

NOISE/NEWS

INTERNATIONAL

Volume 24, Number 1
2016 March

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

■ **Special Feature: Where We Go From Here to Engineer a Quieter America**

■ **INCE-USA has a new president!**

■ **Get all the details on INTER-NOISE 2016**

■ **Learn about exciting changes for the future of *Noise/News International***

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NOISE/NEWS

INTERNATIONAL

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

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

Introduction and Thanks from the New INCE-USA President

The baton has once again been passed to a new president of INCE-USA. Like many before me, I humbly accept the honor and responsibilities of serving as the leader of the institute. I'm only beginning to recognize the large shoes that have been left by my immediate predecessor, **Gordon Ebbitt**, who has done an exceptional job carrying the baton and leading our institute.

One of Gordon's greatest achievements has been to oversee the selection of a new management firm to serve as the INCE-USA Board Office (IBO), and then to steer the transition from the prior firm and set up arrangements that work better, more efficiently, and smoother. Gordon had help in this ordeal from a most capable executive director, **Joe Cuschieri**, as well as numerous others who helped in the IBO selection process and in bringing the new IBO up to speed in what INCE-USA does and how we do it. But I can see that much of the hard work on this transition has been done, and that we are in the capable hands of **Cathy Vail** and **Paulette Almond** of the Drohan Management Group. I look forward to working with them and appreciate their support as I launch into this new and exciting role as president.

I also look forward to the guidance and experience of numerous INCE-USA officers that we are blessed to have filling our ranks. These include **Gordon Ebbitt** as past president, **Eric Wood** as past-past president, **Karl Washburn** as secretary, **Dean Jaeger** as treasurer, **Mike Bahtiarian** as VP of board certification, **Steve Sorenson** as VP of membership, **Jeff Fullerton** as VP of honors and awards, **Charlie Moritz** as VP of public relations, **Teik Lim** as VP of publications, **Paul Burge** as VP of board affairs, and **Bryce Gardner** as VP of conferences. Two of these VPs, Mike and Charlie, have also taken on the added burden of chairing the upcoming Noise-Con and INTER-NOISE conferences, respectively.

We also have two fresh new faces to join our officer ranks: **Gabriella Cerrato** will serve a three-year term as VP of technical activities, and

Yong-Joe Kim will serve as VP of student activities and education. Welcome, Gabriella and Yong-Joe!

There are also numerous people who do not hold officer positions and yet continue to provide the Institute with exceptional service and support that keeps it dynamic. These include **Joe Cuschieri**, **Jim Thompson**, **Courtney Burroughs**, **Patricia Davies**, **Stuart Bolton**, **Paul Donovan**, **Rich Peppin**, **Steve Marshall**, and **Mike Lucas**. I owe each of you my gratitude for giving me the positive feedback and encouragement that has helped me stay involved in INCE-USA all these years.

Our board of directors is elected by and represents our membership, and is responsible for deciding the direction of our institute's "ship." Current INCE-USA board members include **David Copley**, **David Herrin**, **Rob O'Neil**, **Hether Fedullo**, **Judy Rochat**, and **Mark Storm**. I look forward to working with each of you and addressing the challenges that face our institute.

In addition, I welcome newly elected board members **Dana Lodico**, **Andrew Barnard**, and **Rich Peppin**, who start three-year terms, and **Steve Conlon**, **Paul Donovan**, and **Sanghoon Suh**, who have been elected by the board to fulfill year-long positions.

And I wish to thank outgoing board members **Beth Cooper**, **Steve Conlon**, and **Steve Marshall** for their years of service and contributions. I look forward to their continued service to the institute.

I look forward to working with all of you to keep the ship upright and headed in the right direction. And while the institute has every appearance of being headed in the right direction, there are nonetheless challenges that we face, as well as opportunities to improve the value, strength, and prestige of our organization.

May God grant me the wisdom, strength, and endurance to guide my leadership and service in ways that maintain the strengths and yet go beyond the weaknesses of this truly outstanding organization. 🙏



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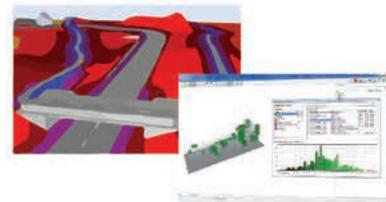
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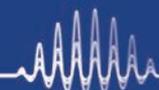
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A New Format for *Noise/News International*



Jim Thompson,
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In this column a few issues ago, I asked for input on how we might change the format of *Noise/News International (NNI)* to make it more useful for readers today. We at the Institute of Noise Control Engineering of the USA (INCE-USA) felt it was time to consider updates to increase the value of *NNI*. Based on the input received and on discussions with the leadership of INCE-USA and the International Institute of Noise Control Engineering (I-INCE), we have been working on a new format for *NNI*. We think this new format will provide greater value and ease of use.

NNI will be moving to a blog-style format that will be available for the first time with the June 2016 issue. This format will not require the reader to download a large PDF document. Instead *NNI* will be available as a website with many of the same features and information you have grown accustomed to in the PDF version. Readers will still be able to print or download articles or portions of the site that are of interest to them.

The PDF format has served *NNI* well for many years. However, the switch to the blog format allows many upgrades to the manner of conveying the latest international noise control information to *NNI* readers.

One of the major benefits of changing to this new format is the ability to quickly add or modify information on the site. With the new blog format, our readers will get the very latest information as and when it is available; readers will not have to wait for the next quarterly issue to be released.

During 2016 *NNI* will move from a quarterly publication schedule to monthly or more frequent

updates, as appropriate. It will be extremely convenient for our readers to go to the site and quickly see the latest updates and timely news. Our readers will be able to depend on the *NNI* site to give them the most up-to-date information on noise control whenever they wish to visit the site.

This new format will also allow the reader to quickly scan for information of interest and to access this information quickly. In the words of our design team, "The way our readers consume content is changing, and with more and more content being consumed from mobile devices, a rethink on the way we deliver it is in order. For example, viewing the traditional PDF format on a mobile device has many limitations; readers have to constantly zoom in, which can be frustrating. Our new strategy will allow our content to be delivered and viewed in the correct format on any device."

The new format will also make it much easier to provide links to relevant references and supporting information. Additionally, should they wish to do so, readers will be able to share information via all major social media channels with a few simple clicks.

There will be further communications to INCE-USA and I-INCE members to provide access information as we move closer to the June release of this new version. Do not be concerned: *NNI* will remain free of charge and available to all who are interested in noise control.

I look forward to receiving your feedback on the new format and your suggestions for topical information that we might include on the site. 

Slovak Acoustical Society (SKAS)

The Slovak Acoustical Society (SKAS), a nonprofit organization of professionals who are active in the interdisciplinary field of Acoustics, was founded in 1991. In 1993 the society joined the scientific societies of the Slovak Academy of Sciences (SAV).

The mission of this society in the Slovak Republic is to contribute to and help in preserving the optimum development of the interdisciplinary field of acoustics. One of the organization's objectives is to organize national and international conferences, professional seminars, symposia, lectures, consultancy days, and other professional events for its members and for employees of public health-care systems and public services.

SKAS is a member of the European Acoustical Association (EAA), International Commission for Acoustics (ICA), and International Institute of Noise Control Engineering (I-INCE).

Technical Sections and Their Spheres of Interest ***Building and room acoustics—*** ***managed by Monika*** ***Rychtáriková***

This section focuses on activity in the field of building, urban, and room acoustics; design, assessment, and measurement of building acoustic parameters of building structures; and acoustic modeling and measurement in the field of room acoustics.

Physical acoustics—managed ***by Peter Hockicko***

Activities of this section are focused on fundamental physical and acoustical processes and how they are utilized in developing novel techniques and products. Other activities are oriented toward promoting the importance of acoustics in educational process through nontraditional approaches.

Musical instruments ***acoustics—managed by Anna*** ***Danihelová***

The work of this section is focused on the research in musical instruments and on the design of new materials and technologies in making musical instruments. The aim of this section is to obtain the relevant information about the relevant properties of material (mainly wood) for special purposes (musical instruments) and to study their influence on the acoustical quality of musical instruments.

Hygienic and legislative ***aspects of noise and*** ***vibration—managed by Milan*** ***Drahoš***

Activities of this technical section are specialized into the study of the influence of noise and vibrations on people's health. Activity is focused mainly on measuring noise and vibration in the environment and workplace. This section offers professional consultations judging the influence of noise and vibration on people's health. This section prepares proposals on the reduction of noise and vibration levels and organizes special courses, seminars, and consulting days in accordance with the topics mentioned above. This section also cooperates with the Public Health Authority of the Slovak Republic (PHA SR) over legislative proposals about protecting public health from the effects of noise and vibration.

Technology of noise and ***vibration control—managed*** ***by Stanislav Žiaran***

This section's activities are in the field of noise, mechanical vibration, shock control, vibrodiagnostics, and condition monitoring. They include the definition of terminology; methods of vibro-acoustics phenomena measurements and their excitation, transmission and perception methods; methods of noise and vibration control; excitation of vibration and shocks by

machines, machinery, mechanical systems, and so on; elimination and reduction of noise, vibration, and shock control by means of vibro-acoustic diagnostics, vibroisolation, sound isolation, and damping; methods for devices of measurements and calibration; and methods of testing.

Annual Conferences

SKAS annually organizes two local conferences:

1. International Acoustic Conference: Noise and Vibrations in Practice, in Kočovce, Slovakia
2. International Conference: Material-Acoustics-Place, in Zvolen, Slovakia

An international acoustical conference is organized by the society every four years. The website for the international conference is <http://www.acoustics.sk>.

