



## Noise Control and Acoustics Division Newsletter

Gary H. Koopmann, Editor

Fall 1997

### Visit the Division's Web Page



Theodore M. Farabee

**A**s incoming Division Chair, it is a pleasure to report that the Division is alive and well. This is due to the dedicated work of many; leadership provided by the Technical Committees, partici-

pation in Division activities by the general membership, and oversight by the Division's Executive Committee. Thanks to all who have contributed so freely over the years. May it continue.

For 1997, the Division again has a full presence at the upcoming IMECE. This year, we are sponsoring 20 sessions that cover a broad range of technical subjects of interest to the noise control and acoustics community. Rather than list the session topics I refer you to the 1997 program that is provided in the newsletter. The Technical Committee meetings will be held at 7:45 AM on Wednesday. Since the Division's activities for the next few years are planned at these meetings, I consider them to be the most important activity that occurs at the Congress. These meetings are open to all so please plan to

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### Maurice Sevik Receives Per Bruel Gold Medal



Maurice Sevik

**T**HE PER BRUEL GOLD MEDAL FOR NOISE CONTROL AND ACOUSTICS was established in honor of Dr. Per Bruel who pioneered the development of highly 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.

MAURICE MOIZ SEVIK, Ph.D., Head, Ship Signatures Directorate, Naval Surface Warfare Center, Bethesda, MD, for outstanding leadership and personal research contributions leading to significant ship and submarine noise signature reductions that are vital to the U.S. Navy's contributions to the national defense posture.

After Dr. Sevik's graduation from the Imperial College of Science and Technology in London, England, he was employed in the aerospace industry where he participated in the design of

several subsonic and supersonic aircraft. He joined the Applied Research Laboratory (ARL) at The Pennsylvania State University, University Park, in September, 1959 as a research assistant. After obtaining his Ph.D. in 1963, he joined the faculty of the College of Engineering at Penn State and continued his research. In 1968, he became a full professor and member of the graduate faculty, and a year later was appointed director of ARL's Garfield Thomas Water Tunnel.

Dr. Sevik spent a sabbatical leave at Cambridge University in 1970 as an overseas fellow at Churchill College. He joined the David Taylor Research Center in 1972 as head of the acoustics department. In his current position, the range of disciplines in his area of responsibility includes acoustics and electromagnetics. He has received numerous awards including the Robert Dexter Conrad Award from the Office of Naval Research, the Gold Medal from the American Society of Naval Engineers, the Presidential Rank Award and the U.S. Navy Superior Civilian Service Award. He is a member of the National Academy of Engineering and Sigma Xi.

Within ASME he is a fellow and an active member of the Noise Control and Acoustics Division's executive committee, has organized several symposia and presented the 1995 Rayleigh Lecture. He was an invited lecturer at the 21st Symposium on Naval Hydrodynamics held in Norway in 1996.

# TECHNICAL COMMITTEE NEWS

## Structural Acoustics

A Symposium on Acoustics and Noise Control Software has been organized by Professor Sean F. Wu of Wayne State University and Dr. Pranab Saha of Kalano & Saha Engineers Inc. under the sponsorship of the Noise Control and Acoustics Division (NCAD) for the upcoming ASME Congress to be held in Dallas, TX, in November, 1997. This symposium is focused on the modeling of acoustic radiation, propagation and transmission; as well as applications of computer software to noise simulation, control, and reduction of a passenger vehicle and its components. The main objective of this symposium is to provide a forum for researchers in academia and industry to discuss state-of-the-art technologies, development, and applications in acoustics and noise control.

*Sean Wu*

## Instrumentation and Signal Processing

A special session on the measurement and signal processing of sound fields has been organized by Guillermo Gaunaud and Mardi Hastings for the 1997 Congress to be held in November in Dallas. This session has papers of both theoretical and practical interest, covering such topics as the use of microphones in ordinary sound fields, measurement of acoustic fields in anechoic and reverberant chambers, and analysis of propagating sound pulses. These papers have been contributed from both industry and academia and will provide some insight on the accurate measurement, prediction and understanding of sound fields.

If you would like more information about this session or would like to become involved in the Instrumentation and Signal Processing Technical Committee, please contact Mardi Hastings, Department of Mechanical Engineering, The Ohio State University, by phone at (614) 292-2271 or e-mail at [hastings.6@osu.edu](mailto:hastings.6@osu.edu).

