there as well.

Passing of Dr. Tic Weissenburger

Dr. Jason Jared Ticknor "Tic" Weissenburger II, 79, passed away on Tuesday, December 13, 2011, following a courageous battle with Alzheimer's. Born December 11, 1932 in Point Pleasant, WV he attended Linsly Military Academy in Wheeling, WV. Dr. Weissenburger graduated from Washington University in St. Louis with a Master Degree and Doctorate in Mechanical Engineering and Applied Science. He worked for Emerson Electric and McDonnell-Douglas in St. Louis and in 1970 became one of the founding principles of Engineering Dynamics International where he remained until his retirement in 2009. He taught classes at University College at Washington University, was a past president of National Council of Acoustic Consultants (NCAC), and Fellow ASME International. He served as Councilman in University City for eight years and was a lifetime member of the Kirkwood Theater Guild.

NCAD has a Facebook Page!

NCAD now has a Facebook page: <https://www.facebook.com/pages/NCAD-Noise-Control-and-Acoustics-Division/211722612197712>. We will update this page with news and notes throughout the year. Please "Like" the page to follow our updates.

Submissions

NCAD would like to include news and information that would be of general interest to its members. This can include awards, promotions, workshops, etc. Please send that information to Brent Paul (bpaul@alionscience.com) so it may be included in the next newsletter.

NCAD Information

Noise Control and Acoustic Division

Founded in 1979, and established as a Division in 1981, The Noise Control and Acoustics Division meets yearly, usually at the ASME IMECE. In recent years there has been an effort to meet at conferences outside of IMECE, most notably in 2008, where NCAD had a joint session with INCE (Institute of Noise Control Engineering). A joint session with Internoise is scheduled for 2012. Our division works in noise and vibration control, using computational techniques, analytical methods, and measurements to study complex aero-acoustic, hydro-acoustic, and structural-acoustic systems. The application of active and passive control systems is of consideration as well. Our symposia usually include sessions on flow-induced vibration and sound, structural acoustics, phonic structures, and active control.

As of November 2011 643 ASME members list NCAD as their primary division, 575 members list NCAD as their secondary division, and NCAD has 2440 other members (3rd through 5th choices of division). NCAD is part of ASME's Environment and Transportation Group. Our website is: <http://divisions.asme.org/NCAD>. The website includes past newsletters, along with selected Rayleigh lecture and tutorial presentations from past conferences.

ASME Journal of Vibration and Acoustics

Two ASME NCAD members, Jeff Vipperman and Liang-Wu Cai, are Associate Editors for ASME's Journal of Vibration and Acoustics. Please see <http://journaltool.asme.org/Content/JournalDescriptions.cfm?journalId=18&Journal=VIB> for more information. They all encourage authors of well reviewed ASME NCAD conference papers to submit their work to the journal. We will work with you to minimize review times by using, as much as possible,

the reviewers of the conference papers. Final papers are usually published in the journal about six months after acceptance.

Please contact Jeff (jsv@pitt.edu) or Liang-Wu (cai@ksu.edu) if you'd like to pursue submitting your work to the journal.

Technical Committees

Active and Passive Noise Control Committee

Chair: Noah H. Schiller, noah.h.schiller@nasa.gov

The primary goal of the committee is to increase and disseminate theoretical and practical methodologies aimed at reducing noise. All aspects of the noise control process are of interest, from noise source identification to final installation and placement procedures of treatments. The topics of focus for the committee are active, passive, and hybrid approaches to controlling and abating unwanted sound.

Accomplishments from 2011:

The technical committee was active at ASME IMECE again this year. The committee sponsored a symposium on active and passive noise control with a total of 10 papers. The papers focused on a wide range of noise control topics, from a description of how dimples can be used to minimize the radiated sound power from a plate, to an active noise control algorithm for impulsive noise.

The technical committee also sponsored the NCAD tutorial this year. Dr. Amanda Azman, of the National Institute for Occupational Safety and Health, gave the tutorial entitled "Noise and Hearing Loss Prevention Workshop".

Planned Activities for 2012:

Since the division is teaming with INCE this year for Inter-Noise 2012 in New York City on August 19-22, the Active and Passive Noise Control Technical Committee has proposed several joint sessions with INCE, including:

- Passive noise and vibration control
- Active vibration control for complex structural systems
- Applications of active noise and vibration control
- Aircraft interior noise: modeling and methodologies
- Application of noise controls in the mining industry
- Quiet composite structures

While the focus in 2012 will be on Inter-Noise, the division will still maintain a presence at IMECE2012 in Houston, Texas on November 9-15. Therefore the technical committee will be organizing a general noise and vibration control topic for that conference.

Dr. Schiller is a research engineer in the Structural Acoustics Branch at NASA Langley Research Center where he is involved in aircraft noise research. He received a BS, MS, and PhD in mechanical engineering from Virginia Tech. His research interests include active noise and vibration control, vibroacoustic modeling, and more recently phononic crystals and acoustic metamaterials.