Management of the Slovak Acoustical Society

- Anna Danihelová, president of the Slovak Acoustical Society
- Branko Brodniansky, vice-president of the Slovak Acoustical Society
- Martin Čulík, executive secretary of the Slovak Acoustical Society

Other Activities

Members of the Slovak Acoustical Society (including Stanislav Žiaran, Anna Danihelová, and others) take part in the process of adopting international standards. Juraj Stein takes an active part in the Working Group 9 seating within the CEN/TC231. Our members often participate in international interlaboratory comparative measurements of sound calibrators and acoustical interlaboratory tests of noise generated by different sources (TSU Piešťany). Many of the members teach acoustics at universities.

The website of the Slovak Acoustical Society is found at <http://www.skas.sk>. 

Where We Go From Here to Engineer a Quieter America

William W. Lang and George C. Maling Jr.

1. INTRODUCTION

To engineer a quieter America requires action by engineers in private industry, consulting firms, government, academe, and professional societies. Public pressure must also be a driving force. Interactions with government agencies, including regulatory bodies, are necessary to develop a comprehensive national noise policy. This requires a multitude of interactions with federal, state, and local governmental regulatory authorities, as well as the US Congress. A national noise policy, were it to be formalized, would incorporate and supersede the noise policies of all of those regulatory bodies, as well as other agencies with noise policies, and would be approved by the Congress. There has been no successful effort to create a comprehensive national noise policy for more than four decades.

A comprehensive noise policy would apply to environmental noises to which the public is exposed and to the high levels of noise to which workers are exposed in many workplaces. An important tool for implementing a noise policy would be to reduce the levels of noise emitted by sources by means of engineering. This tool has also been criticized as being, in many cases, too impractical and too expensive.

More than twenty thousand papers have been presented at past INTER-NOISE congresses, many funded by governmental agencies, but few are dedicated to the development of a noise policy either on a local or national scale.

The authors of this paper have a vision of a program for the twenty-first century to

develop and implement a national noise policy—to examine the environmental and workplace noise situations in America in their many facets and to foster a cooperative effort for the control of noise between regulatory and other agencies in developing uniform noise policies for all states and local administrations in America.

2. SETTING THE STAGE (2000–2010)

In the first years of the twenty-first century, the situation surrounding the rejuvenation of noise policy in America became clearer and clearer. Today America does not have a single noise policy, but rather a plethora of noise policies, most of them uncoordinated and many contradictory.

The development, formulation, and implementation of America's noise policies are currently the responsibility of a dozen federal departments and agencies, as well as the corresponding departments and agencies of the fifty states and the local authorities, administrations and municipalities. Each is implementing a noise policy within its jurisdiction or area of responsibility, under the mandate it has received from its governing authority.

Following is a short list of many of the agencies and departments of the federal government that are involved with noise:

- Federal Aviation Administration (Department of Transportation)
- Federal Highway Administration (Department of Transportation)
- Federal Railroad Administration (Department of Transportation)

- Federal Transit Administration (Department of Transportation)
- Occupational Safety and Health Administration (Department of Labor)
- National Institute of Occupational Safety and Health (Department of Health and Human Services)
- Mine Safety and Health Administration (Department of Labor)
- General Services Administration (Public Buildings Service)
- National Park Service (Department of the Interior)
- Department of Housing and Urban Development
- Department of Defense
- US Army (Department of Defense)
- US Navy (Department of Defense)
- US Air Force (Department of Defense)
- US Coast Guard (Department of Homeland Security)

None of these has the role of “lead agency,” with the result that there is very little coordination among the agencies at the federal level or between the federal level and the state and local agencies. In the late '60s, the '70s, and the early '80s, America led the world with its noise policies. However, with the closing of its Office of Noise Abatement and Control, the US Environmental Protection Agency made the decision in the early '80s not to fulfill its coordinating role for the federal agencies, as required by the US Code, 42USC65. America soon lost its leadership position in the world, and it has been drifting ever since without a cohesive national policy.

Consider the following categories of noise for which policies should be reexamined:

- Occupational noise—unwanted sound in the workplace, indoors or outdoors, caused by sources in or in the vicinity of the workplace
- Environmental noise—unwanted sound in a nonoccupational setting
- Consumer and industrial product noise—unwanted sound radiated by a noise-producing product

In America there are groups of people concerned with occupational noise and other groups concerned with environmental noise. Those concerned with occupational noise are physiologically oriented—audiologists, medical personnel, and physiologists. Those concerned with environmental noise are psychologically oriented and are principally psychologists. Because of their different backgrounds and interests, the two groups are somewhat isolated from each other, and few people are involved in both concerns.

The exception is the engineer: both occupational and environmental noise problems require an engineering background in order to reduce the noise levels. Engineers played a role at the beginning of the '70s in working for noise policy with the establishment of INCE-USA. After the Congress passed the Noise Control Act of 1972, their role was diminished.

Today engineers have only a minor role in the formulation of noise policy. Despite the fact that engineers have detailed knowledge of noise control in both occupational and environmental settings, their services by the formulators of policy are considered as purchasable items to be provided by subcontractors and consultancies.

The principal stakeholders of noise are the legislatures, the government agencies, the

local authorities, the manufacturers (both exporting and nonexporting, with the former more concerned about noise policy than the latter), the nongovernmental organizations (NGOs), and the public. The first three are responsible for the development of noise policy. The key players in the formulation of any noise policy are representatives of stakeholders who are experts in the life sciences, law, public policy, and, most importantly, engineering.

At the beginning of the twenty-first century, the questions that begged for resolution were the following: Is America faced with an engineering dilemma or a public-policy challenge, or both? The engineering dilemma is that while engineers have the know-how to provide noise reduction, they have historically been reticent to assume a leadership role in policy matters. The public-policy challenge is that noise policy matters have historically been the province of those trained in other professions who have limited knowledge of noise control engineering. Is it time for the engineers to take charge in seeking a redefinition of America's national noise policy? Following are summaries of significant developments.

2.1 2000

In October the first author had a brief discussion with President W. A. Wulf of the National Academy of Engineering (NAE) to inform him that INCE-USA was working on a report detailing the need for a rejuvenated US noise policy. The NAE is one of three US National Academies in Washington covering science, engineering, and medicine. President Wulf asked if such a report would have greater impact if it were to be published by the NAE.

In December, after two meetings, an ad hoc team of seventeen noise control specialists was designated the INCE-USA Study Team on National Noise Policy. Its tasks were to review the nation's current noise policies, to define what policies will be needed in the future, and to prepare

preliminary findings as well as guiding principles.

2.3 2002

In August the INCE-USA Study Team again reported on progress in noise policy development during a special session at INTER-NOISE 2002 in Dearborn, Michigan.

In October several NAE members agreed to serve on an ad hoc NAE Task Team on Noise Policy. The draft of a study proposal entitled *The NAE Approach to Noise Policy for the USA*, prepared by William W. Lang and Leo Beranek, was circulated to the NAE task team. Again, questions were posed:

“Should the NAE consider noise in urban environments as a ‘quality of life’ issue requiring engineering efforts to yield solutions?” “Can NAE guidance on noise policy have an impact?” “Who will pay for the effort to prepare the NAE guidance?”

In November the first author made a presentation to the NAE Program Committee entitled *The NAE Approach to Noise Policy for the USA*. No comments were received as the committee was disbanded shortly thereafter.

2.4 2003

In June, papers prepared by members of the INCE-USA Study Team were published in *Noise Control Engineering Journal* (volume 51, number 3) in a *Special Issue on Noise Policy in America*.

2.5 2004

In July the INCE-USA Study Team presented the Noise Policy Development workshop held in Baltimore, Maryland, with a panel of seven noise control specialists and more than seventy-five participants. The first author opened the workshop with a presentation entitled “The Challenge of a National Noise Policy.”

2.6 2005

In January NAE President Wulf announced that funds from the NAE Independent Fund would be made available for an NAE noise study.

In May the NAE's "Task Statement and Action Plan" provided details:

The development and execution of the NAE noise initiative will be undertaken as a two-step process:

1. A project initiation workshop will be convened to produce a plan for a full-scale consensus study.
2. A consensus study will involve a variety of fact-finding activities such as additional workshops, background research, commissioned papers, and informal interviews leading to a consensus report with specific findings and recommendations for a follow-up implementation effort.

The last words of this quote provide the charter for the Technology for a Quieter America (TQA) follow-up initiative, to be described subsequently.

By June the NAE Noise Steering Committee for the planning workshop was in full operation, having held both telephone and face-to-face meetings. Ten distinguished noise control engineers from around the country comprised its membership, with three of them NAE members and the second author, an NAE member, as its chair.

In September the planning or scoping workshop was held in Washington, DC. Quoting again from NAE's Task Statement:

The purposes of this project initiation workshop were to identify and refine the issues and questions to be included in a future consensus study, to identify relevant expertise, to conduct a preliminary assessment of the US noise control technology

base...to understand federal and other agency activities related to noise control and noise control technology, and to assist the NAE in identifying technical and socio-technical issues that could lead to a quieter America.

2.8 2007

In February the Cost-Benefit Analysis of Transportation Noise Control Technology workshop was held in Cambridge, Massachusetts, and in June the Impact of Noise on Competitiveness of US Products workshop was held in Washington, DC. In September the NAE published an issue of *The BRIDGE* entitled *Noise Engineering* including five papers by members of the TQA NAE Study Committee.