*Mardi Hastings*

## Words from the Program Chair

This year, the Division is sponsoring 20 technical sessions at the 1997 Congress which represents participation from nearly all eight Technical Committees. Interestingly, a number of sessions are co-sponsored by Technical Committees which perhaps best illustrates the interdisciplinary nature of noise control and acoustic issues. The Division is sponsoring a BS/MS Student Paper Competition. We appreciate Dr. Mardi Hastings' efforts in making the Student Paper Competition happen. This year, we are honored to have Dr. Michael Howe of Boston University provide the Rayleigh Lecture on the topic "Rayleigh Conductivity." As a result of the sometimes interesting ASME session scheduling process, the Rayleigh Lecture turns out to be the last session offered by the Division at the 1997 Congress. Since our annual Wine and Cheese reception immediately follows the Rayleigh Lecture, I could not think of a more fitting end to the Division's activities at the Congress.

Now that the planning and preparation for the 1997 Congress is completed, it is time to begin the process for the 1998 IMECE. This process actually began last year at the Technical Committee meetings when each Committee provided its two-year plan for IMECE activities. The 1998 plans that were initiated last year will be finalized during the upcoming Technical Committee meetings which are scheduled to meet Wednesday at 7:45 a.m. Please plan to attend these meetings and help chart the future course of the Division. If you will not be able to attend, please feel free to contact Technical Committee Chairs and give them your ideas for potential future activities. Please remember: This is Your Division and Your Society; it needs your participation.

*Ted Farabee*

## Bits and Pieces . . .

**Sean F. Wu** was named the 1997 SAE Ralph R. Teeter Education Award Winner by the SAE International during the SAE's 1997 International Congress & Exposition in Detroit, MI, on February 25, 1997.

**Gary H. Koopmann** was awarded the Penn State Engineering Society Premier Research Award at ceremonies held at Penn State on April 30, 1996.

**James J. Finneran**, (student member) received the 1997-1998 Hunt Postdoctoral Fellowship from the Acoustical Society of America to continue research in bioacoustics at the Naval Coastal Systems Command Labs in San Diego, CA.

## Incoming Chair's Message

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attend and offer your views. We need your guidance.

Last year, we embarked on an exciting new venture which I hope will greatly improve Division communications. With the support of ASME, the Division established a web page on the Internet. Special thanks goes to Dr. Andrew Seybert who willingly took on the task of getting the inaugural web page up and running. To access the web page go to ASME's home page at [www.asme.org](http://www.asme.org) and work your way through the various subpages related to Division activities until you reach the entry point for the Noise Control and Acoustics Division (under Environment and Transportation Group). Until Dr. Seybert turns over the responsibilities of webmaster the Division's web page can be accessed directly at [www.engr.uky.edu/ncadasme/index.htm](http://www.engr.uky.edu/ncadasme/index.htm). I strongly encourage everyone to visit the web page, look around and offer suggestions as to how the page can be improved to better serve your needs.

A special note of thanks goes to the Division's outgoing Chair, Dr. P.K. Raju, for his leadership over the past year and his many contributions to the Division. We look forward to his continued service.

As we begin the year, I would like to make a special plea to the over 600 primary members of the Division to review the activities of the Division and find a way in which you can participate in our activities. This does not require that you take a leadership role, only that you be proactive and help guide the Division by letting us know how you can be better served. This is your Division. It requires your involvement.

*Theodore M. Farabee  
Incoming Chair*

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## Requests from Newsletter Editor

Please note that the NCAD Planning sessions for our Technical Groups are scheduled for Wednesday, November 19 at 7:45 AM. As our new chair, Ted Farabee, said in his message to us, attendance at these meetings is very important for the viability of the NCAD. We need to plan well in advance to keep our technical sessions relevant to the needs of our membership and to keep in step with state-of-the-art developments.

With regard to the NCAD Newsletter, we are always open to suggestions for improving its content. We want to make it as informative as possible for our membership. We have been asked by the ASME Board on Communications to begin to include more technical contributions in the newsletter, e.g. short technical notes on a new noise control treatment, new models for damping materials, etc. If you would like to contribute such an article to the Newsletter, please give me a call or send me an e-mail, and we will arrange to include it in our yearly publication. All contributions are welcome.