Structural Acoustics Committee

Chair: Shung H. Sung, shung@aol.com

The Technical Committee on Structural Acoustics (TCSA) represents the technical areas related to the interaction between acoustics and structures, including structural effects such as vibrations,

mechanical properties, topological surface shapes or even thermal or optical performances caused by sound and noise, and sound and noise generation due to structural effects as mentioned above, as well as propagation of sound in enclosed air volume, exterior air medium, any porous medium, or any solid medium.

Accomplishments in 2011:

In November 2011, the ASME IMECE2011 Conference was held in Denver, Colorado with 4 topical Symposia sponsored by the TCSA, with a total of 49 papers presented by authors from countries around the world.

The topics covered by the Symposia included: (a) Phononic Crystals and Acoustic MetaMaterials (17 papers) organized by Mahmoud I. Hussein of University of Colorado, Gregory Orris of Naval Research Lab, Liang-Wu Cai of Kansas State University, and Nicholas Fang of MIT; (b) Numerical Methods in Vibrations and Acoustics (17 papers) organized by Lonny Thompson of Clemson University and Rui M. Botelho of General Dynamics Electric Boat, (c) Noise, Vibration and Reliability in Vehicle Systems (10 papers) organized by Xu Wang of RMIT University and Shung H.(Sue) Sung of ASME NCAD and one new Symposia topic on (d) Modeling and Analysis of Acoustic Wave Propagation and Attenuation in Porous Materials (5 papers) organized by Shung H.(Sue) Sung of ASME NCAD and Liang-Wu Cai of Kansas State University.

Planned Activities for 2012:

In 2012, the ASME/TCSA is planning to co-sponsor Sessions with INCE at the Inter-Noise Conference in New York, August 19-22. The Sessions will include the same topics as presented at the ASME IMECE2011 Conference. These are: (a) Acoustic Wave Propagation in Porous Media (Shung (Sue) Sung), (b) Phononic Crystals and Acoustic MetaMaterials (Liang-Wu Cai), (c) Numerical Methods in Vibrations and Acoustics (Rui M. Botelho) (d) General Structural Acoustics and Vibration (Steve Hambric), (e) Noise, Vibration and Reliability in Industrial/Transportation Application (Xu Wang). There will also be Sessions on 4 new Symposia topics at the Joint ASME/INCE Internoise Conference which are: (f) Innovative Lightweight Materials for Noise Control and Abatements (Noureddine Atalla), (g) Quiet Composite Structures (Albert Allen), (h) Vibration Based Structural Health Monitoring (Liang-Wu Cai), and (i) Hybrid Transfer Path Analysis Methods for Noise and Vibration (Shung H.(Sue) Sung)

For the ASME IMECE2012 Conference in Houston, Texas, November 9-15, NCAD will sponsor the Symposia topics on (a) Phononic Crystals and Acoustic MetaMaterials, (b) Modeling and Analysis of Acoustic Waves Propagation and Attenuation in Porous Materials and two new symposia topics on (c) Geo-Acoustic and Seismic Waves and (d) Vibro-Acoustic Characterization of Nano and Micro Systems.

The TCSA welcomes ASME members and colleagues to contribute papers to these Symposia to make 2012 another year of success for the NCAD.

Dr. Sung received her BS degree in Civil Engineering from National Taiwan University. She received MS and PhD degrees in Aeronautical and Astronautical Engineering from Purdue University. After graduation from Purdue, Sue worked at General Motors Research & Development Center in Warren, Michigan until her retirement in 2008. At GM R&D Center, she conducted research to develop structural-acoustic finite element methods for vehicle noise and vibration design for which received the GM Campell and McCuen Awards for research innovation and product applications. Dr. Sung is an ASME Fellow and has authored numerous technical publications and has written several patents. She is one of the founding members of ASME NCAD Technical Sub-Committee (Numerical Methods) and is also a member of ASME Design Technical Committee.



Aero/Hydro Acoustics Committee

Chair: Kristin Cody, laifook@alum.rpi.edu

The goal of the Technical Committee on Aero/Hydro Acoustics is to increase the understanding of mechanisms related to both sound and vibrations that are produced, and propagated, in air, water, or both (e.g. multi-phase flows). This covers a wide range of sources and applications that are of interest to the academic community as well as industry. Specific interests include source mechanisms, flow over internal and external features, turbomachinery noise, flow tones and fluid instabilities, measurement and analysis techniques, fluid-structure interaction, and mitigation methods. Computational, analytical, and experimental methods are all welcome.

Accomplishments from 2011:

The Technical Committee on Aero/Hydro Acoustics had a good presence at the IMECE. The committee sponsored three symposia which results in two symposia with a total of approximately ten papers presented.

Planned Activities for 2012:

In 2012, the Aero/Hydro Acoustic technical committee is sponsoring two general sessions at the IMECE, including Aero/Hydroacoustics and Flow-Induced Vibrations; and Vibration and Acoustic Measurement Techniques and Facilities. At the more noise specific Internoise meeting, several sessions will be cosponsored between INCE and NCAD.