In that issue, NAE President Vest writes, "We (NAE) also have a continuing responsibility to guarantee the independence and objectivity of our work. This is partly a matter of process...but it is also a matter of raising and managing our financial resources to support studies we believe are important, especially those studies that might not be funded by grants or contracts from government sponsors."

In October the US Education in Noise Control Engineering workshop was held in Reno, Nevada.

2.9 2008

In June, the Noise R and D Infrastructure workshop was held in Washington, DC;

in July a workshop titled *How Do We Stimulate Collective Action to Motivate the Public and to Demand Quiet?* was held in Dearborn, Michigan; and in August the Engineering Responses to Hazardous Noise Exposures workshop was held in Washington, DC.

2.10 2010

In August the second author briefed the NAE Council on the soon-to-be-published TQA report and the consensus study that produced it.

During the first nine months of the year, the final editing of the consensus report was completed, again with much consultation of the NAE staff with the second author. Copies of the report were available in time for the NAE Annual Meeting in October. At that time all reports were sold by the National Academies Press (NAP) as this was prior to reports being made available for free download. The *Technology for a Quieter America* report remained near the top of the NAP best-seller list for many months. A listing of the contents of *Technology for a Quieter America* is given in Table 1.¹

¹ Committee on Technology for a Quieter America, Division on Engineering and Physical Sciences, and National Research Council, *Technology for a Quieter America* (Washington, DC: National Academies Press, 2010). Accessed via <http://www.nap.edu/catalog/12928>.

Table 1. Contents of the TQA Report

1. Introduction
2. Community Noise
3. Metrics for the Assessment of Environmental Noise
4. Hazardous Noise and its Control
5. Technology
6. Product Noise Emission Standards and Regulations
7. Cost-benefit Analysis for Noise Control
8. The Role of Government
9. Education Supply and Industry Demand for Noise Control Specialists
10. Public Information on Noise Control
11. Summary of Findings and Recommendations

Recommendations for action are contained in Chapters 3–10 of the report, and a summary of the findings and recommendations is given in Chapter 11.

3. DEVELOPING THE MODEL (2011–2015)

3.1 FEDERAL AGENCY ROUNDTABLE

In May 2011 a federal agency roundtable was held in Washington, DC. As described in the NAE’s “Task Statement and Action Plan” of 2005 and following publication of the TQA report, a TQA Advisory Board consisting of NAE and NAS members was formed. Under the direction of this board, a TQA follow-up team was established with the second author as the chair of both the board and the team. The federal agency roundtable was the first event organized by the team.

The intent of this roundtable was to inform all federal agencies, particularly those with regulatory authority, of the recommendations and findings of the TQA report. There were three presenters. The second author of the report gave the keynote talk on the TQA report and its many recommendations for action by federal agencies. The first author followed with a talk on international issues related to the recommendations in the TQA report. The final speaker described a proposal to expand the scope of the TQA follow-up initiative to topics that were not covered in the TQA report.

The roundtable concluded with a discussion of the presentations, during which no interest was expressed in either the second or third speaker’s presentations. No report was subsequently published on this roundtable.

The Environmental Protection Agency was represented by two individuals, a current employee and a recent retiree with more than three decades of EPA service.

The latter posed a question that nicely sums up the outcome of the roundtable: “What’s the strategy?” This was a clarion call to action for the TQA follow-up team to develop a strategy.

3.2 NATIONAL PARK SERVICE WORKSHOP

After reviewing the TQA report, the National Park Service (NPS) concluded that the NAE could assist the NPS in refining portions of its national noise program. Early in 2012 a workshop steering committee was formed to organize an NAE workshop according to procedures approved by the NAE report review process, which is the same as the NRC report review process.

The initial meeting of the committee was held at the Volpe Center in Cambridge, Massachusetts, in April 2012. The funding for the workshop was provided by the National Park Service. The workshop was held at the NPS Service Center in Fort Collins, Colorado, in October 2012. The report for the workshop, entitled *Protecting National Park Soundscapes*, was published by the NAP in 2013.²

3.3 HOSTED WORKSHOPS IN 2012–2014

The TQA advisory board recognized that the rules governing NAE workshop reports precluded the inclusion of findings or recommendations in the reports. The TQA report that followed NAE consensus rules contained many findings and twenty-eight specific recommendations to the key stakeholders.

Another format would be needed if findings and recommendations were to be included in a program of workshops

² Proctor Reid, Steve Olson, and John A. Volpe, *Protecting National Park Soundscapes* (Washington, DC: National Academies Press, 2013). Accessed via <http://www.nap.edu/catalog/18336/protecting-national-park-soundscapes>.

as a follow-up to the TQA report. The following paragraphs cover the workshops carried out in the period 2012–2014, which targeted specific stakeholders identified in the TQA report on specialized topics. It was agreed that review of these topics could assist the stakeholders in coming to grips with some of the problems encountered in the enforcement and development of current legislation and regulation to reach the goal of a quieter America.

Motorcycle noise is mentioned several times in the TQA report as being an environmental noise problem. A TQA follow-up workshop on motorcycle noise was undertaken because, under current federal regulations, motorcycle noise is very difficult to control at the local level. The regulation dates from the early 1980s and needs revision to accommodate modern motorcycle design.

A former regulator from the EPA came to the TQA follow-up team after publication of the TQA report to suggest that the effect of the EPA regulation on motorcycle noise control should be examined.

The report, *Noisy Motorcycles: An Environmental Quality-of-Life Issue*, is based on a roundtable hosted by the National Academy of Engineering in Washington, DC, on October 24, 2012. Motorcycle manufacturers, aftermarket manufacturers, government agencies, noise control engineers, state police, and the public were all represented at the roundtable.

The discussion focused on motorcycle regulations promulgated by the US Environmental Protection Agency and the effect of those regulations on the ability to control motorcycle noise at the local level. Local noise problems are created by motorcycles with modified exhaust systems, and local authorities have a very difficult time identifying motorcycles that

do not meet federal noise requirements and preventing unnecessary noise in the community. The report includes thirty recommendations for federal, state, and local actions. A free copy of the report in PDF format may be downloaded from the INCE-USA website.³

A second report, *Cost-Benefit Analysis: Noise Barriers and Quieter Pavements*, is also available for free download as a PDF file.⁴ This project was undertaken at the request of the Volpe Transportation Systems Center in Cambridge, Massachusetts, to update the information in the TQA report. (New studies have been conducted since the TQA report was published in 2010.)

This report is based on a workshop hosted by the National Academy of Engineering in Washington, DC, on January 16, 2014. The workshop and the subsequent report are the result of cooperation between the TQA follow-up team and the Volpe Center. Many representatives of state departments of transportation participated in the workshop. The workshop and its subsequent report considered the costs and benefits of barriers and quieter pavements. In some cases the optimal solution to a highway noise problem is a combination of a barrier of a certain height and a quiet road surface, and these options are examined in the report.

A third workshop was hosted by the National Academy of Engineering on February 19–20, 2014, in Washington, DC, entitled *Reducing Employee Noise Exposure in Manufacturing: Best Practices, Innovative Techniques, and the*

Workplace of the Future. This workshop was sponsored by the INCE Foundation and was organized by the TQA follow-up team in cooperation with NIOSH. Twenty-eight papers were presented, all addressing the subjects in the workshop title. The workshop presentations were subsequently written as articles by a professional science writer in cooperation with the authors and the editors of the report. Publication is scheduled for 2016.

A fourth workshop was hosted by the National Academy of Engineering on October 6–7, 2015 in Washington, DC, entitled *Engineering a Quieter America: Progress on Consumer and Industrial Product Noise Reduction*. This workshop was sponsored by the INCE Foundation and was organized by the INCE-USA follow-up team. Twenty-eight papers were presented, all addressing the subjects in the workshop title. An editorial committee of the TQA follow-up team is currently working with the presenters and a professional science writer to prepare the report. Publication is expected in 2016.

3.4 THE OSHA STORY

One case is described below that illustrates how difficult it is to change government policy related to noise: the OSHA story. OSHA policy is that the first line of defense against excessive noise is feasible engineering controls. But the OSHA field manual is in conflict with this policy because 10 dB is allowed for the use of hearing protective devices. The word “feasible” means that cost, schedules, and so on, should be taken into account when requiring engineering controls.

In a case that involved toxic chemicals, the US Supreme Court defined the word “feasible” as “capable of being done.” In the *Federal Register* on October 9, 2010, OSHA proposed to adopt this definition with respect to noise. In effect, engineering controls at whatever cost are the primary defense against excessive noise (unless it would bankrupt a company).

American industry came down very strongly against this proposal. Congressional testimony on behalf of

the Coalition for Workplace Safety was given and subsequently published in *Noise/News International*. As a result of pressure from industry, OSHA was forced to withdraw the proposal in January 2011. In the withdrawal notice, OSHA agreed to consult with the National Academy of Engineering, and a short stakeholder meeting was held by OSHA in November 2011. Among others, seven persons who had been involved in the TQA report participated. But the original OSHA regulation remains in place.

3.5 THE EPA STORY

This is another case illustrating the difficulty of changing government policy with respect to noise. The *Noisy Motorcycles* report has thirty recommendations, more than half of them addressing actions that the US Environmental Protection Agency should take to facilitate the enforcement of the motorcycle noise regulations that it promulgated in 1980.

The TQA report recommends that the EPA carry out its coordinating function as directed by the Congress under Section 4903 of the US Code. This section directs the EPA to “...report on the status and progress of federal activities relating to noise research and noise control...of each federal agency and assess the contributions of those programs to the federal government’s overall efforts to control noise.” The TQA follow-up team focused on the effort to brief EPA Administrator Gina McCarthy on the TQA report so that she could delegate to one of her senior policy officers the task of responding to the recommendations of the NAE’s consensus study.

