

# NOISE/NEWS

Volume 24, Number 2  
2016 June

## INTERNATIONAL

*A quarterly news magazine  
with an Internet supplement published  
by I-INCE and INCE-USA*

■ The new *Noise/News International!*

■ Special Feature: INCE Foundation Newsletter, 2015

■ Award Recipients during CY 2015

■ Learn about the Slovenian Acoustical Society

■ *Acoustics Australia* April issue recap

■ INCE/Japan and ASJ general assemblies



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# NOISE/NEWS

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## Features

*INCE Foundation Newsletter, 2015* ..... 7

## Departments

*President's Column*..... 3

*Editor's View*..... 5

*Member Society Profile*..... 6

*Asia-Pacific News*..... 14

*Book Reviews*..... 17

*Product News* ..... 21

*International Representatives*..... 30

*Acknowledgments*..... 33

*Conference Calendar*..... 33

*Directory of Noise Control Services* ..... 34

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# NOISE/NEWS

## I N T E R N A T I O N A L

*This PDF version of Noise/News International and its Internet supplement are published jointly by the International Institute of Noise Control Engineering (I-INCE) and the Institute of Noise Control Engineering of the USA (INCE-USA). This is the third volume that is being published in PDF format only. The PDF format means that the issues can be read by freely available software such as that published by Adobe and others. It reduces publication time, saves printing costs, and allows links to be inserted in the document for direct access to references and other material. Individuals can sign up for a free subscription to NNI by going to the web site <http://www.noisenewsinternational.net>.*

### I-INCE

The International Institute of Noise Control Engineering (I-INCE) is a worldwide consortium of societies concerned with noise control and acoustics. I-INCE, chartered in Zürich, Switzerland, is the sponsor of the INTER-NOISE Series of International Congresses on Noise Control Engineering, and, with the Institute of Noise Control Engineering of the USA, publishes this quarterly magazine and its Internet supplement. I-INCE has an active program of technical initiatives, which are described in the Internet supplement to NNI. I-INCE currently has fifty-one member societies in forty-six countries.

### INCE-USA

The Institute of Noise Control Engineering of the USA (INCE-USA) is a non-profit professional organization incorporated in Washington, D.C., USA. The primary purpose of the Institute is to promote engineering solutions to environmental noise problems. INCE-USA publishes the technical journal, *Noise Control Engineering Journal*, and, with I-INCE publishes this quarterly magazine and its Internet supplement. INCE-USA sponsors the NOISE-CON series of national conferences on noise control engineering and the INTER-NOISE Congress when it is held in North America. INCE-USA Members are professionals in the field of noise control engineering, and many offer consulting services in noise control. Any persons interested in noise control may become an Associate of INCE-USA and receive both this magazine and *Noise Control Engineering Journal*.

### NNI and Its Internet Supplement

[www.noisenewsinternational.net](http://www.noisenewsinternational.net)

The primary change in this PDF-only volume of *NNI* is the ability to have “hot links” to references, articles, abstracts, advertisers, and other sources of additional information. In some cases, the full URL will be given in the text. In other cases, a light blue highlight of the text will indicate the presence of a link. At the end of each feature or department, a light blue [back to toc](#) will take the reader back to the table of contents of the issue.

The Internet supplement contains additional information that will be of interest to readers of *NNI*. This includes:

- The current issue of *NNI* available for free download
- *NNI* archives in PDF format beginning in 1993
- A searchable PDF of annual index pages
- A PDF of the current *NNI* conference calendar and a link to conference calendars for worldwide meetings
- Links to I-INCE technical activities and I-INCE Technical Reports

# President's Column

Welcome to the inaugural edition of the *new Noise/News International!* In response to numerous requests by many member societies, INCE has invested in a change of format for NNI.

Instead of simply being a PDF imitation of a paper magazine, the new NNI will be a blog page on the web where members and other readers can go to read the latest articles and news about noise control engineering around the world. There will be no need to download anything and we will be able to update it as frequently as we like or can manage. Advertisers will be able to update information or graphics rapidly and even have special items for NOISE-CON and INTER-NOISE conferences.

As you can see, this new format does not look radically different. It will be delivered in a new way and will allow us the ability to make updates and additions as frequently as we need to or the

readership asks. It is our hope that NNI can transition from something that members may look at once a quarter to a source of news and information that they look at on a regular basis—at least once a month.

It is also our hope that this new way of delivering NNI will be easier for readers, more attractive, and more topical. Perhaps at some point there could even be an NNI app that would take you straight to the blog and provide information on what is new or where there are changes.

This is a step in the continuous management of NNI to keep it relevant and useful to all I-INCE members and INCE-USA members. We welcome suggestions for new segments, contributions from members, and links to articles elsewhere on the web, and we hope to host discussions on important noise control issues. We are bringing NNI into the twenty-first century! 



**Richard A. Kolano**  
P.E., INCE Board  
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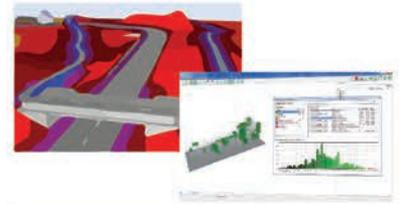
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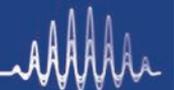
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**Jim Thompson,**  
**PhD, PE, INCE**  
**Board. Cert.**  
Managing Editor

Well, if all has gone well, you are looking at *Noise/News International* (NNI) in a new format. We have moved from the traditional PDF version of a “paper” magazine to a digital blog format. This is another step in a series of transitional steps for NNI. The publication started in the 1970s as a paper newsletter that was mailed to members in the USA. Later, it transitioned to the current name with an international audience. More recently, we moved to a digital format as a PDF that could be downloaded. The move to the blog format is part of our continuing efforts to maintain the relevance and ease of use for noise control professionals around the world.

The new format does not prevent us from providing the same content with features, editorials, regional news, book reviews, conference calendars, and much more. However, some of these items will look a little different, and, as we continue with the transition, they should become more dynamic as we provide up-to-date information. We will continue to provide major updates on a quarterly basis, but hope to provide new information and important data on a more frequent basis. While daily updates are not likely, monthly and perhaps weekly updates may become the norm. We want to ensure that NNI

becomes the source of noise control information for our readers around the world.

It is our hope that this new format and means of delivering NNI is an improvement for you, the reader. Undoubtedly, there are areas where we can improve. This is the point where I ask for your help. Please provide feedback on this first blog issue. What do you like? What would you like to see included that is not here? Did you have trouble finding something? Tell us about the blog and how we can improve it.

We are also eager to hear about new features or sources of information we can add. Should we include the most recent table of contents from the *Noise Control Engineering Journal* or other publications? Are there other sources of noise control information to which we should provide links? Would you, the readers, like to provide comments or initiate discussion of noise control topics of interest to others in the community? We need your input on how to bring more to NNI that provides more value to the noise control community.

I look forward to your comments and input.

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## The Slovenian Acoustical Society

The Slovenian Acoustical Society (Slovensko društvo za akustiko, SDA) was founded in 1997 in Ljubljana by fifty sound, noise, and vibration professionals led by Professor Mirko Čudina, its first and current president. SDA is a nonprofit scientific society dedicated to helping Slovenian engineers respond to the increasing demands for control of environmental noise and noisy products. Membership has grown to eighty-five individuals and seven liaisons representing the scientific disciplines of physics, mechanical, architectural, electrical and environmental engineering, medicine, psychology, and musical and speech acoustics.

Among the most prominent and active of Slovenia's professional societies, SDA maintains strong ties with the university and industrial communities in Slovenia and abroad. SDA is a member of I-INCE, EAA, IIAV, ICA, and AAAA. The society's activities comprise education, lectures, seminars, workshops, interlaboratory comparison of noise measurements, publications, and legislative and regulatory affairs.

SDA organizes a congress on sound, noise, and vibration every two years. The first two congresses drew national and international participants to Portorož, Slovenia, in 1998 and 2000. The second congress saw three regional presidents—professors Mirko Čudina as president of the SDA, Bojan Ivančević as president of the Acoustical Society of Croatia (HAD), and Ewald

Benes as president of Austrian Acoustics Association (AAA)—and founded the Alps-Adria Acoustics Association (AAAA). Čudina was elected as the first president of AAAA, and during his term they organized the first congress of AAAA (2003) in Portorož, Slovenia. The second congress of the AAAA was in Opatija, Croatia, and the third congress (2005) was in Graz, Austria. The fourth congress of the AAAA, EAA EUROREGIO Congress, was organized in 2010 by SDA in Ljubljana, Slovenia, and was a joint meeting of the SDA, HAD, AAA, and AAAA under the sponsorship of the European Acoustics Association (EAA). The first EAA EUROREGIO 2010 included an integrated summer school with seven courses: soundscape, voice and musical acoustics, building acoustics, hydroacoustics, numerical acoustics, psychoacoustics, and ultrasound. The EUROREGIO became the third product of the EAA and is now organized every three years after Forum Acusticum and Euronoise. The fifth congress of the AAAA was in Petrčane, Croatia, and the sixth congress (2014) was in Graz, Austria. The seventh congress of the AAAA will be held in Ljubljana, Slovenia, in September 2016. You can find out more about this congress on the congress home page: <http://lab.fs.uni-lj.si/AAAA2016/>.

The congresses covered all aspects of acoustics, noise, and vibration in which the members of SDA and AAAA are active: from sound generation and radiation to low frequency noise and

vibration, techniques for noise reduction at the source, active noise and vibration control, passive noise control elements, community noise, the effects of noise and vibration on people and animals, occupational noise, noise and vibration measuring techniques, numerical methods in acoustics modeling (FEM/BEM, SEA, MA), technical diagnostics, architectural and buildings acoustics, electroacoustics, hydroacoustics, bioacoustics, signal processing and statistical methods, musical acoustics, auditory and speech acoustics, and legislative acoustics.