## BS/MS Student Paper Competition

Congratulations to Michael G. McAleenan and Mukundan Narasimhan, first and second place winners, respectively, in the 1996 Student Paper Competition held at last year's Congress in Atlanta. Mr. McAleenan won the first place award for his paper, "Sound and Vibration of Composite Tubes of Variable Cross Section." He was advised by Raymond J. Nagem in the Department of Mechanical and Aerospace Engineering at Boston University. The second place award was presented to Mr. Narasimhan of Auburn University for his paper, "Software for Acoustical Study and Design of Architectural Spaces." Mr. Narasimhan was advised by P. K. Raju in the Department of Mechanical Engineering at Auburn.

At the 1997 Competition to be held at the Congress in Dallas, papers will be presented by Theodore Kostek from the School of Mechanical Engineering at Purdue University and Corrie Derenburger from the Department of Mechanical Engineering at the Ohio State University. This year, in addition to cash awards for the best papers, they will also

receive \$500 for travel expenses.

The BS/MS Student Paper Competition was initiated in 1993 to promote participation of young engineers in ASME and the Noise Control and Acoustics Division. Any student at the undergraduate or masters level may submit a paper pertaining to any aspect of the field of acoustics for this session. The final written papers and oral presentations are evaluated by a panel consisting of at least three members of the Division. For more information, please contact Dr. Mardi Hastings, The Ohio State University, Mechanical Engineering Department, 206 West 18th Avenue, Columbus, OH 43210 (e-mail: [hastings.6@osu.edu](mailto:hastings.6@osu.edu)).

## Continued Growth Encouraging

### Outgoing Chair's Remarks

The 1996-97 year has passed quickly for me as Chair of the Noise Control and Acoustics Division (NCAD). The hard work over the past year by many volunteers from our executive and technical committees has paid off. The NCAD continues to enjoy the growth in its membership and has been able to attract more members both from academia and industry. The number of technical sessions organized by our Division at the ASME Congresses is also steadily growing. The success and continued growth of NCAD is because of outstanding individuals who are stepping forward to undertake roles of increasing leadership and responsibility.

The highlight event for the NCAD during the past year was the 96 Congress held in Atlanta, GA. The technical program included several symposia addressing active noise control technologies, materials for noise and vibration control, complexity in acoustics, noise sources in internal combustion engines, friction induced noise and vibration, aeroacoustic sound propagation in ducts, and vehicle flow/structure noises. A workshop on materials for noise and vibration control was also organized which reviewed the current state of the art in this area through presentations from experts in industry and academia.

Our honors activities at the Congress included the presentation of the Per Bruel Gold Medal to Dr. Maurice Sevik. Dr. Phil A. Nelson of the Institute of Sound and Vibration Research, University of Southampton, delivered the Rayleigh Lecture on "Controlled Interference of Acoustics Fields." The "honors paper" recognition was awarded to the paper

written by Sheryl P. Grace of Boston University. In the student paper competition the first prize was the paper presented by Michael G. McAleenan (Advisor Ray Nagem) of Boston University, and the second prize was the paper presented by Mujundan Narashimhan (Advisor, P.K. Raju) of Auburn University.

The meeting planned for 1997 promises to be equally exciting and technically relevant.

I would like to thank the other members of the executive committee, the technical committee chairs, the session organizers, and the ASME staff for their cooperation, initiative, and dedicated support during the past year. My best wishes to Ted Farabee, Chair, and the rest of the NCAD Executive Committee for 1997-1998. It has been a privilege and pleasure for me to work with each of you and I look forward to continued participation in NCAD activities in the future.

*P. K. Raju*

## How to Give Rayleigh Lecture at 97 Congress

The Noise Control and Acoustics Division is pleased to announce that Dr. Michael S. Howe will give the Rayleigh Lecture at the 1997 International Mechanical Engineering Congress and Exposition in Atlanta. The lecture topic, "Rayleigh Connectivity," will be presented on Thursday, November 20, 1997, beginning at 3:45 PM.