Repeated efforts have been made to bring the EPA’s obligations to the top policy advisers within the EPA and to the EPA Administrator. All were unsuccessful. Representative Sean Maloney of New York’s eighteenth congressional district then wrote a letter to Administrator McCarthy requesting information on what EPA was doing with respect to the Clean Air Act of 2012 (CAA) and the Noise

3 George C. Maling Jr. and Eric W. Wood, eds., *Noisy Motorcycles: An Environmental Quality-of-Life Issue* (Reston, VA: INCE, 2013). Accessed via <http://inceusa.org/Reports/MotorcycleReport.pdf>.

4 Eric W. Wood, George C. Maling Jr., and William W. Lang, eds., *Cost-Benefit Analysis: Noise Barriers and Quieter Pavements*. (Reston, VA: INCE, 2014). Accessed via <http://inceusa.org/Reports/CBAreport140707.pdf>.

Control Act of 1972 (NCA) and never received an answer.

4. 2016 AND BEYOND

To discuss how to engineer a quieter America in 2016 and beyond, it is first necessary to recognize that excessive noise is a complex quality of life issue. For one group of people, making excessive noise is a pleasure—for example, some motorcyclists and those interested in boom cars. For most other persons, lower noise levels improve the quality of life. There are also many stakeholders with an interest in noise issues. Those two issues are addressed before presenting the vision of the future.

4.1 THE VISION OF THE FUTURE

No initiative should be without its vision. The vision of the TQA follow-up team looks to a date in the far future:

In a large conference hall, the administrators and top policy executives of all federal agencies and authorities involved with the noise issue are seated around a table with their individual noise policies in hard copy before each executive. The conference table is circular, and there is a large fire burning on the floor in the middle of the circle. Upon signal, each executive throws the agency's noise policy document into the fire. The executives do not leave the room until a comprehensive and consistent national noise policy has been drafted to the satisfaction of each participant and the draft is ready to be sent to the Congress and then to the president for issuance as law.

Obviously, this scenario will not happen in the Washington of 2016, but it could happen someday. The questions are: What will motivate those executives in the paragraph above to act? And what can be done by the TQA follow-up team in 2016,

and perhaps the following ten years, that will move the process along toward a realization of the vision?

That will be the follow-up plan for the TQA follow-up team. Some situations that might motivate the executives are:

- Reduction of the noise emissions of airplanes, coupled with a fully operative next-gen control system and with public demand, means that the Federal Aviation Administration's noise policy must be revised.
- The advent of high-speed trains means that Federal Railroad Administration's noise impact policies are obsolete and must be changed.
- The technology of "quiet" road surfaces has developed to the point that noise barriers are no longer the low-cost solution to highway noise abatement.
- "Buy Quiet" programs and the abilities of American engineers to reduce machinery noise at a reasonable cost have motivated OSHA to lower its noise criteria, and American industry has accepted the change because hearing conservation programs are no longer needed.
- The cities of the future are gradually being built, and urban noise problems are becoming severe.
- It has finally been recognized that poor acoustics in offices is the number one complaint of office workers, and their productivity needs to be improved.
- Paging systems are no longer the primary means of communications in hospitals, and the "Internet of things" has made current alarm systems obsolete.
- The public demands action to reduce motorcycle noise. Manufacturers and local law enforcement agencies demand that the EPA revise its policy vis-à-vis motorcycle noise emissions.

- The public demands quantitative information on the noise emissions of all consumer products.
- Congress demands that EPA produce a report according to 42USC65 that details the activities of all federal agencies with noise policies, and it is so displeased with the status quo that it demands executive branch action for change.

4.2 MOVING TOWARD THE VISION

The work of the TQA follow-up team will not be sufficient to move America toward fulfillment of our vision. Much more needs to be done:

- Innovative engineering by other than noise control engineers is needed to accomplish tasks at lower noise levels. As one example, printing technology in the IT industry has made significant reductions in the noise emissions of printers.
- Engineers in consulting firms, private industry, government, and academe must advance the technology of noise control engineering and serve clients who are dedicated to noise reduction.
- Professional organizations such as INCE-USA, ASME NCAD, SAE International, ASHRAE, AIAA, and others play a vital role in the development and dissemination of information on noise control technology.
- The health effects of noise must be better understood. This includes both physiological and psychological effects.

The role of the TQA follow-up team becomes clearer. The team must expand on information contained in the TQA report itself, with the goal of giving depth to the items listed above that will motivate government executives to change noise policy. This can be done by asking

prominent noise control engineers as well as other stakeholders to participate in workshops, through the publication of workshop reports that can be understood by the public, and by disseminating results widely.

The role of the National Academy of Engineering as the host, but not the sponsor, of future workshops and possibly other events organized by the TQA follow-up team is an ideal one. Future events will be cosponsored and coorganized by the INCE Foundation and, when interested, government organizations. Each of these workshops will target the implementation of one or

several of the recommendations of the TQA report.

4.3 CONCLUSIONS

Our vision of the future is a quieter America driven by new technology, developed by private industry, government (especially NASA), consulting firms, academe, and others, coupled with changes in government noise policies. Public pressure is a vital force for implementation of the vision. The development and publication of the TQA report was a step forward in engineering a quieter America, and the TQA follow-on program expands on themes found in the TQA report. These reports will continue

to provide factual information that can be used to support changes in government noise policies.

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BR2022 SYSTEM INCLUDES

- ⊙ i3DMic Pro360 binaural ear-microphones.
- ⊙ iDAQ 2022 sound card with 2 inputs and 2 outputs.
- ⊙ Cable from lightning to USB.
- ⊙ iPhone(6 or 6+) or iPad and APP are optional.

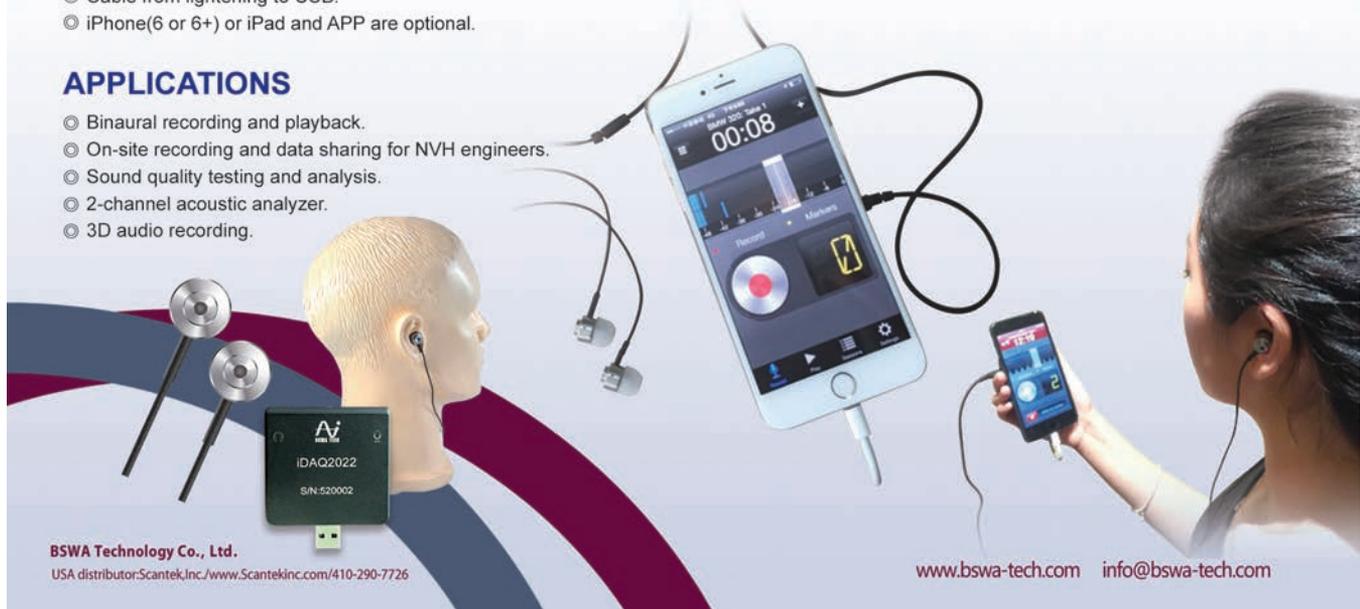
APPLICATIONS

- ⊙ Binaural recording and playback.
- ⊙ On-site recording and data sharing for NVH engineers.
- ⊙ Sound quality testing and analysis.
- ⊙ 2-channel acoustic analyzer.
- ⊙ 3D audio recording.



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Binaural Recording & Playback System Based on iPhone



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NOISE-CON 2016: Revolution in Noise Control

Michael Bahtiarian, General Chair,
NOISE-CON 2016

The Institute of Noise Control Engineering (INCE-USA) and our local New England committee invite you to attend NOISE-CON 2016 in Providence, Rhode Island, for the New England NOISE-CON.

Our theme for NOISE-CON 2016 is “Revolution in Noise Control.” With this theme, we expect to receive papers that revolutionize different areas of the industry.

We anticipate a large number of people attending NOISE-CON 2016 for the robust program. Our plenary speakers are experts in the industry.

NOISE-CON 2016 will be held at the Omni Providence Hotel and the Rhode Island Convention Center. A block of rooms have been negotiated at a competitive rate.

We hope you will participate and that you will plan to join us in Providence, a great city. You will find the conference venues and the city of Providence very comfortable and accommodating.