The papers presented at the congresses have been published in the Congress Proceedings or CD-ROM, and the best papers have been published in the *Journal of Mechanical Engineering – Strojniški vestnik*, which currently has IF 0.821. Abstracts of the EAA EUROREGIO 2010 and programs of the integrated summer school have been published in a special issue (supplement) of the *Acta Acustica united with Acustica*.

SDA also produced four-day seminars on noise and vibration for domestic and international participants in 2000 and 2009. The next seminar will be organized in September 2016. In addition, SDA organized six interlaboratory comparison measurements over the last five years concerning site measurements of the airborne sound insulation, impact sound insulation of floors, environmental noise, and sound power of noise sources. 

# INCE Foundation Newsletter, 2015

## President's Message

The INCE Foundation had another good year providing awards to students, an educator, and a consultant. We also supported the Technology for a Quieter America follow-up program. The inaugural Laymon N. Miller Award for Excellence in Acoustical Consulting was provided this year to Bill Cavanaugh. This award, offered jointly by the National Council of Acoustical Consultants (NCAC) in odd years and the Institute of Noise Control Engineering of the United States of America (INCE-USA) in even years, is for individuals who have practiced acoustical consulting in an exemplary manner over a sustained period of time to improve acoustical environments in and around buildings, transportation systems, work places, recreational, and other occupied spaces such that the quality of life for citizens and communities is significantly enhanced.

Leo Beranek Medals were awarded this year to ten worthy students identified by their professors in recognition of excellence in the study of noise control by undergraduate and graduate students at academic institutions in North America.

Generous contributions from The Elizabeth L. and Russell F. Hallberg Foundation facilitated by INCE-USA member Douglas F. Winker provided financial support to



nine undergraduate and graduate students for travel to INTER-NOISE 2015 where they presented their work in noise control engineering.

Generous contributions from The Michiko So Finegold Memorial Trust provided financial support to nine undergraduate and graduate students for travel to INTER-NOISE 2015 where they presented their work in noise control engineering.

Hyun Hong of the University of Nebraska-Lincoln received the 2015 Martin Hirschorn IAC Prize Graduate Student Project Award for *Subjective Perception of Varying Reflection Density in Room Impulse Responses*.

Marehalli G. Prasad of the Stevens Institute of Technology received the INCE-USA Outstanding Educator Award in Noise Control Engineering.

Generous contributions from E-A-R provide financial support for student presentations of seminal papers in the field of noise control engineering. This year, Yangfan Liu of Purdue University was recognized for *Overview of Paul E. Sabine's 1931 Paper: A Critical Study of the Precision of Measurement of Absorption Coefficients by Reverberation Method*.

Five awards were presented by judges who attended the Student Paper Competition at INTER-NOISE 2015. Vice presidents Jeff

Fullerton of Acentech and Yong-Joe Kim of Texas A&M University are responsible for the planning and management of these awards. Our “Technology for a Quieter America Fund” (TQA Fund), established with donations from the Noise Control Foundation, provided support for a workshop hosted by the National Academy of Engineering during 2015. The report *Engineering a Quieter America: Progress on Consumer and Industrial Product Noise Reduction* will be available next year

\* \* \*

These award winners have earned and deserve our recognition. They represent the future of our important noise control engineering profession.

Contributions from you and your colleagues allow the INCE Foundation to continue making awards that recognize outstanding members of our noise control engineering profession. We appreciate and acknowledge all contributions to help the Foundation continue to support education in our important profession. The Foundation directors and officers receive no compensation; thus, all contributions go directly toward supporting our mission.

Thank you for the support that you provide.

*Eric W. Wood*  
2015 INCE Foundation President  
Acentech

### The INCE Foundation TQA Follow-up Team Holds Washington Workshop

The 2015 follow-up workshop entitled “Engineering a Quieter America: Progress on Consumer and Industrial Product Noise Reduction” was organized by the TQA follow-up team and was hosted by the National Academy of Engineering at the Keck Center in Washington, DC on October 6–7, 2015. The workshop and its report address ongoing contributions by noise control engineers to improving both quality

of life and the US economy by providing domestic manufacturers with the expertise to develop, produce, and sell the quieter products now demanded by global markets. Expected future noise control engineering technologies are also addressed. Thirty-one people attended the workshop, with presenters representing manufacturers, consultants, trade and standards associations, universities, and a widely known consumer publication. Many attendees had thirty to forty years of direct engineering experience in consumer at-home products or industrial products. The workshop addressed consumer products ranging from automobiles to yard-care leaf blowers, and industrial products ranging from air-moving devices to valves. Products ranged from small handheld devices to million-pound off-road trucks. The report for this workshop is in progress and should be completed later in 2016 for posting on the INCE-USA website.

### Contributions to the INCE Foundation

Contributions to the INCE Foundation may be made by check or in conjunction with INCE member dues. Checks should be made payable to the INCE Foundation and sent to Robert D. Hellweg, Treasurer, 13 Pine Tree Road, Wellesley, MA 02482. All contributions will be gratefully acknowledged.

Individuals or companies contributing \$100 or more to the Foundation may receive one of the following:

1. A copy of the National Academy of Engineering report titled “Technology for a Quieter America.” The report was prepared by a study committee chaired by George Maling, and was published in 2010.
2. The booklet *Noise and Vibration Control: Principles and Applications*, which was prepared by Stig Ingemansson and has been made available through the generosity of Ingemansson Technology AB as a

tribute to Stig, who passed away a few years ago.

3. A CD-ROM that contains the technical papers in volumes 1–48 (1973–2000) of *Noise Control Engineering Journal*. Volumes 1–41 have been scanned and converted to PDF files; volumes 42–48 were prepared as PDF files. The CD is being made available by the Foundation as an educational tool, and I think that you will find many papers of interest in the collection.

Recognition levels for donations to the INCE Foundation are:

**Benefactor:** \$1,000 and up;  
**Patron:** \$500–\$999; **Sponsor:** \$250–\$499;  
**Donor:** \$100–\$249; **Friends:** up to \$99

### INCE Foundation

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### Award Recipients during CY 2015

**Seven Michiko So Finegold Awards for student conference-travel expenses (\$1,000 each).**

**Generous contributions from The Michiko So Finegold Memorial Trust Foundation facilitated by INCE-USA member Larry Finegold:**

Pasquale Bottalico	Michigan State University
Seongil Hwang	Texas A&M University
Nicholas Kim	Purdue University
Yangfan Liu	Purdue University
Ivano Ipsaro Passione	Michigan State University
Hongdan Tao	Purdue University
Bao Ngoc Tong	Purdue University

**Nine Hallberg Awards for student conference-travel expenses (\$940 each).  
Generous contributions from The Elizabeth L. and Russell F. Hallberg Foundation  
facilitated by INCE-USA member Douglas F. Winker**

Ethan Bourdeau and Xin Yan Kevin Zheng	<i>University of Hartford</i>
Rui Cao	<i>Purdue University</i>
Daniel Carr	<i>Purdue University</i>
Phillip Andrew Feurtado	<i>The Penn State University</i>
Seungkyu Lee	<i>University</i>
Zhongzheng Liu	<i>Texas A&amp;M University</i>
Yawen Wang	<i>University of Cincinnati</i>
Yitian Zhang	<i>University of Kentucky</i>

**Ten Leo Beranek Student Medals**

Pegah Asiani	<i>Brigham Young University (Pewter)</i>
Rajavel Balaguru	<i>Stevens Institute of Tech. (Pewter)</i>
Matthew G. Blevins	<i>University of Nebraska, Lincoln (Pewter)</i>
Christopher J. Cutierand Xin Yan Kevin Zheng	<i>University of Hartford (Bronze)</i>
Phillip Andrew Feurtado	<i>The Penn. State University (Pewter)</i>
Luke Fredette	<i>Ohio State University (Pewter)</i>
Christopher Kezon	<i>Columbia College Chicago (Bronze)</i>
Yitian Zhang	<i>University of Kentucky (Pewter)</i>
Xianpai Zheng	<i>Ohio State University (Bronze)</i>

**Five Student Paper Prizes awarded  
at the INTER-NOISE 2015 Congress  
(\$1,000 each)**

Nicholas Kim, Purdue University  
*Microperforated Films as Duct Liners*

Rob Opdam, RWTH Aachen University  
*Angle-Dependent Reflection Factor  
Measurements of Finite Samples with an  
Edge Diffraction Correction*

Zhongzheng Liu, Texas A&M University  
*Acoustic Streaming around a Spherical  
Microparticle/Cell under Ultrasonic Wave  
Excitation*

Rui He, University of Kentucky  
*Simulation of Airborne Paths using  
Frequency Based Substructuring*

Seongil Hwang, Texas A&M University  
*Ground Monitoring of Bottom Hole  
Assembly Vibration in Drill String System  
using Acoustic Transfer Functions and  
Hybrid Analytical/Two-Dimensional  
Finite Element Method*

**One Martin Hirschorn IAC Graduate  
Student Project Award (\$4,000)**

Hyun Hong of the University of  
Nebraska–Lincoln  
*Subjective Perception of Varying Reflection  
Density in Room Impulse Responses*

**One Student Classic Paper Award  
(\$1,000) with support from E-A-R**

Yangfan Liu, Purdue University  
*Overview of Paul E. Sabine's 1931 Paper:  
A Critical Study of the Precision of*

*Measurement of Absorption Coefficients by  
Reverberation Method*

**INCE-USA Outstanding Educator  
Award (\$2,000)**

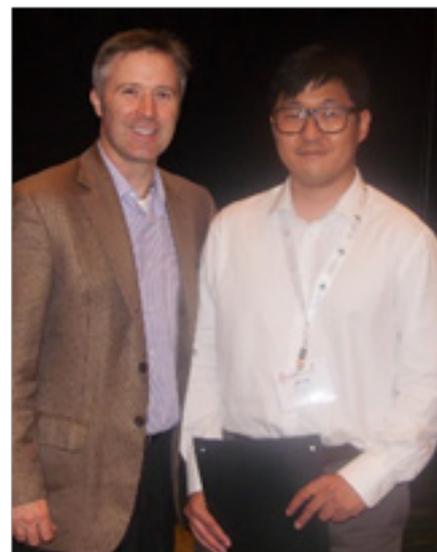
Dr. Marehalli G. Prasad  
*Stevens Institute of Technology*

**Laymon N. Miller Award for Excellence  
in Acoustical Consulting**

Initial recipient: Bill Cavanaugh 



M.G. Prasad (left) is presented the INCE Education Award by Jeff Fullerton, INCE-USA VP for Honors and Awards.



