



JANUARY 2008
Jonson, Editors

- Stephen Hambric and Michael

IN THIS ISSUE

Report from the Chair ~ Ted Farabee

- [Joint ASME NCAD / NoiseCon 2008 meeting](#) in Dearborn, MI, July 28-30 2008
[Submit your abstracts now!](#)
Abstracts are due 4 February 2008
- [Report from the Chair](#)
- [Report from IMECE 2007](#)
~ Rayleigh Lecture by Bob Schlinker

~ Jerry Ginsberg receives Per Bruel Award
- [NCAD information](#)
Submit your work to the ASME Journal of Vibration and Acoustics

Since the establishment of the Noise Control and Acoustics Division (NCAD) in 1981 we have met annually at ASME's International Mechanical Engineering Congress & Exposition (IMECE), or the Winter Annual Meeting (WAM) as it was known prior to 1994. Over that time both the Congress and the Division have evolved with the intent to better serve Society member needs. Over the past few years the Division has discussed ways to provide forums for technical exchange that are of benefit to its members. This has led to the Division sponsoring Workshops and Tutorial Lectures at the annual meetings which are generally well received.



For 2008 the Division has decided to take a bold step and rather than meet at the IMECE, we will join with the Institute of Noise Control Engineering (INCE) at NoiseCon 2008 and sponsor our own Conference - [the NCAD 2008 Conference](#). These events will be held in Dearborn, MI, 28-30 July 2008. Stephen Hambric, who is the Division's 2008 Program Chair and coordinator for the NCAD 2008 Conference, provides a full description of the Conference further on in this newsletter. Please be sure to read about this exciting event and mark your calendar so that you can attend. It should be an excellent opportunity to interact with a very broad spectrum of experts in the fields of noise control and acoustics.

The 2007 IMECE was held in Seattle, WA 11-17 November. The Division was well represented at this Congress as discussed by Mike Jonson in the "Report from IMECE 2007" that appears later in the newsletter. The 2007 IMECE program was organized under multi-disciplinary tracks designed to facilitate interaction between different groups and Divisions. My take is that the new track format for the Congress met with mixed review. Many liked the format because it did facilitate a broader spectrum of interactions. The main dislike was generally associated with it not being clear which Division sponsored a given session. This issue is recognized by ASME and steps are planned to better link sessions to the sponsoring Division. Although NCAD will not participate in the 2008 IMECE (in lieu of the NCAD 2008 Conference) we will again be present at the 2009 IMECE. By then the linking sessions with sponsoring Divisions should be greatly improved.

I am pleased to announce that Robert Tomko has agreed to join the Division's Executive Committee starting this summer (beginning of ASME year 2008-2009). Bob works at Bechtel Bettis, Inc. (Bettis Atomic Power Laboratory) and brings to the Committee a strong industrial background. Special thanks and recognition go to Joe Gavin for his tireless dedication to the Division. He served four out of five years as a member of the Executive Committee. Unfortunately for us, just after he assumed the position of Committee Chair, he was offered a wonderful and challenging job opportunity that resulted in Joe needing to terminate his position on the Executive Committee. We all wish Joe the best in his future endeavors.

Be sure to read the rest of this newsletter. It contains a lot of interesting and important Division news, some of which I have not mentioned in order to reduce redundancy. As a standard Chair reminder and closing

statement, this is your Division – its success is a result of your involvement and participation. We look forward to your contributions to the Division's success.

Report from IMECE 2007 ~ Michael Jonson



The ASME International Mechanical Engineering Congress and Exposition (ASME IMECE) was held in Seattle, 12-15 November 2007. To generate interdivision synergy, all of the technical sessions were joint resulting in 12 total sessions. The overall conference was well attended and the NCAD sessions particularly at the beginning of the week were well attended.

As opposed to being involved with the Transportation Track of previous years, we were listed under nine tracks such as aerospace technology, fluid flow, controls, simulations, design, and novel materials. Phononic materials continued to be an active new area for NCAD. In addition to standard technical sessions, Dr. Robert Schlinker presented the Rayleigh Lecture on aeroacoustics of jet engines. The wine and cheese social after the presentation was well received. Technical, executive, and general NCAD meetings were also held.

Dr. Robert Schlinker gives Rayleigh Lecture

Dr. Robert Schlinker has more than 32 years of industrial research experience in aeroacoustics. He has worked at the United Technology Research Center in East Hartford, CT. He has a BA, MS, and Ph.D. in Aerospace Engineering from the University of Southern California. Although well versed in many aeroacoustic disciplines, Dr. Schlinker has advanced the state-of-the-art in jet noise.

During his Rayleigh lecture, Dr. Schlinker discussed the acoustic design of aircraft jet engines particularly with regard to experimental testing issues for determining the sources of jet noise. (Dr. Schlinker's presentation materials will soon be available on the ASME NCAD website: divisions.asme.org/ncad)



Workshop on Phononic Crystals: towards the full control of elastic wave propagation



[Jose Sanchez Dehesa](#), of the Polytechnic University of Valencia, explained the concept of phononic crystals (*you can learn more about them in the article by Liang Wu Cai in last year's NCAD newsletter – eds.*). Phononic crystals are lattice structures, like arrays of bars, or periodic structures constructed of alternating materials. Dehesa showed how acoustic and elastic waves can be blocked over selective stop bands in frequency. He also showed how lattice structures can be used to focus vibro-acoustic energy into specific locations – a concept of interest to the ultrasound community. Dehesa is currently investigating how arrays of bars can be used as traffic noise barriers, potentially replacing expensive traditional barriers.