Deadlines

Conference Early Registration: April 30, 2016

Hotel Room Block: May 20, 2016

Speakers

Monday we will open with Dr. Robert Celmer with the University of Hartford Acoustics Program. Tuesday morning, we will hear from Mr. Kurt Yankaskis on “Landing on the Roof.” On Wednesday Dr. Jim Miller will discuss wind turbine pile driving noise.

Social Event

Plan to join us Tuesday night at the Rhode Island School of Design. Cambridge Sound Management is sponsoring an evening reception. Attendees will see the design school and network at this event.

Short Courses

Several short courses will be offered before the conference. Each short course can accommodate up to thirty people and you may sign up during the registration process.

- INCE Fundamentals Exam Prep Course
- Intensity Measurements
- Marine Noise Simulations

Students and Young Professionals

NOISE-CON 2016 provides many opportunities for students and young professionals to network with noise control professionals, get involved with INCE-USA, showcase research, and meet others at this exciting time in your professional career. Students may even receive financial assistance with conference participation.

Student Paper Competition

The INCE Foundation once again is sponsoring the student paper competition, with up to five awards given to the most outstanding papers. Winners of the INCE Foundation Awards will receive US\$500, plus an additional \$500 if they attend the INCE Award Ceremony. If a winning paper is expanded, peer reviewed, and accepted for publication in the *Noise Control Engineering Journal*, the student will receive an additional \$500 award.

“Classic Papers in Noise Control Engineering” Competition

For NOISE-CON 2016, INCE-USA is sponsoring a special session open to students presenting on seminal noise control papers. This session is titled “Classic Papers in Noise Control Engineering.” Students will present on one of the classic papers listed in the entry form. An award will be given based on the student’s presentation itself. The abstract should focus on the main thrust of the original paper and the focus of the

presentation, which could also include additional work that has been done by the student presenter. Additional work could include reproduction of the results in the original paper, additional analysis, discussion of the influence of the original paper on subsequent research or noise control practice, and so on. A winner, as determined by the INCE-USA judging panel, will receive US\$1000 if she or he attends the NOISE-CON 2016 Awards Ceremony on Wednesday, June 15, 2016.

INCE-USA Travel Awards *Michiko So Finegold Award for Graduate Student/Young Professional Travel*

For the fourth year, INCE-USA is pleased to offer the Michiko So Finegold Award supporting US graduate students and young professionals traveling to NOISE-CON 2016 to present their work on noise effects, development of noise policy, and related aspects of noise control engineering. This year multiple awards are available. Qualified graduate students/young professionals need to be nominated using the form available on the website. Applications will be processed as received. If you are a graduate student or young professional, please ask for a nomination to be submitted on your behalf from a current/former professor or supervisor. This award is funded by the INCE Foundation through an endowment from the Michiko So Finegold Memorial Trust.

Hallberg Foundation Award for Student Travel

For the second year, INCE-USA is pleased to be able to offer the Hallberg Foundation Award, supporting North American undergraduate or graduate students traveling to NOISE-CON 2016 to present their work in any area of noise control engineering. Multiple awards will be offered. As with the Michiko So Finegold Award, qualified students need to be nominated using the form available on the website, and applications will be processed as received. If you are a current student,

please contact a professor to complete the nomination form on your behalf. This award is funded by the INCE Foundation through an endowment from the Elizabeth L. and Russell F. Hallberg Foundation.

Student Lunch

This is a chance to meet with professional noise control engineers to discuss career choices, learn about the companies or organizations they work for (or own), and understand what they are looking for in new employees. When you register for the conference, please let us know if you plan to attend.

Women Noise Control Engineers Lunch

All women NOISE-CON 2016 attendees, students, and professionals are welcome to attend. While the demographics in engineering are slowly changing for the better, the number of women in noise control engineering is much lower than we desire. This is a chance to get together with other women working in noise control engineering or related fields, enjoy lunch, and chat about challenges and opportunities. Please be sure to add this event to your registration so we know you are coming.

Young Professionals Workshop

Join us in the INCE-USA 2016 Young Professionals Workshop. Share some snacks and drinks with your peers and INCE-USA members. Attend short presentations on topics of interest to young engineers and scientists, for example, publishing your paper in a technical journal, formulating and solving research problems, utilizing good presentation styles, and building up your professional network. The time and place of the workshop will be announced shortly before the conference.

Exhibition

A dedicated exhibition space will enable companies to display the latest in technology and services in the area of noise and vibration. The area will be the focal point for coffee during breaks in the technical sessions. On the evening of Monday, June 13, we will hold the traditional vendor reception in the Expo

area. This is another good time to network and find out about new product offerings.

Venues

The Omni Providence Hotel and the Rhode Island Convention Center are the NOISE-CON 2016 venues. Hotel rooms at the NOISE-CON 2016 hotel have been negotiated at a rate of \$185 plus taxes. The sessions will be held at the Rhode Island Convention Center, which is connected to the hotel.

Traveling to Providence

Airports Logan Airport (BOS)

Situated approximately forty-nine miles north of Providence.

Airport: Warwick's T. F. Green Airport (PVD)

Located just ten minutes from downtown Providence, this is one of the top five airports in the US by *Travel + Leisure* magazine. It offers more than 150 flights to twenty-one destinations. Just off Interstate Route 95, Green Airport is accessible to Boston, Cape Cod, and southeastern New England.

Getting to the Hotel Taxi Service

The distance from T. F. Green Airport to the downtown area is nine miles and taxis will cost approximately \$30.00 each way.

Shuttle Service

The distance from T. F. Green Airport to the downtown area is nine miles. The airport shuttle is available Monday through Friday from 5:00 a.m. to 7:00 p.m. and Saturday and Sunday from 9:00 a.m. to 5:00 p.m. The shuttle leaves the airport

every hour on the hour. The cost of the shuttle is \$11.77 or \$23.54 round trip.

Train Service at T. F. Green

T. F. Green Airport is conveniently connected to the MBTA commuter trains through the InterLink train station. Travelers can access the InterLink directly from the airport terminal, through the skywalk. To get to the skywalk, proceed down the elevators to the ground level and walk to the far front left of the terminal, past the Visitor Information table, and look for signs directing to the InterLink connector. Train fares and schedules can be found on the MBTA website at <http://www.mbta.com>.

Car rentals are available also.

About Providence

Providence is the capital of and most populous city in Rhode Island. Founded in 1636, it is one of the oldest cities in the United States.

Weather: 56°F (13°C), Wind NE at 17 mph (27 km/h), 58 percent humidity.

Registration

Register early and receive a discount! Register before May 1, 2016, and receive a \$100 discount.

Join INCE-USA to save on your registration also.

Conference registration will open Sunday at noon and will open again on Monday and Tuesday at 7:00 a.m. It will close at 5:00 p.m. Wednesday registration opens at 8:00 a.m. and closes at noon.

For further information on NOISE-CON 2016, please visit the website at <http://www.inceusa.org>. 

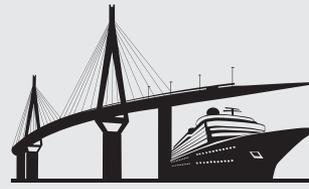
Registration Dates

	4/30/16	5/1/16
Members	\$550	\$650
Non-Members	\$600	\$700
Student Rate	\$50	\$50
	<i>Each Additional Abstract/Paper \$100</i>	
Accompanying Persons (Includes: Light breakfast Monday–Wednesday)	\$100	\$100
Additional Proceedings	\$70	



VENUE

CCH
 Congress Center Hamburg
 Am Dammtor / Marseiller Str.
 D-20355 Hamburg
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HAMBURG 2016



TOWARDS A QUIETER FUTURE
 45th International Congress and Exposition
 on Noise Control Engineering

AUGUST 21–24, 2016
HAMBURG, GERMANY



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REGISTRATION

Delegate

485 € early bird registration until May 17, 2016
 535 € standard registration until August 17, 2016
 585 € on-site registration from August 21, 2016

Student

150 € early bird registration until May 17, 2016
 200 € standard registration until August 17, 2016
 200 € on-site registration from August 21, 2016

Accompanying person

120 € standard registration until August 17, 2016

Further information available at: www.internoise2016.org

IMPORTANT DATES

Abstract deadline: March 10, 2016
 Final paper deadline: May 17, 2016
 Early bird registration until: May 17, 2016



SATELLITES IN BERLIN, AUGUST 25–26, 2016

- Room Acoustics – towards a better understanding
- European Noise Policy – status, aims, vision
- Soundscape and Psychoacoustics – using the resources for environmental noise protection

BUY QUIET 2016

A one day I-INCE
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following
InterNoise 2016



August 25, 2016
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Registration and details: www.internoise2016.org

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VENUE

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HAMBURG 2016



TOWARDS A QUIETER FUTURE

45th International Congress and Exposition
on Noise Control Engineering

AUGUST 21–24, 2016
HAMBURG, GERMANY



Invitation

In association with I-INCE, the German Acoustical Society invites you to attend INTER-NOISE 2016, the premier international conference on noise and vibration control in 2016. This event will be an excellent opportunity for you and your organization to gain valuable exposure to and within the acoustic community.

A two hundred word abstract may be submitted through our website, www.internoise2016.org, where you can select from a list of potential session topics spanning all aspects of noise and

vibration control. Over one hundred reputable experts from all over the world have agreed to assist, organize, and chair these sessions, ensuring that the technical program will be both multifaceted and of a high standard.

Through our website at www.internoise2016.org, you will be able to register for the congress, submit your abstract and paper, and download a template for your paper. Full details of the congress, including the program, will be continuously updated.

Abstracts may be submitted online between January 18 and March 10, 2016.