Jeff Fullerton and Martin Hirschorn IAC Award winner Hyun Seunggho Hong.



Students Ethan Bourdeau and Xin Yan Kevin Zheng from the University of Hartford receiving 2015 Hallberg Foundation Awards together with Professor Eoin King and INCE Awards VP Jeff Fullerton.



Students Pasquale Bottalico and Ivano Ipsaro Passione from Michigan State University receiving 2015 Michiko So Finegold Awards together with INCE Awards VP Jeff Fullerton.



Students who received Beranek Medals in 2015. These awards are given at the student's institution, and those who attend a national or international meeting are encouraged to bring the medal to the meeting.



## Impedance Tubes



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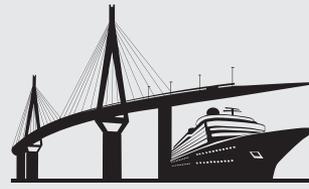
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## Australia and New Zealand

### Noise and Vibration in the Workplace Articles

The April issue of *Acoustics Australia*, the journal of the Australian Acoustical Society, focuses on noise and vibration in the workplace with fourteen papers, three forum articles, plus relevant items in the news and notes by the special-issue editor, Pam Gunn.

Starting with control of noise at the source (as one should!), Peter Wilson of the UK INVC gives an update of his well-known “Top 10” noise control solutions, some of which can be shown to be self-financing, thus dispelling the myth that all noise control is too difficult and expensive. For some of the trickier low-frequency noise situations in large vehicle cabins, Jie Pan of the University of Western Australia presents the successes he has had with active noise control. Important “Buy Quiet” initiatives in both the USA and UK are discussed by Bryan Beamer from NIOSH and Paul Brereton and Jacqueline Patel from UK HSE respectively. Thais Morata, also of NIOSH, shows how an awards scheme can uncover case studies on effective hearing loss prevention. Elizabeth Brueck from the UK HSL gives us tips from her many years of experience in accurately measuring the risk of high impulsive noise, including the latest advances in hearing protector assessment in such situations. Initiatives to prevent hearing loss in the USA construction industry are summarized by Scott Schneider of the Laborers’ Health and Safety Fund of North America, and noise exposure and education among fitness instructors

in NSW is presented by Valerie Nie and Elizabeth Beach from the University of Newcastle and Macquarie University. To round off the noise section, Marion Burgess and Brett Molesworth from the University of NSW investigate the noise reduction of in-use aviation headsets, including those with active noise-cancelling features.

The vibration section opens with Daniel Arquero and Paul Taylor from SWA providing background to recently published guidance material on management of both hand-arm and whole-body vibration. Rebecca Devine relays a success story about workers and contractors of a Queensland aluminium company promoting hand-arm vibration (HAV) awareness and encouraging controls in management. Paul Pitts and Paul Brereton of the UK HSL and HSE generously share their latest development of simple tools to support HAV exposure evaluation drawn from years of gathering real-world vibration measurements. The table of typical vibration magnitudes should prove particularly useful as it is an update on the one in the present Australian guidance. Also from the UK HSL, Susan Hewitt, in collaboration with colleagues from the USA NIOSH, gives us the latest research on the efficacy (or otherwise) of “anti-vibration” gloves. To conclude the section, Robin Burgess-Limerick from the University of Queensland presents a review of measuring and managing workplace whole-body vibration, and includes his recent work on monitoring using an iOS application.

Complementing these papers and technical notes in the formal section of the issue are three contributions to the

“Acoustic Forum” section. One is by Luciana Macedo from 3M who discusses developments in individual fit-testing for personal hearing protectors. Kate Lewkowski from Curtin University summarizes the program for the noise part of the Australian Workplace Exposure Survey (AWES). Richard Glover from LimitEar in the UK provides an overview of the options for managing the personal hearing exposure for those wearing headsets.

In the “Notes” section, there is a summary of current and recent Australian research work on workplace noise control and hearing conservation education, as well as information on progress with the international standardization of using otoacoustic emissions to monitor hearing in workers.

The issue (*Acoustics Australia*, volume 44, no. 1, April 2016) is available from the Springer website: <http://www.springer.com/engineering/journal/40857>. The “News Item” that includes the abstracts of all the papers, forum articles, plus the news and notes, is open access. The papers by the UK HSE authors are also open access. Access to the full text of the other articles is via Springer subscription, or individual articles can be purchased from Springer.

Coincidentally, volume 29 of the journal of the Acoustical Society of New Zealand has a similar focus—occupational noise in New Zealand. The issue comprises three papers on occupational noise incidence, legislation, and controls in smaller enterprises in New Zealand and is freely available from <http://www.acoustics.org.nz/>.

# Japan

## Japanese Ministry of the Environment: Wind Power Plants

The Japanese Ministry of the Environment released an interim report on their website last February of an investigation on the method of evaluating the noise of wind power plants (wind turbine noise). Construction of wind power plants has been subject to the Environmental Impact Assessment Law, based on the revised Implementing Order enforced in October 2012. However, it is essential to fully understand the unique nature of wind power plants, which affects noise characteristics, by taking account of the latest scientific knowledge in order to establish a method for investigation, modeling, and evaluation of wind turbine noise. The investigative committee, organized by the Ministry, separated the results of the investigation into two categories, “clarified” and “not clarified,” on the basis of collected data and knowledge so far, and published this interim report to provide useful information to the stakeholders, including wind power producers, plant manufacturers, national and local governments, and local residents. The Ministry, who is undertaking another study of both noise effects on people and regulations in other countries concerning wind turbine noise, in parallel to this investigation, plans to compile a final report with conclusions about the remaining challenges from the interim report. To view the report in Japanese, see [https://www.env.go.jp/air/noise/wpg/160226huusyasouon\\_tyuukantorimatome.pdf](https://www.env.go.jp/air/noise/wpg/160226huusyasouon_tyuukantorimatome.pdf).

## INCE/Japan General Assembly

INCE/Japan (INCE/J) held the 2016 general assembly on May 30, 2016, in Tokyo. At the assembly, new officers

and members of the board of directors were approved for the next two-year term. The new president is Yasuo Inoue (INC Engineering), and the two vice presidents are Shinichiro Iwamiya (Kyushu University) and Hiroaki Ochiai (Kobayasi Institute of Physical Research). Several awards were also presented at the assembly. The Research Achievement Award was awarded to two members for their distinguished services on transportation noise control engineering, the Environmental Design Award to a company and two nursery schools, the Publication Award to four authors of a book on “Barrier Free and Sound,” and the Young Researcher Award to six young researchers for their paper presentations at the autumn technical meeting last year. Afterward, two plenary lectures were addressed: “The Trend of the National Noise Policy” by Mimi Nameki (Ministry of the Environment), and “Similarity and Difference between Odor and Sound” by Yoshiharu Iwasaki (Japan Association on Odor Environment). As of March 2016, according to the report of annual activities of INCE/J, total membership is at 890 members and 278 organizations, and the number of paper presentations and participants at the last two technical meetings were 68/251 (September 2015) and 18/138 (May 2016) respectively. In addition, the Social Contribution Committee of INCE/J performed three social contribution activities during fiscal 2015: (1) participated in the Environmental and Recycling Festival of Chiyoda-Ward, Tokyo, to provide an experience corner to learn about sound, (2) participated in a summer event in Nagoya, under the sponsorship of Aichi Prefecture, for children to learn about the environment, and (3) hosted a training session on the stench, noise, and vibration in Tokyo under the cosponsorship of INCE/J and Odor Environment Association.

## Journal of INCE/J: Sports and Sound

The first issue of this year’s bimonthly Journal of INCE-J (volume 40, no. 1) focused on sports and sound. It contains two review articles: “Sound Capturing Technique in the Sports Broadcasting” and “On Auditory Environment Surrounding Athletes,” and five technical materials: “Effect of Sports Onomatopoeias Used in Sport Scene,” “Vitality Enhancement by Utterance during the Competition,” “Referee Whistle, Timbre Adjusted According to Sporting Events,” “Acoustic Equipment of Sports Facilities,” and “Noise Problems around Sports Facilities.” The second issue of the journal (volume 40, no. 2) focused on control engineering for vibration and structure-borne sound. It contains two review articles: “Vibro-Acoustic Noise Control Introduction” and “Ship Noise Control Engineering,” and six technical materials: “Countermeasures for Ship Noise,” “Control Technology for Bridge Vibration and Infrasound Due to Running Vehicles,” “Control Technology for Vibration and Structure-Borne Sound by Railway,” “Vibration Control in the Factory,” “Internal Vibration Control for Steel Construction Housing,” and “Vibration and Structure-Borne Sound Control for Synchronous Jumping Excitation.”

## Acoustical Society of Japan General Assembly

The Acoustical Society of Japan (ASJ) held its 2016 general assembly on May 28, 2016, in Tokyo. At the assembly, ASJ awarded the Achievement Award to three members for their distinguished services on research works in the fields of noise, supersonic sound, and infra and low frequency sound, and for their contributions to the Society. The Technology Development Award was given to two supporting organization

members. After the meeting, a plenary lecture was addressed: “Infra-Sonic Wave Originated from Earthquakes, Volcanoes and Ocean Waves” by Kiwamu Nishida (University of Tokyo). As of March 2016, according to the report of annual activities of the Society, total membership is at 4,055 individual members and 286 organizations. In addition, the ASJ spring technical meeting was held in Yokohama March 9–11, 2016, as reported in the NNI 2015 December issue. The number of paper presentations and participants was 635 and 1,382 respectively. Among the ten structured sessions, thirteen papers were presented in the session of “Roles of Auditory Research in Clinical Issues on Hearing Difficulties,” seven papers in “Disaster Monitoring Using

Infrasound,” eleven papers in “Towards the Tokyo Olympic and Paralympic Games in 2020: From the Viewpoints of Barrier-Free Acoustics,” fourteen papers in “Development and Possibility of Sound Trademark,” eleven papers in “Current Research Topics on Outdoor Emergency Sound System,” and ten papers in “Advanced Demonstrations and Tools in Acoustics for Education and/or Research.” ASJ also awarded two technical papers (SATO Paper Prize), two researchers (Environmental Acoustics Award), one young researcher (ITAKURA Memorial Original Research Award), and five young researchers for their paper presentations at the 2015 autumn technical meeting (AWAYA Kiyoshi Young Researcher Award).