Dr. Kristin Cody is the Lead Engineer for Hydroacoustics for the Bechtel Marine Propulsion Corporation, which operates the Bettis and Knolls Atomic Power Laboratories for the Department of Energy. She received her B.S. in Mechanical Engineering from Purdue University, M.S. in M.E. from Rensselaer Polytechnic Institute, and Ph.D. in Acoustics from Penn State University. Her research interests include flow-induced noise and vibration and structural-acoustic interactions..



If you'd like to become involved with any of these committees, including helping to plan future meetings, please contact the Technical chair that best suits your interest.

Executive Committee Members

The activities of the division are directed by an Executive Committee, which establishes the Division's policy and goals. The Executive Committee is supported by other committees as needed.

The committee members for 2011 – 2012 are:

Robert Tomko, Bechtel Bettis, Inc., Chair

Bob Tomko is a graduate of the University of Pittsburgh with a degree in Mechanical Engineering. He is employed at the Bechtel Marine Propulsion Corporation (BMPC) Bettis Laboratory in West Mifflin, PA, which is a suburb of Pittsburgh. Bettis Laboratory has been developing advanced naval nuclear propulsion technology and providing technical support to ensure the safe and reliable operation of our nation's submarine and aircraft carrier fleets. Bob has been employed by Bettis for over 30 years. He began his career at Bettis designing and performing tests. He then moved to the noise technology organization as an engineer and became a manager in noise and vibration control in 1989. He continued to manage noise and vibration control for 20 years, and now leads the noise, shock, and vibration organizations at the laboratory.



Jeffery Vipperman, University of Pittsburgh, Vice-Chair

Dr. Jeffrey S. Vipperman is an Associate Professor of Mechanical Engineering & Materials Science and Bioengineering at the University of Pittsburgh. He is also the Director of Mechanical Engineering Graduate Studies and founded and directs the Sound, Systems and Structures Laboratory at Pitt. He earned BSME and MSME degrees from Va Tech and a PhD from Duke University. Over 75 publications have been authored or coauthored by Dr. Vipperman along with 109 presentations. He has also written two book chapters and has filed for his third patent. Dr. Vipperman has over 20 years of experience in the area of acoustics, vibrations, controls, and signal processing and has brought in over \$6.6M (\$2.3M as principal investigator) in current and past research funding from NSF, SERDP, NIOSH, US Air Force, Army, DARPA, US Dept. of Energy, and industry. He maintains close ties with industry through consulting and industrial research projects. During his tenure as a professor, he has mentored over 60 undergraduate and 20 graduate researchers and received the 2006 Beitle-Veltri Memorial Teaching Award from the Swanson School of Engineering at Pitt. He is a fellow in ASME and Associate Editor of ASME Journal of Vibration and Acoustics.



Liang-Wu Cai, Kansas State University, Secretary/Treasurer

Dr. Liang-Wu Cai is currently an Associate Professor in the Department of Mechanical and Nuclear Engineering at Kansas State University. He received his Sc.D. degree from MIT in 1998. His research interests include applied mechanics, mechanics of composite materials, mechanical vibration, acoustics, ultrasonic nondestructive evaluation, sonic crystals, and acoustic metamaterials.



Brent Paul, Alion Science and Technology, Program Chair

Brent Paul is a Principal Engineer in the Hydrodynamics and Hydroacoustic Signatures group at Alion Science and Technology. He received his B.S. and M.S degrees in Aerospace Engineering from Penn State University in 1994 and 1996. He is currently pursuing a doctorate in Acoustics, also from Penn State. He has over fourteen years of experience in the analysis of hydroacoustic and hydrodynamic phenomenon. From 1997 to 2004 he worked in the Hydroacoustics group at Electric Boat Corporation and has been with Alion Science and Technology since then. He has performed analysis work for all current U.S. Navy submarine classes and commercial surface ship designs. His areas of expertise include the prediction of flow induced noise, acoustic analysis of advanced turbomachinery, vortex shedding, and computational fluid dynamics.



Noah Schiller, NASA Langley Research Center, Member

Dr. Noah H. Schiller is a research engineer in the Structural Acoustics Branch at NASA Langley Research Center where he is involved in aircraft noise research. He graduated from Virginia Tech with a BS and MS in mechanical engineering in 2002 and 2003. He then received a fellowship from the National Institute of Aerospace, which allowed him to continue graduate study at Virginia Tech while residing with the Structural Acoustics Branch at NASA Langley. He graduated with a PhD in mechanical engineering in 2007. Dr. Schiller has authored or co-authored 17 papers and filed for 2 patents. His research interests include active noise and vibration control, vibroacoustic modeling, and more recently phononic crystals and acoustic metamaterials.



NCAD Per Bruel Award

The *PER BRUEL GOLD MEDAL FOR NOISE CONTROL AND ACOUSTICS* was established in honor of Dr. Per Bruel, who pioneered the development of sophisticated noise and vibration measuring and processing equipment. The medal recognizes eminent achievement and extraordinary merit in the field of noise control and acoustics, including useful applications of the principles of noise control and acoustics to the art and science of mechanical engineering.

Anyone wishing to nominate deserving engineers for the Per Bruel award is welcome to do so by submitting the form at:

http://www.asme.org/Governance/Honors/SocietyAwards/Per_Bruel_Gold_Medal_Noise.cfm.