In addition to the technical sessions, there will be a wide-ranging exhibition of equipment and materials related to noise and vibration control.

Details of the I-INCE Young Professional Grants and an application form are on the congress website.

IMPORTANT DATES

Abstract deadline: March 10, 2016

Final paper deadline: May 17, 2016

Early bird registration until: May 17, 2016

Deadlines

Please find the important dates on the left side. The deadlines are firm and will not be extended.

Photos:

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Language

The official language of the conference is English.

Topics

The broad theme of the congress is “Towards a Quieter Future.”

The congress will feature approximately fifteen parallel sessions as well as a central area featuring poster presentations. Below is a list of the main conference themes:

- Active noise control
- Advanced measurement techniques
- Aircraft noise
- Auralization
- Building acoustics
- Education
- Environmental noise directive
- Green noise-control measures
- Industrial noise
- Machinery noise
- Materials
- Noise policy
- Noise and health
- Numerical acoustics
- Psychoacoustics
- Rail-traffic noise
- Road-traffic noise
- Ship noise
- Sound quality and sound design
- Soundscape
- Urban sound planning
- Vehicle acoustics (car)
- Vehicle acoustics (train)
- Wind-turbine noise

Plenary Lectures and Keynotes

The conference will open with a plenary lecture by Swiss journalist and author Sieglinde Geisel on historical and philosophical views of noise in our society.

Marc Schönwiesner from the International Laboratory for Brain, Music, and Sound Research will provide a closing plenary lecture describing a view into the future, focusing on the basic mechanisms of sound analysis in the human brain.

The four keynote topics—aircraft noise, road noise, train traffic noise, and underwater noise—will complement major areas covered in the congress.

More details will be available soon on our website.



About Hamburg

To quote Ernest Hemingway, “Hamburg is simply the most beautiful city in the world.”

For international guests, it is a vibrant metropolis with charm and style. For its residents, it is the proud pearl of the north. Hamburg has more recreational areas than any other German city, more bridges than Venice, and its cultural offerings range from musicals and outstanding operas, to small clubs, to the sheer pleasure of strolling through St. Pauli—not to mention the harbor, with its special atmosphere that cannot be found anywhere else on the globe.

Hardly anyone can resist being drawn in by the fascinating mixture of twelve hundred years of continuous history paired with one of the world’s largest

and most modern shipping container terminals. High-tech companies like Airbus Industries are just as much a part of the city as a delicious fish sandwich down at the Landungsbrücken. Every visitor to Hamburg ought to see and enjoy this pier in particular. There, ninety kilometers in front of the open water, you can feel and smell the sea combined with big-city flair like nowhere else. From this position, you also have a marvelous view of a new landmark: the Elbe philharmonic concert hall, Elbphilharmonie, with unique acoustics designed by Yasuhisa Toyota—enjoyable for everyone in spring 2017. This is reason enough to get excited about this city.

The European gateway to the world is thrilled to welcome you!

Venue

The congress will take place in Hamburg, Germany, at the Congress Center Hamburg (CCH). The center is situated alongside Planten un Blomen, a wonderful park filled with colorful flowers, picturesque ponds, and fountains. Located right in the heart of the city, and only a one-minute walk from one of Hamburg’s main train stations, the CCH is close to the shopping and entertainment districts of Hamburg and is easily accessible by public transportation.

Satellite Symposia

Immediately following INTER-NOISE 2016, three satellite symposia will wrap up the event in the spectacular capital city of Berlin, from August 25 to 26, 2016:

- Building Acoustics—toward a better understanding
- European Noise Policy—status, aims, vision
- Soundscape and Psychoacoustics—using the resources for environmental noise protection

The satellites will take place at the Deutsches Institut für Normung e.V. (DIN), which is located in downtown Berlin. The trip from Hamburg to Berlin takes one and a half hours by train.

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Registration

Online registration will be available starting in early January 2016 on the congress website, www.internoise2016.org.

	Early bird (by May 17)	Standard (by Aug 17)	Late / on site	Included services
Delegate	485 €	535 €	585 €	<ul style="list-style-type: none"> • Opening and closing ceremony and associated receptions • Technical program & exhibition • Daily coffee service • One paper submission • Book of abstracts • Proceedings
Student	150 €	200 €	200 €	
Accompanying person	120 €			

Additional paper: 120 € each (Limited to posters only)
 Banquet: 120 € (Please book before August 1, 2016. On-site registration is not possible.)
 Satellite Symposia: 120 €

The registration hours may be found shortly before the congress at www.internoise2016.org. The registration desks will be situated in the entrance hall of CCH.

Please note the refund policies at www.internoise2016.org/registration.

Banquet

Save the date: Tuesday, August 23, 2016

The banquet will be held on the MS *Cap San Diego*, the largest seaworthy museum freighter in the world.

The banquet will take place in Luke 3, a hatch with three floors. If the weather is good, the hatch cover can be opened for open-air celebrations.

Get ready for the impressive show by Tätärä—an event for your ears and eyes.

Relax and enjoy the fantastic view from the railing of the Michel, the entire harbor promenade, and the Elbphilharmonie.

Disabled guests may contact us in advance to ensure we meet their needs.

Registration for the banquet will be possible at our registration website from January 2016 until August 1, 2016. On-site registration for the banquet is not possible.

Exposition

Besides the technical program, companies will be able to display the latest technology and services in the areas of noise and vibration.

The dedicated exhibition space will also be the focal point for coffee, refreshments, snacks, and lunch.

Companies interested in presenting their products are invited to contact the exhibition organizers: exhibition@internoise2016.org.

Further information can be found at www.internoise2016.org/exhibition-sponsorship.

Travel

Hamburg has an international airport that offers direct flights from New York, London, Frankfurt, Munich, Paris, Amsterdam, Helsinki, Zurich, Barcelona, Rome, Dubai, Istanbul, and many other cities, predominantly in Europe. Please also see: www.hamburg-airport.de/en/destinations_and_airlines.php.

The CCH can be reached from Hamburg Airport by train in twenty-five minutes or by taxi in twenty minutes. The long-distance railway station Dammtor is only a one-minute walk from the CCH.

Please find detailed journey descriptions including the map at www.internoise2016.org.

Visa

Please note individual visa requirements per country:
[Table of countries whose citizens require/ do not require visas to enter Germany.](#)

You will find an overview of visa requirements here:

www.auswaertiges-amt.de/EN/EinreiseUndAufenthalt/Visabestimmungen_node.html.

Official Invitation

A personalized invitation can be provided upon request.

It must be understood that such an invitation is only to help visitors obtain funds for travel and accommodation or for a visa; it is not a commitment on the part of the organizers to provide any financial support.

Time Zone

Hamburg is in the Central European time zone (UTC +01:00).

Currency and Credit Cards

The currency is the euro (€).

Exchange counters are located throughout the airport and at the Dammtor train station next to CCH.

Internationally recognized credit cards are accepted at most hotels, shops, and restaurants.

Electricity

Outlets in Germany are 230 volts AC at 50 Hz. Plug types C and F are used (see www.iec.ch/worldplugs/list_bylocation.htm).

Contact

PCO / Congress Secretariat
German Acoustical Society (Deutsche Gesellschaft für Akustik, DEGA)

Teresa Lehmann
Voltastraße 5, Building 10-6
13355 Berlin

Germany
contact@internoise2016.org
www.internoise2016.org 



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Acoustical Society of America (ASA)

At the ASA's Jacksonville, Florida, meeting in November 2015, ASA leadership developed a plan for Strategic Leadership for the Future. The complete plan is available at:

http://acousticalsociety.org/sites/default/files/docs/ASAstrategicPlan_2_November_2015_0.pdf.

ASA's upcoming meetings are:

Salt Lake City, Utah, May 23–27, 2016

Honolulu, Hawaii, November 28–December 2, 2016

The Salt Lake City meeting will be preceded by "ASA School," a two-day course consisting of lectures by prominent acousticians, roundtables, demonstrations, and discussion groups. The purpose of this school is to expand on the lecture materials and to foster communication across disciplines and technical areas of acoustics. Social events, including a Friday evening welcome reception and Saturday evening dinner, are also scheduled to provide an informal setting for further discussions and social exchange.

ASA is also searching for an education and outreach coordinator to work with the Committee on Education and Acoustics to implement acoustic education and outreach initiatives.

For more on the ASA, see www.acousticalsociety.org.

ASME Noise Control and Acoustic Division (ASME NCAD)

ASME NCAD is excited to be a new member society of I-INCE. In 2015 ASME NCAD participated in both INTER-NOISE 2015 in San Francisco, California, as well as in the ASME International Mechanical Engineering Congress and Exposition (IMECE), in Houston, Texas. Dan Inman gave this year's Rayleigh Lecture on "Good Vibrations: Low Power Energy Harvesting" at INTER-NOISE, and Teik Lim gave a tutorial on "Modeling, Analysis, and Control of High-Speed Precision Gear Dynamics."

This year's ASME Per Bruel Gold Medal was awarded to David Blackstock of the Applied Research Laboratories at the University of Texas for his research in nonlinear acoustics, including biomedical ultrasound, high-intensity sound beams, lithotripsy, parametric arrays, shock waves and sonic booms, and propagation and absorption of high-intensity sound. This year's student paper award was given to Phil Feurtado of Penn State University for his work on acoustic black holes.

This year's IMECE (which includes NCAD technical sessions and meetings) will be held November 11–17, 2016, in Phoenix, Arizona.

For more information on ASME NCAD, see https://community.asme.org/noise_control_acoustics_division/default.aspx.