(News sources)

AUSTRALIA and NEW ZEALAND: Marion Burgess. JAPAN: Secretariats of INCE/J and ASJ and Ichiro Yamada. 




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It is our sad duty to inform you that our beloved colleague András Illényi has died on 28 May, 2016.

András (or Bandi as we called him) has devoted his entire life to acoustics and he was also well known outside of Hungary. He started his career in 1950 when he joined Prof. Tamás Tarnóczy’s laboratory to work on speech audiometry and ultrasonic lenses. Later he moved to BEAG (Budapest Electroacoustic Factory) where he designed loudspeakers and sound reinforcement systems, and filed several patents. In 1981 he became the head of the George von Békésy Acoustic Laboratory in Budapest, he kept this position until 2002. Based on his patents on vibration analysis several hand-held analysers and complex systems were designed there. Bandi has actively participated in the education of electrical

engineers and acoustic experts after 1995, when the Laboratory has become part of the Budapest University of Technology.

He was an active member of OPAKFI since 1950’s, he was president of the Scientific Board (of OPAKFI) for several years, president of the Acoustic Committee of the Hungarian Academy of Sciences, and editor in chief of the Acoustic Review (Hungarian journal on acoustics). He was key person in organising several national and international scientific conferences (ICA 1971, Inter-Noise 97, Forum Acusticum 2005). He was member of EAA, I-INCE, the Hungarian Standardisation Committee.

He was a cheerful and humble man. We are grateful to have known him. May he rest in peace. 



**1932–2016**

# Book Reviews

## ***Vibro Acoustics, Volume 2, Second Edition***

Anders Nilsson and Bilong Liu  
Science Press, Beijing and Springer-Verlag,  
Berlin Heidelberg, (2016)  
452 pp., hardcover, 99.00 USD,  
ISBN: 978-3-662-47933-9

This book is a welcome addition to the library of practicing engineers and graduate students. It can be used to understand the theoretical background and, consequently, limitations of the emerging field of vibro-acoustics. As the computational capacities at the hand of the day-to-day engineers are increasing, vibro-acoustics, which hitherto has been dominated by scientists in major aeronautical, shipbuilders, and vehicle manufacturers, is making inroads into the toolset used by acoustical engineers associated with boat builders, equipment manufacturers, and designers of offshore oil and gas production facilities.

Volume 1 of the series introduced the wave theory and the behavior of beams and plates. Volume 2 builds on this foundation. The eight chapters continue after Volume 1 and start with Chapter 9.

Chapter 9, “Hamilton’s Principle and Some Other Variational Methods,” discusses the variational methods, such as Galerkin methods, necessary to establish the computational basis of more complex systems.

Chapter 10, “Structural Coupling between Simple Systems,” delves into the behavior of resilient mounts necessary to understand the first stage of propagation from the equipment to structure. It includes very useful results as measured insertion loss for various mounts on the foundation of a catamaran.

Chapter 11, “Waves in Fluids,” discusses the wave equation—the next step of propagation from the structure to the environment. It deals with propagation and reflection in air and water as well as acoustics in a closed room.

Chapter 12, “Fluid Structure Interaction and Radiation of Sound,” discusses the radiation from plates (fluid-loaded, excited, and baffled) taking into account fluid–structure interaction.

Chapter 13, “Sound Transmission Loss of Panels,” discusses the sound transmission through the panels—starting with infinite flat panels and ending with complex structures such as ribbed plate.

Chapter 14, “Waveguides,” discusses the theory of waveguides critical to understand acoustic propagation through cars, aircrafts, trains and ships. Response from composite sandwich and honeycomb beams and plates are illustrated supplemented by experimental results from measured transmission loss of the panels.

Chapter 15, “Random Excitation of Structures,” introduces random excitation of structures concentrating on turbulent boundary layer excitation relevant to flow noise induced in ships.

Chapter 16, “Transmission of Sound in Built-Up Structures,” discusses the statistical energy analysis, the most promising numerical method available for computational prediction of noise in large structures using finite computational resources.

The book is provided with appendices dealing with “Sound Transmission Loss of Single Leaf Panels, Velocity Level of Single Leaf Panels Excited by an Acoustic

Field, and Input Data for Noise Prediction on Ships” and also a listing of references with a comprehensive index.

The contents are sufficient to develop simple predictive models by engineers still lacking access to vibro-acoustic software tools due to prohibitive costs. It also has a relevant set of problems and solutions in the accompanying Volume 3 of the series. It is lucidly written with just the right dose of theory and practical applications. I have enjoyed perusing this book and recommend it to anybody interested in this field.

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## ***Battlefield Acoustics***

Thyagaraju Damarla  
Springer International, Switzerland, (2015)  
262 pp., hardcover, 94.99 USD,  
ISBN: 978-3-319-16035  
eBook, 69.99 USD,  
ISBN: 978-3-319-16036-8

The new edition of this book attempts to provide the reader with all the background technical information and understanding needed in order to utilize acoustic sensing and the processing of its resulting data in order to increase the situational awareness of warfighters on the battlefield.

The author’s stated overall goal of the book is to “provide the basics of battlefield acoustics and the issues involved” which will “be useful for practicing engineering students.” In this main objective, the author has been largely successful, though treatment of the topic is at times covered at a rather introductory level and is relatively brief. Note that the book contains twelve short chapters, the first six of which are

each no more than 10–20 pages long, and has a total of 250 text pages in length.

As is detailed below, the topic of battlefield acoustics is covered in this book from a more practical perspective, and the resulting material reads as a somewhat niche and focused application and combination of a number of general technical areas. The book is organized as the integration of a collection of numerous rather disparate technical topics that together encompass the technical areas required for an examination of the use of atmospheric acoustic sensing for increasing battlefield situational awareness. Specifically, particular technical areas to which individual chapters are dedicated include acoustic theory, acoustic sensors and arrays, detection, classification, localization and estimation theory. The author does a good job at both (a) addressing each fundamental topic's particular relationship and unique issues as they relate to the battlefield-specific acoustic sensing application and (b) integrating and "stitching" together the individual topics into a coherent view of the big picture of battlefield acoustic sensing and data processing. However, as stated, some of these technical disciplines are not treated comprehensively or beyond an introductory level.

The first thing noticed by an examination of the book's table of contents is the slightly unusual choice and ordering of the early chapters, at least according to this reviewer. Rather than beginning the book as expected with a particular fundamental science topic (e.g., acoustics), the first four short chapter topics are ordered as follows: Chapter 1 contains a very short introduction to sound waves and different types of microphones, Chapter 2 focuses on probability concepts, Chapter 3 discusses detection theory, and Chapter 4 is dedicated to estimation theory and outlines a variety of common estimator approaches. In fact, the theory of acoustics is not introduced in the book until Chapter 5.

The author does note in the book's preface, however, that readers familiar with these early topics in Chapters 2–4 may "skim or skip" them without negative consequences in comprehension of later chapters in the book.

Chapter 5 of the book, titled "Atmospheric Acoustics," is a surprisingly short chapter of approximately 12 pages, especially considering that this is a book centered on acoustics as its foundational technical element. However, it does at least briefly define and adequately introduce the reader to a number of fundamental acoustic phenomena topics, including sound waves, absorption, reflection, refraction and impedance. In addition, as with later topics, these general acoustic concepts are described with added emphasis given to the specific atmospheric acoustic medium and environment present on the battlefield.

Acoustic sensor arrays are discussed in Chapter 6, including the consideration of both linear arrays and circular arrays used for the detection, classification and/or localization of snipers, mortars, military vehicles, rocket-propelled grenade launchers and detonations, and even personnel. The related topics of acoustic beam forming, wave number transforms, and beam steering are also briefly introduced in this chapter.

The most comprehensive and detailed sections of the book are contained within Chapters 7–12, where the focus shifts strongly toward the numerical processing of battlefield acoustic sensor data for target detection, localization, and classification. Chapter 7 discusses data processing approaches for the bearing estimation of targets using acoustic arrays. In particular, the chapter discusses the calculation of the direction of arrival (DOA) of sound waves received from a sound emitter, which is the critical first step toward achieving target localization, a major goal of battlefield

acoustics situational awareness. Though relatively specialized, the printout of a detailed Matlab code script included in an example at the end of this chapter might be of use to readers interested in the practical programming of the minimum variance distortionless response (MVDR) beamformer algorithm.

The bearing or direction estimates for the target determined using the principles discussed in Chapter 7 are then assembled together in Chapter 8, where target localization and tracking (i.e., target localization at regular time intervals) are covered. Since the bearing estimates frequently contain measurement errors and noise, the majority of the Chapter 8 material following the tracking discussion covers a host of filters including Bayes, particle, and several Kalman filter variants. In a similar vein to the Chapter 7 Matlab beamformer code, Chapter 8 also contains a printout at its end of detailed Matlab scripts for programming basic, extended, and unscented Kalman filters that might be illustrative for certain readers.

Chapter 9, titled "Localization of Transient Events," illustrates the theory and methods of how to localize on acoustic events that are relatively brief and transient in nature. While the information in Chapter 9 is certainly applicable for larger-scale weapon's fire, such as mortar launch and detonation events, the primary focus of this chapter is on sniper rifle fire and on the resulting sniper localization using both single and distributed sets of microphone arrays.