## Future Meetings ASME Congress

**November 15 - 20, 1998**

Anaheim Convention Center & Hilton  
Anaheim, CA

**November 14 - 19, 1999**

Opryland Hotel  
Nashville, TN

**November 5 - 10, 2000**

Walt Disney World Dolphin  
Orlando, FL

**November 11 - 16, 2001**

New York Hilton and Sheraton  
New York, NY

**November 17 - 22, 2002**

New Orleans Hilton & Ernest Morial  
Convention Center  
New Orleans, LA

## 1997 CONGRESS PROGRAM

### Monday, November 17

NCA-1	Radiation and Scattering of Sound - I	7:45 AM - 9:15 AM
NCA-2	Radiation and Scattering of Sound - II	9:30 AM - 11:00 AM
NCA-3	Radiation and Scattering of Sound - III	11:15 AM - 12:45 PM
NCA-4	Sound Fields: Measurement & Signal Processing	2:00 AM - 3:30 PM
NCA-5	Quantitative Nondestructive Evaluation in Integrated Diagnostics	3:45 PM - 5:15 PM

### Tuesday, November 18

NCA-6A	Damping in Composites	7:45 AM - 9:15 AM
NCA-6B	FSI, AE, & FIV+N: FluidSound and Fluid-Fluid Interactions - I	7:45 AM - 9:15 AM
NCA-7A	Non Destructive Evaluation	9:30 AM - 11:00 AM
NCA-7B	FSI, AE, & FIV+N: Fluid-Sound and Fluid-Fluid Interactions - II	9:30 AM - 11:00 AM
NCA-8A	Dynamic & Impact Response of Composite Structures	11:15 AM - 12:45 PM
NCA-8B	FSI, AE, & FIV+N: Fluid-Sound and Fluid-Fluid Interactions - III	11:15 AM - 12:45 PM
NCA-9	Vibration/Fracture/Fatigue Analysis of Composites	2:00 PM - 3:30 PM
NCA-10	Power Train Noise	3:45 PM - 5:15 PM

### Wednesday, November 19

NCA-11	Turbomachinery Noise & Vibrations	11:45 AM - 12:45 PM
NCA-12	BS/MS Student Paper Competition	2:00 PM - 3:30 PM
NCA-13	Forum on Active Noise Control	3:45 PM - 5:15 PM

### Thursday, November 20

NCA-14	Acoustics & Noise Control Software - I	7:45 AM - 9:15 AM
NCA-15	Acoustics & Noise Control Software - II	9:30 AM - 11:00 AM
NCA-16	Coupling of Acoustic Fields & Flows	11:15 AM - 12:45 PM
NCA-17	Rayleigh Lecture - "Rayleigh Connectivity" by Michael S. Howe	3:45 PM - 5:00 PM
NCA17A	Wine and Cheese Reception	5:00 PM - 7:00 PM

### JVA PUBLICATION PROCEDURE

MONTH	1	2	3	4	5	6	7	8	9
AUTHOR	Submit 5 copies of paper to editor				Sends final copy to Assoc. Ed.		Proofreads & returns typeset paper to Journal		Receives copies of printed paper or bill for extra pages
EDITOR	Assign paper no. and forwards to Assoc Ed				Sends final paper to ASME pubs	Sends author copyright form			
ASSOC EDITOR	Sends paper for review			Advises author of review status	Sends final copy to Ed.	Sends honors papers to Chair			
REVIEWER			Accepts, rejects, or conditionally accepts paper						
HONORS CHAIR						Distributes copies of paper to committee			
ASME PUBL						Typesets paper; sends proofs to author			

### Noise Control and Acoustics Division Executive Committee Membership (Five-year terms)

Year	Chair	Vice Chair	Secretary Treasurer	Program Chair	Associate Editor	Member	Member
88-89	Akay	Koopmann	Eversman			Hansen	Dear
89-90	Koopmann	Eversman	Hanson			Hansen	Dear
90-91	Eversman	Hanson	Keltie			Hansen	Pate
91-92*	Hanson	Eversman	Swim	Hsu	Keltie	Hanson	Akay
92-93	Eversman	Hanson	Swim	Hsu/Keltie	Koopmann	Keltie	Akay
93-94	Hanson	Keltie	Swim	Seybert	Koopmann	Akay	Raju
94-95	Keltie	Akay	Swim	Raju	Koopmann	Seybert	Farabee
95-96	Akay	Raju	Seybert	Farabee	Koopmann	Swim	Pierce
96-97	Raju	Seybert	Hastings	Farabee	Koopmann	Pierce	
97-98	Farabee	Hastings	Humbad	Koopmann		Pierce	Seybert

\*Executive Committee expanded to seven members, including program chair and associate editor

## NCAD ORGANIZATION 1997-98