Association de Acusticos Argentinos (AdAA)

The International Congress on Acoustics (ICA) will hold their 2016 conference in Buenos Aires, Argentina, on September 5–9, 2016. ICA 2016 is being organized by the Ibero-American Federation of Acoustics, and AdAA. See www.adaa.org.ar for more information.

Canadian Acoustical Association (CAA)

This year's Acoustics Week in Canada will be held September 21–23 in Vancouver, BC. See www.caa-aca.ca for more information on the CAA.

INCE-USA

The INCE-USA board of directors and annual meeting was held on January 30 and 31 in Chicago, Illinois. During this meeting, the new president and slate of officers were approved, as shown below.

Office	FY 15 Plan
Secretary	Karl Washburn
Treasurer	Deane Jaeger
President	Rick Kolano
VPs	
Board Certification	Mike Bahtiarian
Membership	Steve Sorenson
Public Relations	Charlie Moritz
Publications	Teik Lim
Technical Activities	Steve Conlon
Board Affairs	Paul Burge
Honors and Awards	Jeff Fullerton
Student Activities and Education	Yong-Joe Kim
Conferences	Bryce Gardner

Also, at these meetings, new board-of-directors members were approved. The new board consists of Andrew Barnard, Dana Lodico, Richard Peppin, Sanghoon Suh, and Steve Conlon.

It was also noted at this meeting that the documentary movie partially funded by INCE-USA has been officially released. There should be an opportunity to see this film at Noise-Con 2016 in Providence, RI.

Sociedade Brasileira de Acustica (SOBRAC) and ProAcústica (Brazil)

SOBRAC held their 2015 Meeting of the Brazilian Society of Acoustics on November 12, 2015. The themes of the meeting were noise pollution and urban soundscapes.

The 2nd Municipal Conference on Noise, Vibration, and Disturbances was held April 27–29, 2015, in Sao Paulo, Brazil.

ProAcústica has released a manual with basic recommendations for floating subfloors. For more on ProAcústica, see www.proacustica.org.br.

The Brazilian Association of Technical Standards (ABNT) has released the results of a project on the acoustics of buildings. For more on this and SOBRAC, see www.acustica.org.br. 

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Australia and New Zealand

12th International Workshop on Railway Noise (IWRN)

From September 12–16, 2016, the 12th International Workshop on Railway Noise (IWRN) will be held in Terrigal, New South Wales. The workshop will follow the traditional format, with a single technical session accompanied by a small technical-exhibition area. There are no parallel sessions, so the workshop format will allow for comprehensive discussions of all topics. These topics include rolling noise; aerodynamic noise and high-speed rail; ground-borne noise and vibration; curve squeal and brake squeal; rail grinding, corrugation, and roughness; and regulation and legislation. More information can be found at <http://iwrn12.acoustics.asn.au>.

Joint Australian and New Zealand Acoustical Societies Meeting

A joint Australian and New Zealand Acoustical Societies Meeting will be held November 9–11, 2016, at the Brisbane Convention and Exhibition Centre. The theme of the Conference is “Innovate for the Future.” The program is developing well, with plenary speakers to include Christine Erbe from the Centre for Marine Science and Technology, Curtin University, Australia; Tapio Lokki from Aalto University’s School of Science, Finland; and Mark Bastasch from CH2M. More information is available at www.acoustics2016.com.au.

China

14th Chinese National Conference on Noise and Vibration Control Engineering

The 14th Chinese National Conference on Noise and Vibration Control Engineering was successfully held in the ancient city of Nanjing on December 10–11, 2015. The conference was organized by the Noise and Vibration Control Committee of the China Association of Environmental Protection Industry and ten other organizations. The conference is held every two years, and the theme of this year was to strengthen exchanges of innovation and to promote cooperation and development. More than one hundred experts, academics, and business representatives attended the meeting. The conference papers can be found in the special edition of *Noise and Vibration Control*, published by the Acoustical Society of China.

Technical Specifications for Environmental Noise and Vibration Control Engineering of Urban Rail Transit

On December 24, 2015, the Ministry of Environmental Protection published for consultation the draft technical specifications for environmental noise and vibration control engineering of urban rail transit. The standard applies to noise and vibration caused by underground trains and light rail (which includes tram, monorail, and automated guided-rail systems). The draft specifies the technical requirements on noise control and vibration during design, build, commissioning, and maintenance phases and also can be used for environmental-impact assessment.

27th Advanced Technology and Applications in Noise and Vibration Conference

On July 28–30, 2016, the 27th Advanced Technology and Applications in Noise and Vibration Conference will be held at Harbin Engineering University. The conference is organized by the Specialty Committee for Noise and Vibration Control, Chinese Society for Vibration Engineering.

Japan

Recent Enhancement of High-Speed Rail Transport in Japan

Construction of the next generation high-speed railway, the Linear Central Shinkansen, running at a top speed of 500 km/h, was started in December 2015. The new line is planned to open between Tokyo and Nagoya in 2027 and to extend to Osaka by 2045. For about 86 percent of the route, or 286 kilometers, between Tokyo and Nagoya, the train will run in tunnels or underground. Environmental issues concerned include running noise and low-frequency sound at the exit and entrance of tunnels.

The high-speed Shinkansen network in Japan continues to expand. It is one year since the expanded railway of Hokuriku Shinkansen, connecting Tokyo and Kanazawa, opened on March 14, 2015. This expansion finally connects Tokyo and Osaka through the seaside regions of Honshu. The Hokkaido Shinkansen, connecting Honshu with the southern tip of Hokkaido (at Hakodate), is also scheduled to launch on March 26, 2016. Further extension of the Shinkansen route

to Sapporo is under construction and is expected to open by the end of fiscal 2030.

The Japanese Ministry of the Environment decided to reconsider methods of evaluating Shinkansen railway noise as a future challenge as a result of reviewing the fourth Environmental Basic Plan, and this ministry awarded contract work to INCE/J to make a preliminary investigation for the revision of national noise guidelines for railway noise in light of the latest findings.

New Routes for Aircraft over Tokyo

The Japanese Ministry of Land, Infrastructure, Transport and Tourism plans to introduce new approach routes at Haneda Airport to fly aircraft over downtown Tokyo, in order to expand airport capacity for international flight operations.

At present, in order to avoid noise damage, aircraft must descend over Tokyo Bay and take off high before entering the airspace over the land area. It is, however, necessary to increase airport capacity in the metropolis for the Tokyo Olympic and Paralympic Games in 2020. The Ministry has recently decided to introduce new routes passing over downtown Tokyo from the northwest to the southeast, but only during the four hours from 3:00 p.m. to 7:00 p.m. and when south wind blows.

In order to help residents understand the planned routes, the ministry started to hold town-hall meetings in July 2015. At the present time, approximately six thousand opinions and questions have been received. Among those are conspicuous voices on noise concerns and safety. The ministry considers the need to take various measures for noise mitigation and to ensure safety, such as encouraging airlines to introduce lower-noise aircraft and prevention of ice-fall accidents from aircraft.

It has also been proposed to expand capacity at Narita International Airport

by constructing a third runway and extending the second runway. The Narita International Airport Corporation made this proposal at a meeting of the Airport Consultation Council consisting of local authorities, the government, and the airport corporation, held on November 27, 2015. The draft plan also suggested relaxing curfew conditions, aiming at reinforcing airport competitiveness. The council will continue investigation and discussion on the feasibility of the draft plan till the 2020 Tokyo Olympic Games or later.

New Section of the Shin-Tomei Expressway

Construction of a new section about 55 km of the Shin-Tomei Expressway between Hamamatsu and Toyoda was completed on February 13, 2016, resulting in a double network of expressways 200 kilometers long that connect Toyoda and Gotemba. The new expressway is expected to alleviate traffic congestion and improve transportation among the three major metropolitan areas of Tokyo, Nagoya, and Osaka.

Fortieth Anniversary of INCE/Japan

INCE/Japan plans to hold a series of memorial events to celebrate its fortieth anniversary. First, INCE/J will publish a special issue of its journal that looks back over its forty years. Second, under the cosponsorship of the Japanese Association for an Inclusive Society, INCE/J will hold a ceremony and a special symposium on "Sound and Barrier-free" at the 2016 INCE/J autumn technical meeting being held on November 19, 2016, at Meijo University in Nagoya.

Korea

Korean Society for Noise and Vibration Engineering (KSNVE) Cohosted INTER-NOISE 2015

INTER-NOISE 2015, cohosted by the KSNVE and INCE-USA, was held

August 9–12, 2015, in San Francisco, California. Yang-Hann Kim (KAIST) and Yeon June Kang (Seoul National University) were the cochair and the technical program cochair of the meeting. Among the participants were 109 researchers from Korea, and Korean folk dance and music were performed. For more information on INTER-NOISE 2015, see *Noise/News International*, volume 23, no. 4 (available at http://www.noiseneewsinternational.net/archives/NNI_234.pdf).

Spring/Autumn 2015 Conferences

Over 1,100 researchers attended the spring/autumn 2015 conferences organized by the Korean Society for Noise and Vibration Engineering (KSNVE). Over 550 papers were presented, and 60 exhibition booths were installed during the meeting.

Spring conference 2015

- Subject: Finding Waves
- Date: April 22–25, 2015
- Place: Hotel Ramada Plaza, Jeju, Korea
- Main events: Invited special lecture ("Marine Technology, a Center of the Blue Economy"). Tutorial. Award lecture. There were 312 papers and 31 exhibition booths.