Chapters 10 and 11 together represent a pairing of chapters covering (a) popular classifier algorithms for the classification of targets from a more mathematical/numerical standpoint with (b) consideration of the specific target identity features used in these classifiers (from a physics-based, militarily-focused perspective), respectively. Combined together, the

ultimate goal of this union is the accurate discrimination and classification of both vehicle and human personnel targets, reducing misidentifications (e.g., incorrectly classifying animals as people), lowering false alarm rates, etc. Chapter 12 contains a short, level discussion on the theory and properties of data fusion in the combination of multiple modality sensor data sets in order to provide for more accurate detection, localization, and tracking processes.

This reviewer's examination of this book also brought out a few other, less content-based, impressions worthy of note. First of all, the language and style of writing of the author is very clear, straightforward, and understandable, and is quite well written from a pedagogical perspective. The figures, plentiful throughout the book, are well done, and are very clear and illustrative. In many cases they are printed in color, which is helpful and attractive.

In addition, the book's references to existing literature are of satisfactory quality, condensed into a single list of approximately one hundred located at the book's end, and are liberally cited all through the book. It was noted that a large portion of these references consist of other book titles, rather than technical journal articles, which is expected given the more introductory level of many of the topics covered in this book.

Regarding the author's goal of providing a text suitable for practicing engineering students, this reviewer believes that this book, at least in its first edition form, might unfortunately fall short. First, there are too few examples within the book illustrating the application of the principles and theories covered. There are approximately nine in the entire book, with nearly half the chapters having none. Second, there were none of the homework-type problems usually found at the end of each chapter in most university textbooks. The inclusion of additional worked example problems and homework

questions would definitely strengthen any future edition of this book in this respect.

The strength of this text is in its relatively practical and straightforward approach to describing the application of numerous underlying technical disciplines toward the goal of increasing battlefield situational awareness utilizing improved acoustic data sensing and processing. In addition, though the author has attempted to briefly introduce underlying concepts relative to basic acoustic measurements, such as atmospheric acoustics and acoustic sensors and sensor arrays, the book's biggest strength lies in the later chapters containing the descriptions of the various numerical data processing approaches required for detection, localization, classification, and tracking in the field of battlespace acoustics. The book will likely be of most use to practicing engineers interested in an introduction and broad overview to the battlespace acoustic sensing field. For readers coming to this book from that perspective, it is certainly recommended.

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### ***Vibro-Acoustics, Volume 3, Second Edition***

Anders Nilsson and Bilong Liu  
Science Press, Beijing and Springer-Verlag,  
Berlin Heidelberg, (2016)  
275 pp., hardcover, 79.99 USD,  
ISBN: 978-3-662-47936-0  
eBook, 59.99 USD,  
ISBN: 978-3-662-47937-7

Initially, when this book was given to me for review, I thought that reviewing the third volume without the other two was a mistake. However, once I reviewed it, I found that it can stand alone very well.

There are three volumes in this series. The first two volumes deal with:

- Introduction to basic concepts and mathematical methods of vibro-acoustics
- The basis of vibration, structure-borne sound, and acoustics
- The subjects of vibro-acoustics step by step, from simple one-degree-of-freedom systems to more complex ones
- Illustrations of the fundamental theories with verifications by laboratory and field measurements

The third volume provides problems and solutions for each chapter and serves as both a reference work for researchers and a study text for graduate students. The contents of this book are as follows:

- Part 1: Problems
- Part 2: Solutions
- Part 3: Summary of Results

There are sixteen chapters in Part 1. Each chapter has at least ten problems on fundamentals of acoustics or vibration. The solutions to the problems are given in Part 2. In Part 3, there is a summary of the main results from Volumes 1 and 2 of the series. This last part discusses structural vibrations and acoustics problems and their solutions which serve as the fundamental foundation for most applications, such as dealing with vehicles, ships, interior aircraft noise, and compressor structural vibration.

For undergraduate students, Part 2 of this volume will be helpful for solving the complex vibration and acoustics problems, as well as help in developing an understanding of the concepts for the first time. There are 201 problems with solutions. The more experienced reader can use Part 3 as reference guide to solve more complex real-life problems.

In summary, the approach works well for researchers of all levels of vibro-acoustics since the provided examples cover a full spectrum of applications. This book is effective in weaving those problems

into the examples in order to facilitate a successful application of vibro-acoustics.

I recommend this book because it is an easy reference book to use. *Vibro-Acoustics, V3*, earns a place in my library between my copies of Blevin's *Formulas for Natural Frequency and Mode Shape* and Kinsler et al.'s *Fundamentals of Acoustics*.

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### **Technische Akustik**

Michael Möser  
Springer-Verlag, Berlin Heidelberg, (2015)  
545 pp., hardcover, 119.00 USD,  
ISBN: 978-3-662-47703-8

The 2015 edition of Michael Möser's book on technical acoustics has been published (with the original German title "Technische Akustik") and I have been asked to review it for US readers. The book is written in the German language. Despite my uncertainty about the usefulness of a review of a German book for English readers, I agreed, and here is my review. It is perfect for those readers who know the language.

The book's title has a long history that dates back to Lothar Cremer's textbook on *technische akustik* with its first edition dating from 1971. That first edition was a textbook that was supposed to be used by students parallel to their studies, or by other readers who were interested in the subject. The present edition is called "5th edition" and that includes starting from 1971 with several intermediate editions by L. Cremer and M. Hubert and, since 2002, by M. Möser. One can imagine that this long history and the parallel change of contents of the book represent also the change of topics and methods in technical acoustics being developed and applied over the last forty-five years (with the number of pages increasing from 334 to 545).

Chapters 1 and 2 deal with (human) perception of sound and basics of wave propagation, the latter including details on measurement methods for sound intensity (but nothing else). These two and all subsequent chapters include a final section with some five to ten numerical exercises, of which the correct results are found in an annex.

Chapter 3 covers (airborne) sound propagation and radiation, Chapter 4 treats structure-borne sound (also referencing to Cremer and Heckl's book having the same title), and Chapter 5 describes elastic foundations of machinery and represents rather "practical" aspects. This includes the evaluation of transmission paths and the measurement of the "loss factor."

Chapters 6 and 7 join together to cover sound absorption and the basics of room acoustics. This starts with sound in pipes, measuring of the absorption coefficient in Kundt's tube with single or dual microphones. Practical aspects for real absorber design follow. The chapter on room acoustics just covers "classical" topics and does not address modern numerical methods used for prediction of sound in spaces.

Chapter 8 is on sound insulation, starting from single and double walls, including impact sound transmission and improvement techniques.

Chapter 9 covers muffler acoustics and the various design principles from absorbing to resonant muffler types. The chapter closes with a section on the exact calculation with an arbitrary wall impedance.

Chapter 10 is on assumed "simple things": noise barriers. However, astonishingly, it does not start with data on measured path difference, but recalls the historical basics established by A. Sommerfeld's semi-infinite edge. Results are discussed using stand-stills (screen shots from a movie) from

x-y-plane animations (called "blue movies" in Berlin, due to their blue background).

Chapter 11 discusses electro-acoustical transducers used for airborne sound measurements, including acoustical aspects of "acoustical antennas/cameras" and microphone array techniques.

Chapter 12 is on what is sometimes believed to be the main issue of technical acoustics nowadays: noise control and, in specific, active noise control. It reflects on active noise control measures in enclosed spaces (cars, airplanes) and the stabilization of self-induced oscillations (as can be studied in musical instruments, either blown or using strings).

Chapter 13 covers what Chapter 11 does not include: properties of transducers used for sound reproduction (usually called "loudspeakers"). This includes basic aspects of system theory such as linearity, time invariance, and impulse response, concluded by Fourier's approach with its various aspects.

The final and short Chapters 14 and 15 are on the calculation with levels and on complex pointers followed by the chapter showing the calculation steps and results for the examples at the end of each chapter.

On the whole, the book is recommended for those interested in the fundamentals of technical acoustics. It invites a closer reading—at least some chapters represent an up-to-date status. However, this holds for readers of German, or if there were an English edition available. Finally, my wish is that the Springer editors go for a translation of this modified classical work, even with serious competitors in the English-speaking world.

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## ROCKFON's *Inspired By You* Shares Exceptional Ceiling Designs from around the World

\*News release—[view online](#)—photos available\*

Chicago—ROCKFON® explores the newest global trends in ceiling designs in *Inspired By You: Revealing the Beauty Inside Renovations and New Builds*. This third volume in the series is available free-for-download as a [PDF](#). Throughout the nearly 100-page publication, each article is illustrated with detailed photos and features interviews with the driving forces behind these exceptional projects—architects, acousticians, engineers, and installers.

“Beauty begins with inspiration. It has to be imagined and brought to life. Finding the beauty in a new build or an existing structure, inspired visionaries use ROCKFON’s ceiling systems as an active element to create surprising rooms with outstanding acoustics and a comfortable indoor climate,” said Chris Marshall, ROCKFON’s vice president of marketing



and business development. “We are honored that the high-quality appearance and performance of our ceiling products make them a popular choice for the world’s most interesting architectural projects. We are delighted to share our customers’ success stories as they set new benchmarks of acoustic control and aesthetic invention.”

Throughout this edition of *Inspired By You*, QR codes link readers to videos showcasing a full 360-degree experience of five project success stories about:

\*[Emma Children’s Hospital in Amsterdam](#)—using ROCKFON’s ceiling products to emphasize natural light and a clean, bright appearance, the architects designed a healthy micro-city for kids.

\*[Sørlandssenteret](#), Norway’s largest shopping center—helping the design team create a comfortable experience that promotes sales, ROCKFON ceiling panels optimize light and acoustics in a continuous white ceiling.

\*[Novo Nordisk headquarters](#) in Denmark—accentuating its organic curves and reducing vibration in the large atrium, ROCKFON products offered the flexibility needed for the spiral shape that connects the office and exemplifies its culture.

\*[Arts et View swimming pool](#) in France—providing a peaceful atmosphere with no resonance, the architects relied on ROCKFON’s corrosion- and humidity-resistant products.