Dehesa's presentation materials will shortly be available on NCAD's website: divisions.asme.org/ncad

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Jerry Ginsberg receives 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.

Jerry Ginsberg, Ph.D., This year's recipient of the Per Bruel award was Jerry Ginsberg. Jerry is the George W. Woodruff professor of mechanical engineering at Georgia Tech, and a Fellow of the American Society of Mechanical Engineers, as well as of the Acoustical Society of America. Jerry received the award for significant contributions as a scientist in the areas of sound-structure interactions and vibration of complex systems; and as an educator, for outstanding mentoring and for authoring a series of seminal textbooks on engineering dynamics for both engineering educators and practitioners.



Jerry received the Master of Science degree from Columbia in 1966 and the Doctorate in Engineering Science (E.Sc.D.) in 1970. Jerry taught at Purdue between 1969 and 1980, and moved to Georgia Tech in 1980, where he has resided since then. He has published over 100 articles on dynamics and acoustics, and written two textbooks: *Advanced Engineering Dynamics*, and *Mechanical and Structural Vibrations – Theory and Applications*.

To learn more about Jerry, [click here](#).

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

FUTURE NCAD MEETINGS ~ Stephen A. Hambric, Program chair



NCAD 2008 Conference – joint with NoiseCon 2008, 28-30 July 2008, Dearborn, Michigan

Calls for papers are listed at:

<http://www.asmeconferences.org/NCAD08/CallForPapers.cfm>

Abstract deadline: February 4, 2008

Draft paper submission deadline: April 1, 2008

Final paper submission deadline: May 23, 2008.

We're pleased to announce that NCAD will be joining the Institute of Noise Control Engineering (INCE) at next year's NoiseCon, to be held at the Hyatt Regency in Dearborn, Michigan, 28-30 July 2008. NCAD will not be holding meetings at IMECE 2008, but will return to IMECE in 2009.

NCAD leadership has decided to forgo the IMECE every few years to interact more with other organizations who work in noise control and acoustics. Our hope is to make NCAD meetings more valuable to our members by introducing them to other noise control and acoustics professionals and vendors, and providing them with larger audiences for their presentations.

A typical NoiseCon attracts 150 papers, 250 registrants, and 30 vendors (who will demonstrate the latest in noise control materials and state of the art simulation software and measurement equipment), and lasts 3

days. In contrast to the IMECE, everyone at NoiseCon works in Noise Control and Acoustics. With the ASME NCAD members attending, we expect about 200 papers and over 300 registrants to attend next year's conference. NoiseCons are held in smaller cities than IMECE's are, and cost less to attend as a result. Registration fees are lower than IMECE's, as are hotel rates.

ASME NCAD is planning sessions on flow acoustics, structural acoustics, and passive and active noise control for the conference. To learn more about them, visit the conference website at www.asmeconferences.org/ncad08, where you can submit your abstract for a session (abstracts are due 4 February 2008). INCE is also planning many other sessions – see their conference website at www.inceusa.org/nc08 for details.

Important note: ASME NCAD papers will be peer-reviewed, as always, and follow the usual ASME paper formatting.

We will also hold a student paper competition, with a \$1,000 prize for the winner. Please be sure to let me know (email me at sah19@only.arl.psu.edu) if you're a student and have submitted a paper so we can consider it in the competition.

NCAD Information

Founded in 1979, and established as a **Division in 1981**, The Noise Control and Acoustics Division meets yearly, usually at the ASME IMECE. Our division works in noise and vibration control, using computational techniques and measurements to study complex aero-acoustic, hydro-acoustic, and structural-acoustic systems. Our symposia usually include sessions on flow-induced vibration and sound, structural acoustics, and active control. Recently, we've run successful symposia on band-gap materials (sometimes called 'phononic structures') and sound quality – see last year's newsletter for more on these emerging areas in NCAD.

668 ASME members list NCAD as their primary division, 631 members list NCAD as their secondary division, and NCAD has 2805 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 Steve Hambric, are Associate Editors for ASME's **Journal of Vibration and Acoustics**. Jeff and Steve 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](#) or [Steve](#) if you'd like to pursue submitting your work to the journal.

Technical Committees and Chairs:

- **Flow Acoustics** – [Brent Paul](#)
- **Structural Acoustics** – [Liang-Wu Cai](#)
- **Active Control** – [Jeff Vipperman](#)

If you'd like to become involved with any of these committees and help plan future meetings, please contact the chairs.

Executive Committee Members:

[Ted Farabee](#), NSWCCD, Vice-Chair

[Michael Jonson](#), ARL/Penn State, Chair

[Stephen Hambric](#), ARL/Penn State, Program Chair – NCAD 2008 meeting (at NoiseCon 2008)

[Jeff Vipperman](#), University of Pittsburgh, Program Chair – NCAD 2009 meeting (at IMECE 2009)

[Bob Tomko](#), Bettis Atomic Power Lab, Member