\*[Lyceum Schravenlant school](#) in the Netherlands—following environmentally



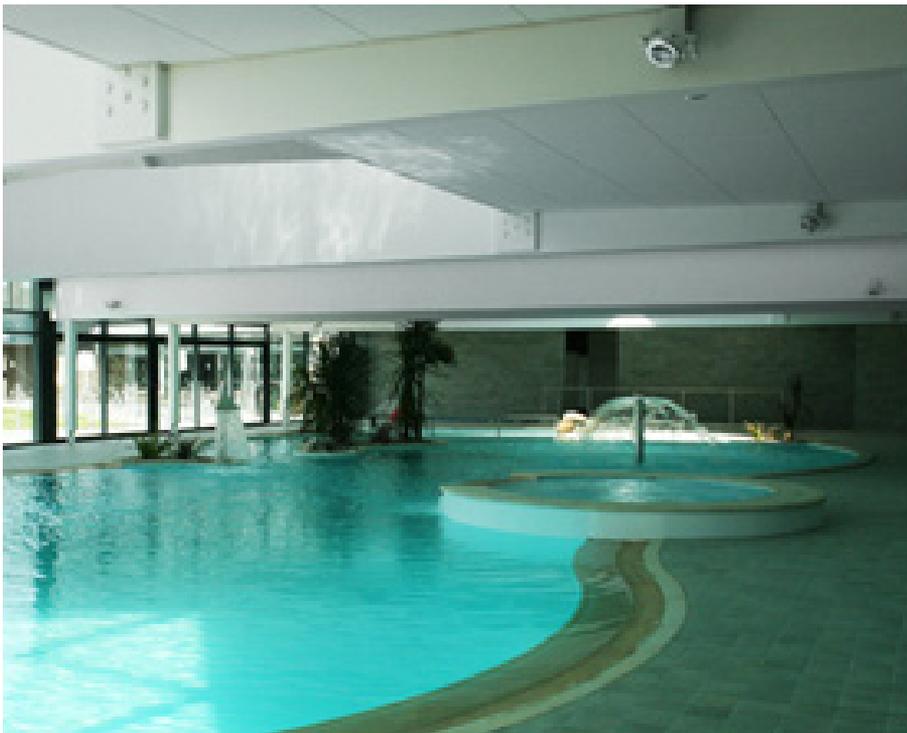
# Product News



responsible practices and using ROCKFON's sustainable products, this is the country's first school designed in line with cradle-to-cradle principles.

These five project featurettes also are viewable on ROCKFON's [YouTube channel](#), along with more videos sharing ROCKFON's processes and products. *Inspired By You: Revealing the Beauty Inside Renovations and New Builds* can be downloaded from the Tools & Documentation section at <http://www.rockfon.com>. Select "Rockfon Group" and click "Brochures" to gain access to not only this publication, but also to ROCKFON's new catalog, previous editions of *Inspired by You*, case studies, technical articles, and more. For additional information, please email [cs@ROCKFON.com](mailto:cs@ROCKFON.com) or call 800-323-7164.

Follow the links to [view online](#), to download a PDF of the [publication](#), and to download photos of [Emma Children's Hospital](#), [Sørlandssenterest shopping center](#) and [Arts et View swimming pool](#). After the image loads in your browser window, "right click" or "control s" to save to your desktop. Additional images are available by request.



## ROCKFON Breaks Ground on Its First North American Acoustic Ceiling Panel Manufacturing Facility

*\*News release—[click to view online](#)\**

*From left to right, those pictured are:*

*Keith Taylor—President of Marshall*

*County Board of Supervisors*

*Thomas Kähler—Senior Vice President,*

*Head of Systems Division, The*

*ROCKWOOL Group*

*John Medio—President of Americas,*

*ROCKFON*

*Philip Gunn—Speaker of the Mississippi*

*House of Representatives*

*Jens Birgersson—President and CEO, The*

*ROCKWOOL Group*

*Trent Ogilvie—President, ROXUL*

Chicago—On March 16, **ROCKFON®**

LLC hosted a celebration event for the

groundbreaking of its first North American acoustic ceiling panel manufacturing facility, under construction in Marshall County, Mississippi. ROCKFON is the leading supplier of stone wool acoustic solutions, a subsidiary of Denmark-based ROCKWOOL® International A/S and an affiliate to ROXUL® Inc.

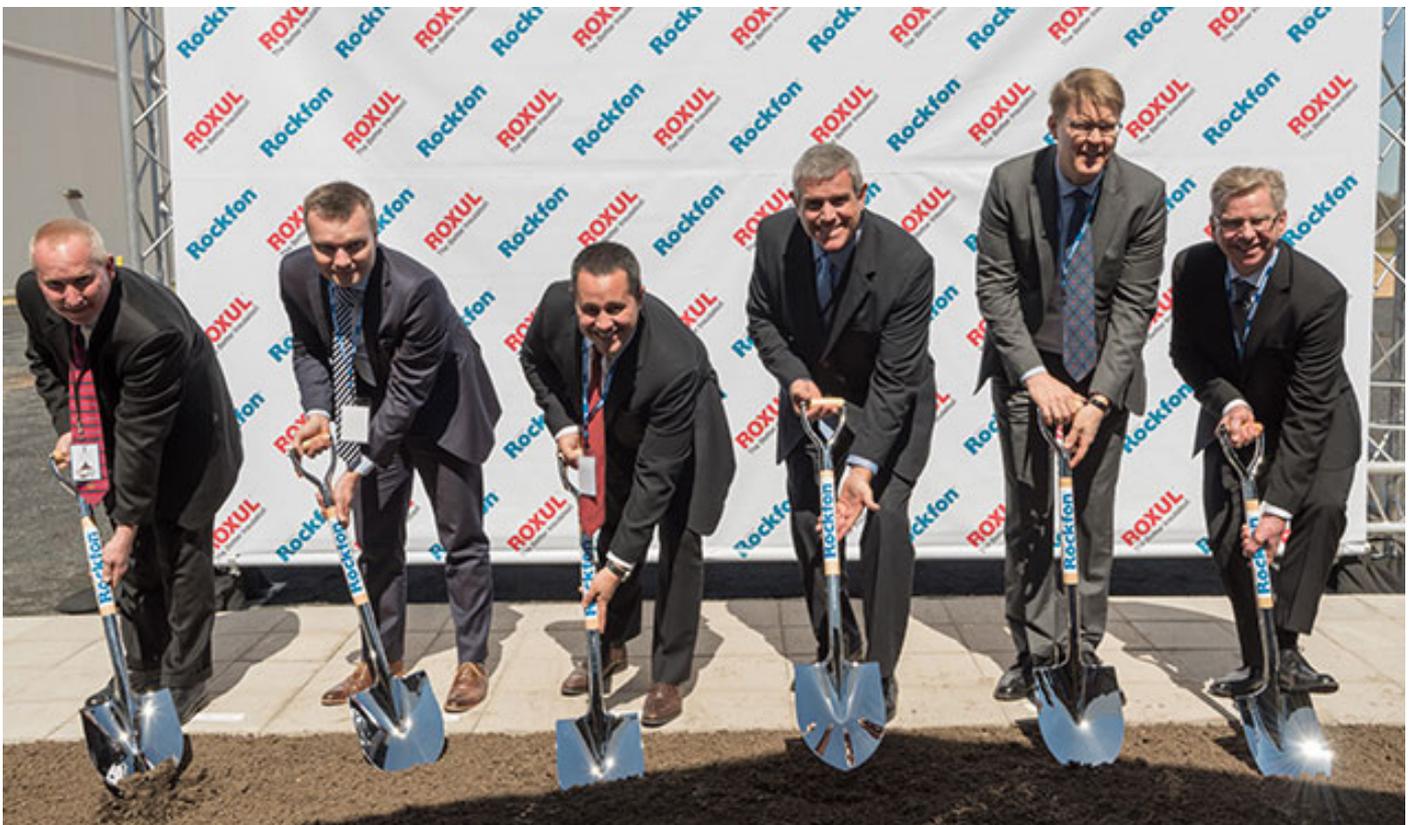
Company leaders from ROCKFON, **ROCKWOOL** and **ROXUL** were joined at the construction site by Speaker of the Mississippi House of Representatives, Philip Gunn, in addition to ROCKFON customers, and other leaders from the community, company and industry.

The Mississippi facility will be ROCKFON's fifth manufacturing facility in the world, extending global capacity and meeting the growing demand for ROCKFON's stone wool acoustic ceiling products in North America. The new facility represents

an initial investment of approximately \$40 million US dollars (€36 million) by ROCKWOOL.

"The investment in this new facility demonstrates the strong commitment of our company to support the North American market, and of the State of Mississippi and Marshall County to support economic development in the area," said John Medio, ROCKFON's president of the Americas.

"Today is a great day for Marshall County as ROCKFON prepares to begin construction of its new acoustic ceiling tile facility. Once complete, the company's significant investment and creation of 90 new jobs will have a strong positive effect on the local community and economy," said Mississippi Governor Phil Bryant. "I congratulate the ROCKFON team and everyone involved in



# Product News

bringing this great company to Mississippi on this milestone event.”

Located approximately 31 miles (50 km) from Memphis, Tennessee, the new ROCKFON facility in Marshall County will span 130,000 square feet (12,000 square meters) with room for future expansion. Production is expected to begin mid-2017. ROCKFON's new manufacturing facility in Mississippi, and its strategically positioned US distribution centers, will provide for comprehensive coverage and servicing of the North American market.

In North America, ROCKWOOL operates under the name ROXUL. ROXUL has been in North America since 1988. ROCKFON's new facility will be adjacent to ROXUL's existing facility in Marshall County, which manufactures its full line of residential, commercial, industrial, and roof board products.

ROCKFON has been operating in North America since January 2013. With the acquisition of Chicago Metallic® in October 2013, ROCKFON provides customers with a complete ceiling system. Its product offering combines ROCKFON stone wool and specialty metal ceiling panels with Chicago Metallic suspension systems.

The new facility in Mississippi will manufacture ROCKFON stone wool acoustic ceiling products. ROCKFON will continue to manufacture its specialty metal ceiling panels and Chicago Metallic suspension systems in its Chicago and Baltimore facilities. Chicago Metallic suspension systems are also manufactured in Belgium, Malaysia, and China. ROCKFON's other stone wool manufacturing facilities are located in the Netherlands, Poland, France, and Russia.

ROCKWOOL has more than 11,000 employees in 35 countries and is listed on the NASDAQ OMX Nordic Exchange Copenhagen. ROCKWOOL International [confirmed plans](#) for its



North American acoustic ceiling panel manufacturing facility in the United States on the Copenhagen stock exchange on November 19, 2015.

*Follow the link to download a photo of the [groundbreaking event](#). After the image loads in your browser window, “right click” or “control s” to save to your desktop.*

*\*News release—[view online](#)—photos available—Exhibiting at AIA in booth #3817\**

## **ROCKFON Introduces Optimized Acoustics**

Chicago—The ROCKFON Group announces [Optimized Acoustics™](#), an easy approach to meeting both the sound absorption and blocking criteria of today's commercial interiors, with the style of a smooth-finished ceiling system, while keeping on budget.

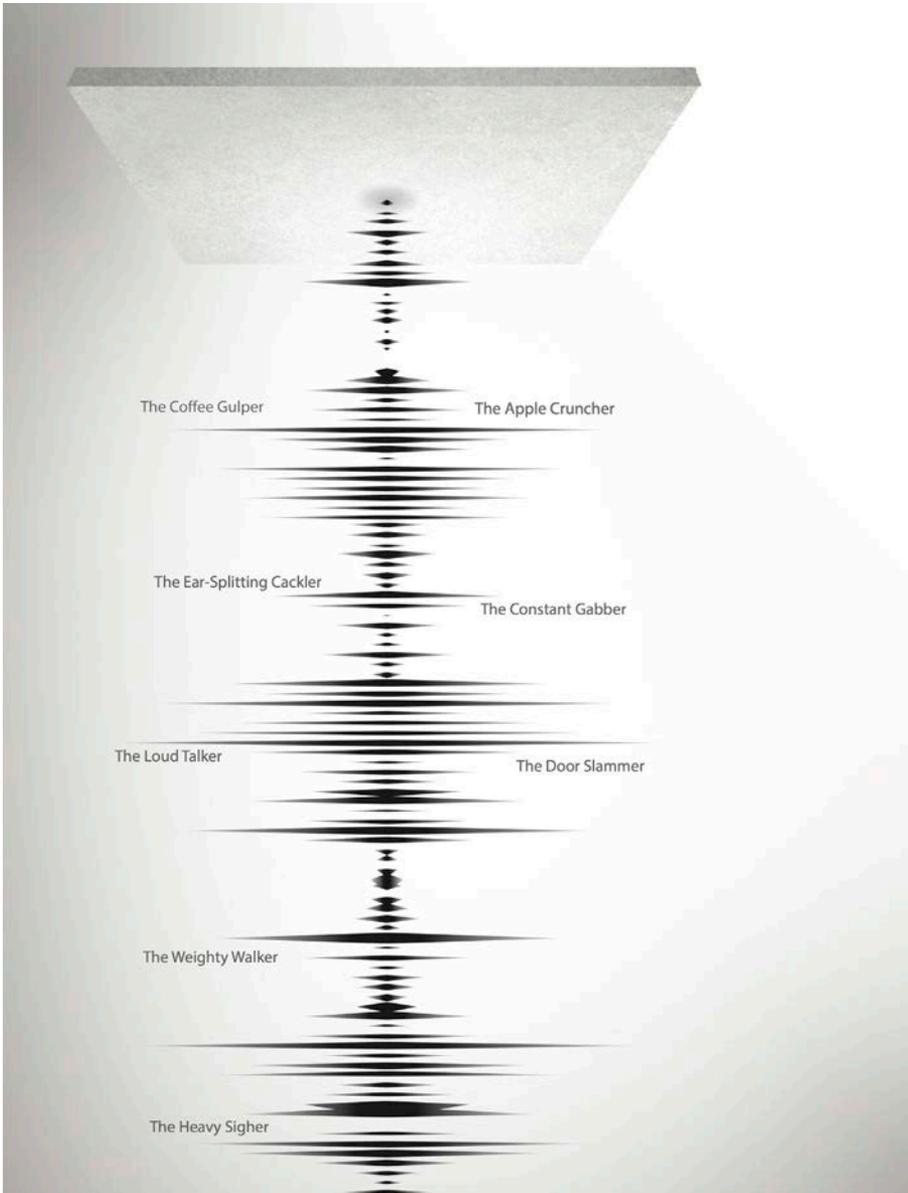
“There is a misconception that ceilings alone can block sound between rooms when the wall does not extend up higher than the ceilings. The reality is that most modular, acoustic ceilings by themselves do not have enough mass to block sound effectively,” explains Gary Madaras, PhD, Assoc. AIA, acoustics specialist at the

ROCKFON Group. “Building standards and guidelines are evolving with more stringent acoustic requirements. Ceiling Attenuation Class (CAC), which indicates a ceiling's ability to block sound, is no longer a part of most acoustic standards, guidelines and building rating systems.”

Madaras continues, “ROCKFON's approach is simple: Select a ceiling system to optimize absorption and where needed, use walls or plenum barriers to effectively block sound between rooms. This approach results in designs that comply with current standards and achieve the best sound experience at the best price.”

Supporting this thoughtful approach, [OptimizedAcoustics.com](#) serves as a digital hub of educational resources and tools on acoustical performance and ceiling systems. Visitors explore paths highlighting acoustic considerations for form and function, myths and truths, as well as technical descriptions, product selection metrics, and benefits for occupants and owners.

Demonstrating the positive effects of optimized acoustics, attendees at the American Institute of Architects (AIA) Expo in Philadelphia, May 19–21, are invited to



**booth #3817** for a hands-on experience and listening demonstrations. As part of a 15-minute AIA Expo Chat, participants can earn 0.25 Learning Units (LUs) toward their continuing education credits.

The ROCKFON Group offers an extensive portfolio of ceiling systems for optimizing the acoustic experience of commercial interiors, including sound-absorbing ceiling panels, baffles and islands. To learn more about Optimized Acoustics, acoustic ceiling products, successful projects, continuing education courses, and other architectural and technical support,

please email [cs@rockfon.com](mailto:cs@rockfon.com), call 800-323-7164, or visit [OptimizedAcoustics.com](http://OptimizedAcoustics.com).

*Follow the links to [view online](#) or to download [Word document](#), [Image 1](#) and [Image 2](#). After the image loads in your browser window, "right click" or "control s" to save to your desktop.*

#### **About ROCKFON**

*ROCKFON® is a leading provider of acoustic stone wool and metallic ceiling solutions and suspension systems.*

*With the acquisition of Chicago Metallic®, ROCKFON provides customers a complete ceiling system offering combining ROCKFON stone wool and specialty metal ceiling panels with Chicago Metallic suspension systems.*

*ROCKFON complete ceiling systems are a fast and simple way to create beautiful, comfortable spaces. Easy to install and durable, they protect people from noise and the spread of fire while making a constructive contribution towards a sustainable future.*

*ROCKFON is a subsidiary of Denmark-based ROCKWOOL International A/S, the world's largest producer of stone wool products. The ROCKWOOL Group has more than 11,000 employees in 35 countries and is listed on the Nasdaq Copenhagen stock exchange. In North America, the ROCKWOOL Group operates under the name ROXUL.*

*For more information, visit [www.rockfon.com](http://www.rockfon.com).*

*Media Contact: Heather West, 612-724-8760, [heather@heatherwestpr.com](mailto:heather@heatherwestpr.com)*

#### **Scantek, Inc.**

#### **NEW! SoundEar Noise Guide for Open Office Space**

The Jabra Noise Guide by SoundEar is ideal for measuring noise levels in an open office space. Its soundear display and bottom light provide immediate visual alerts from instantaneous noise levels. Included software is used for a quick configuration of sensitivity or for level vs. time history review from one or several units located throughout an entire office environment. [More...](#)

#### **CadnaR Version 2.4 Available Now**

New version of DataKustik's CadnaR state-of-the-art software for calculation and



assessment of interior noise is now available with a list of new features, including:

- New Polymesh object for the creation of complex surfaces
- Automatic configuration settings for particle calculations
- Generate enveloping surfaces to verify the Sound Power Level of Machinery
- New import formats ASCII-Objects and ASCII-Spectra
- New Option SET for the calculation of Sound Power Levels based on technical parameters of sources

For more information, please visit [DataKustik's website](#).

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### **Visit Scantek's Booth at the 2016 NoiseCon Conference and Exhibit**

Scantek will be exhibiting the latest sound and vibration measurement instrumentation and software at the 2016 NoiseCon Conference and Exhibit in Providence, RI, during June 13–15. Stop by Scantek's booth in the exhibit area for a demonstration of the latest instrumentation and software.

Please [click here](#) for more information on NoiseCon 2016.

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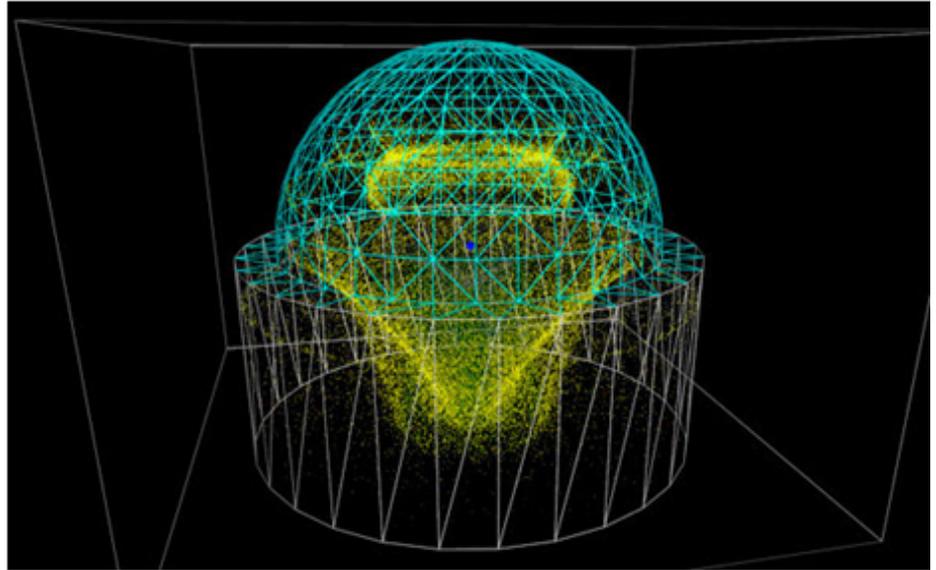
### **CadnaA Training Seminars**

DataKustik has released its CadnaA training seminar schedule for the United States and Canada. This is an excellent opportunity to learn about the various features and extensions of CadnaA. Several relevant topics will be covered in small groups and individual questions will be addressed. Expert knowledge will be provided in a way that effective qualification is ensured.

For more information, including registration, click [here](#).

## About Scantek

Scantek, Inc. is a worldwide leader in sound and vibration instrumentation sales, service, rental and calibration. Scantek sells, services, and rents the finest products and provides expert support on their use. The Scantek Calibration Laboratory is accredited for microphones, calibrators, sound level meters, dosimeters, sound and vibration FFT and real-time analyzers, preamplifiers and signal conditioners, accelerometers, velocity sensors, vibration meters and vibration exciters. Scantek, Inc is a wholly owned subsidiary of Norsonic AS. 



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# INCE-USA Is Seeking an Editor for *Noise Control Engineering Journal (NCEJ)*

*In 2017, INCE-USA will have an open position for the editor of the Noise Control Engineering Journal. INCE-USA is seeking to fill this position with an individual who will continue the tradition of excellence that NCEJ has enjoyed in the past years and will continue to meet the challenges facing the journal as it moves into the twenty-first century. NCEJ has recently transitioned to electronic format and has continued to expand in content while maintaining quality. The next major challenge is increasing circulation of the journal within the international noise control engineering community.*

*NCEJ*, the archival journal of INCE-USA, is an international journal serving the noise control community. It covers such aspects of noise control engineering as product noise and sound quality, community noise, industrial noise, and noise policy. It serves as the premier channel for the dissemination of data from leading-edge research, practice, and experiences in all aspects of noise control engineering (NCE). The primary objectives of *NCEJ* are to publish high-quality papers in NCE and to stimulate and track advances in NCE and present these advances in a form that can be useful to a broad cross-section of the professional community, ranging from academic researchers to noise control engineers and acoustical consultants. *NCEJ* serves a broad readership by providing a unique combination of technical papers, research articles, reviews, case histories, technical notes, tutorials, and good-practice approaches.

Dr. Courtney Burroughs, editor since 2005, has asked that INCE-USA search for a successor. Dr. Burroughs oversaw several innovations to the journal, including the transition to digital format and the establishment of a new Asia-Pacific *NCEJ* editor position. He provided exceptional organizational skills, leadership, and dedicated stewardship to the journal. It is important for INCE-USA to fill the position with an individual who will continue this tradition of excellence and strong leadership.

The editor of *NCEJ* is expected to play a leading role in shaping the future of *NCEJ* and to have a significant impact and interest in INCE-USA, International INCE (I-INCE), and the field of noise control engineering. The budget available from INCE-USA for the editor will cover the cost of the editor attending meetings, conferences, and expositions sponsored by INCE-USA and I-INCE. The *NCEJ* editor determines the content of each issue and is responsible for the maintenance of high scientific standards.

**The four major responsibilities of the editor include:**

1. Manuscript Management
  - a. Manage and oversee the activities of manuscript receipt, processing, peer reviews, and disposition. This also may involve periodic review and enhancement of editorial structure.
  - b. Select reviewers who will respond in a timely fashion.
  - c. Communicate with the authors and peer reviewers.
  - d. Manage the manuscript-review process, and guide the authors in ensuring publications that maintain our high standards.
  - e. Coordinate with the publisher and the digital library provider.
  - f. Support the year-end volume publication.
2. Solicitation of Papers and Articles for Publication
  - a. Actively solicit high-quality manuscripts from potential authors.
  - b. Seek opportunities for review articles and other special initiatives.
  - c. Solicit papers for publication based on the presentations at the annual meeting of INCE-USA and I-INCE.
  - d. Generate ideas for special issues, and solicit guest editors to develop special issues.
3. Interaction with INCE-USA and Other Organizations
  - a. Coordinate the activities and interests of the journal with those of INCE-USA.
  - b. Attend INCE-USA board-of-directors meetings (two per year) to report on *NCEJ* activities.
  - c. Maintain contact with other journals and with authors and reviewers.
  - d. Represent *NCEJ* at professional meetings and conferences, as appropriate.
  - e. Oversee efforts of the Asia-Pacific editor of *NCEJ*.

#### 4. Other Duties

- a. Work closely with the publications advisory board and publications committee chair.
- b. Provide a clear focus through promotion of a personal vision where appropriate. This task may involve development of new initiatives to increase the appeal of *NCEJ*.
- c. Develop annual reports.
- d. Resolve conflicts or problems as necessary and perform other related duties incidental to the work described herein.

The *NCEJ* editor provides regular reports on journal and editorial activities to the INCE-USA Publications Advisory Board. The *NCEJ* editor is also an ex-officio member of the Board of Directors (BoD) and is required to attend the two meetings of the BoD of INCE-USA each year.

Key qualities of the *NCEJ* editor include a good understanding of the current and emerging technologies and familiarity with the needs of industry, academia, and government for noise control engineering. Candidates for the *NCEJ* editor should be successful investigators with a strong publication record, should have broad knowledge of the field of NCE, and should be internationally recognized experts. The applicant should have a vision of how to continue to improve the journal with successful innovation. Previous editorial and management experience, as well as past efforts on behalf of *NCEJ* and INCE-USA, will be given consideration in the selection process. Strong organizational and communication skills are essential.

If you are interested in this position, please contact the chair of the search committee by submitting your application. Alternatively, if you know of someone who might be or could be interested in filling this position, please send your nomination to the chair of the search committee by e-mail, including a brief biography of the potential candidate's qualifications. (Unless requested, the identity of the nominator will not be revealed to the candidate.) Review of applications will begin as soon as possible until the position is filled. INCE-USA is planning to fill this position by or before April 1, 2017. There will be a transition period prior to the April 1 starting date. The *NCEJ* editor is normally appointed for a three-year term based on the INCE-USA fiscal year.

#### The application package should at a minimum consist of:

- A full curriculum vitae highlighting qualifications, research publications, past editorial experience, other professional experience, and organizational and management skills.
- A one-page statement of interest outlining the approach that will be taken as the *NCEJ* editor, including goals for content, target readership, review acceptance criteria, and editorial policy.
- A one-page statement of the applicant's long-range vision for the journal, to include but not be limited to the present status of the journal, the vision for the journal's structure and organization, opportunities for growth and enhancement, plans for special issues, plans to attract high-quality papers and to publicize *NCEJ* in the professional community, and plans and resources to achieve these goals.

A budget for the services to be provided can be negotiated. A letter from the applicant's employer may be required to indicate the employer's agreement to support the applicant in carrying out the duties described previously. This letter is particularly important for applicants from academic and nonacademic organizations.

The search committee will review all applicants beginning February 28, 2016. Selected candidates may be contacted after the initial review and asked to provide more details about goals and new initiatives for the journal and a draft budget covering a three-year period, including reimbursement for the labor of the editor and any support staff as well as estimated costs for anticipated travel and office expenses. The search committee will interview finalists before making a recommendation to the INCE-USA BoD; the INCE-USA BoD will make the final decision.

The search committee requires all curricula vitae and letters of application be submitted by email as PDF attachments to the chair of the search committee:

Teik C. Lim  
Chair, *NCEJ* Editor Search Committee  
INCE-USA Business Office  
12100 Sunset Hills Road, Suite 130  
Reston, VA 20190  
[E-mail: ibo@inceusa.org](mailto:ibo@inceusa.org)

#### The search committee consists of:

- Teik C. Lim, Chair
- Joe Cuschieri
- Jim Thompson
- Gordon Ebbitt
- Rick Kolano
- Dave Herrin
- Steve Conlon
- Yang-Hann Kim 

# International Representatives

Below is a list of international contacts for the advertisers in this issue. The telephone number is followed by the fax number where available. In cases where there are two or more telephone numbers per location, or several locations within a country, a semicolon (;) separates the telephone number(s) from the respective fax number. Advertisers are asked to send updated information by e-mail to [cathy@inceusa.org](mailto:cathy@inceusa.org).

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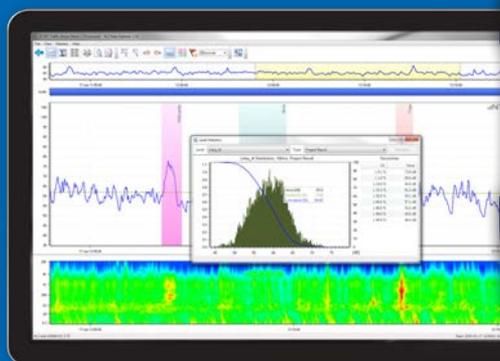
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<i>Head Acoustics</i> .....	Inside Front Cover
<i>G.R.A.S. Sound and Vibration</i> .....	3
<i>Scantek, Inc.</i> .....	4
<i>Odeon</i> .....	5
<i>BSWA Technology</i> .....	11
<i>INTER-NOISE 2016</i> .....	12
<i>Buy Quiet 2016</i> .....	13
<i>Campanella Associates</i> .....	16
<i>Rion Co</i> .....	27
<i>NTI Audio</i> .....	32

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*Noise Control in Buildings*, by Cyril M. Harris