Autumn conference 2015

- Subject: Life Story of Noise and Vibration
- Date: October 22–30, 2015
- Place: Yongpyong Resort, Kangwon, Korea
- Main contents: Invited special lecture ("String Instruments and My Life Story"). Award lecture. Mutual session with Acoustical Society of Korea. Industrial session. Liberal lecture. There were 27 booths and approximately 240 papers.

15th International Conference on Electrorheological Fluids and Magnetorheological Suspensions (ERM2016)

The 15th International Conference on Electrorheological Fluids and Magnetorheological Suspensions will be held July 4–8, 2016, at the Ramada Songdo Hotel, Incheon, Korea. The organizing chair is Seung-Bok Choi (Inha University). Topics include the following:

- Electrorheological fluids: materials and physical properties
- Electrorheological gels and elastomers
- Ferrofluids: materials and applications
- Magnetorheological suspensions: materials and characteristics
- MR elastomers and gels: materials and physical properties
- Stimuli-responsive biomaterials and colloids
- Emerging stimuli-responsive materials including graphene, graphene oxide, LC, Pickering, new types of magnetic particles, and so on
- Smart fluid-based energy saving and harvest
- ER and MR polishing
- Engineering applications of ER and MR materials
- Medical and pharmaceutical applications of ER and MR materials
- Other related field-responsive systems

For more information, see <http://erm2016.org>.

Korea Certification Institute for Machine Diagnostics (KCIMD) Accredited as National Certification Body

Based on the ISO18436, revised on November 25, 2015, the Korea Certification Institute for Machine Diagnostics (an affiliate organization of the KSNVE) was accredited by the Korea Accreditation Board of the Korea Agency for Technology and Standards (KATS) as the national certification body for machine-condition monitoring technicians.

Rossing Prize Awarded to Yang-Hann Kim

KSNVE fellow Yang-Hann Kim was awarded the Rossing Prize by the Acoustical Society of America in 2015. He was selected as the twelfth Rossing Prize recipient by the Acoustical Society of America. An award lecture and ceremony were given at the 170th meeting of the Acoustical Society of America in November 2015. For more, see http://soundmasters.kaist.ac.kr/zbxe/news_av/341061.

Duck-Joo Lee Elected VP of the American Helicopter Society

KSNVE Fellow Duck-Joo Lee was elected vice-president of the American Helicopter Society in charge of Asia, Australia, and Russia. His two-year term began July 2015. For more information, see http://ae.kaist.ac.kr/common/Board/News_Event.php?bbs_data=aWR4PTgxJnN0YXJ0UGFnZT0wJmxc3RObz0xJnRhYmxlPWV3cyZzZWYyY2hfaXRlbT0xJnNlYV3JjaF9vcmlRlcj3AzLT2wdY=||&bgview.

Best Researcher Prize Goes to Seung-Bok Choi

KSNVE Member Seung-Bok Choi was awarded the 2015 Adapted Structures and Material Systems Prize for best researcher by the American Society of Mechanical Engineers. For more information, see http://ssslab.com/korea/9_1.php?no=19091#0.

New Officers and Executive Council for KSNVE in 2016

KSNVE inaugurated Seung-Bok Choi (Inha University) as its fourteenth president, along with inaugurating new senior vice-president Semyung Wang (GIST) and thirty members of the executive council for the January 2016–December 2016 term. See <http://www.ksnve.or.kr/english/directors.html>.

(News sources)

AUSTRALIA and NEW ZEALAND: Marion Burgess. CHINA: Jun YANG. JAPAN: Ichiro Yamada and INCE/J Office. KOREA: Korean Society for Noise and Vibration Engineering. 



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Book Reviews

Vibro-Acoustics

Anders Nilsson and Bilong Liu
Beijing: Science Press and Berlin
Heidelberg: Springer-Verlag, 2015
373 pages hardcover, 99.00 USD
Ebook 69.99 USD
ISBN-978-7-03-033624-8

Anders Nilsson and Bilong Liu present volume 1 of a three-volume collection of texts pertaining to vibro-acoustical theory. Volume 1 is intended for graduate students, researchers, and working engineers in the field of sound and vibration. Adapted from the course of the same name offered at Chalmers University in the seventies, the text is also highly recommended for students considering continued education in sound and vibration at said university.

There is an introductory preface provided by Anders Nilsson, followed by a table of contents, a list of helpful notations, eight chapters, references, and a comprehensive index. Each chapter concludes with questions, the answers to which are provided in volume 3.

Below is a list of the included chapters:
Chapter 1. Mechanical Systems with One Degree of Freedom
Chapter 2. Frequency Domain
Chapter 3. Waves in Solids
Chapter 4. Interaction between Longitudinal and Transverse Waves
Chapter 5. Wave Attenuation Due to Losses and Transmission Across Junctions
Chapter 6. Longitudinal Vibrations of Finite Beams

Each chapter includes subsections that serve to further examine specific cases and consequential theories of the broader chapter topic.

For proper comprehension of the more advanced topics of flexural vibrations (presented towards the end of the volume), chapters 3 through 5 provide examples and diagrams of key wave behavior and classification in a very presentable fashion.

More advanced topics towards the end of the text may be of interest to the practicing vibro-acoustical consultant. As a member of the aforementioned industry, I personally found the in-depth explanation of the Rayleigh-Ritz Method in section 8.3 very insightful, relevantly approached, and easy to follow.

I am excited to continue learning from this book, especially as a recent undergraduate with hopes of continuing education in sound and vibration. Being as well written, well illustrated, and well equipped as this text is, I can easily see this entering academia as highly suggested supplemental literature.

Now, when I get a copy of volume 3 so that I can check my answers to the chapter questions, I will be a happy acoustician!

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New York, NY, USA
EthanB@LongmanLindsey.com

Waveform Analysis of Sound

Mikio Tohyama
Japan: Springer, 2015
229 pages hardbound, 129 USD,
ISBN 978-4-431-54423-4
Ebook 99.00 USD,
ISBN 978-4-431-54424-1

Waveform Analysis of Sound is intended for audiences with a background in mathematical signal analysis and Fourier

transform/series application. It can be used by both researchers and graduate students. It is, however, quite mathematical as this book is part of Springer's Mathematics for Industry series.

A vast majority of practicing engineers would find it rather difficult to navigate their way through the contents. Even though the book claims to be "self-contained," it seems to be a companion to *Sound and Signals* (2011) by the same author, which provides a more physical representation of sound and vibration phenomena. The author has also cited his earlier book, *Fundamentals of Acoustic Signal Processing* (M. Tohyama and T. Koike, 1998) in various places. Readers should be well familiar with the linear system theory, discrete sequences, periodic functions, envelope analysis, Fourier transform, and probability theory before reading this book.

A summary of the contents is given below.

After a brief preface, in chapter 1 the author provides a lengthy introduction that gives the reader an overview of the contents of the book as well as the various signal analysis topics that are covered.

Chapter 2, entitled "Discrete Sequences and Their Fourier Transform," reviews discrete time-event sequences, generating functions, z-transforms, zeros, poles, unstable poles, and Fourier transform of a sequence.

Chapter 3, "Temporal and Spectral Characteristics of Discrete Sequence," looks at the magnitude and phase of spectrum, frame-wise Fourier transform and filter bank, before moving into a study of modulation envelope and group delay, triangular windowing, and autocorrelation sequence.

Chapter 4, “Temporal and Spectral Enhancement by Sound Path,” dedicates itself to steady-state response of the sound path in anechoic and reverberant rooms and early reflections as well as the source effects on sound paths and the decay of reverberation.

Chapter 5, “Modulation and Periodic Properties of Temporal Envelope,” will give readers a glimpse of the modulation spectrum envelope, narrow-band envelopes, speech intelligibility, fundamental frequency, and period of envelopes.

Chapter 6, called “Transfer Function of Linear Systems,” begins with a review of zeros of a transfer function and then moves into phase and accumulated phase, minimum phase and cepstral sequences, decomposition of transfer function into minimum-phase and all-pass transfer functions, and ends with a discussion of linear phase and ideal low-pass filter.

Chapter 7, “Sampling Theorem and Discrete Fourier Transform,” discusses the sampling of spectral function, discrete Fourier transform and periodic property, sampling theorem, discrete Fourier and sampling theorem, and interpolation and decimation of sequences.

Chapter 8, “Sinusoidal Representation of Sequence,” takes readers through spectral peak selection, clustered line spectral modeling, and the prediction of compound sinusoidal sequences.

Finally, chapter 9, “Modeling for Zeros in Complex Time and Frequency Plane,” discusses sinusoidal modeling and zeros for transfer functions, clustered time-sequence modeling, and adjacent pairing time-pulse modeling of zeros.

Personally I found this book very interesting as it would reinforce and enhance conventional digital signal processing techniques and their applications to physical systems. Of particular note is the “frame-wise” approach to sound waveforms in time, correlation, and frequency domains. The role of triangular window for short-term events is illustrated along with the importance of phase spectra and zero and poles of a transfer functions.

Students and researchers interested in analytical and computational aspects of source signature identification, speech and voice recognition, noise control engineering, machinery diagnostics, health monitoring, and related subjects will find this book to be a valuable resource. In fact, the reviewer is aware of the prior papers

in *J. Acoust. Soc. Am.* or *J. Sound Vibr.* that described the methods contained in the book, and it is good to see them in a compact and cohesive form.

Some deficiencies that I see from the perspective of readers and users (and perhaps more from the viewpoint of a teacher of a graduate-level course on digital signal analysis and random data processing) are as follows: A comprehensive list of symbols for the book is missing. Each chapter has its own list of references, and there is no common bibliography. Abbreviations such as “CLSM,” “CTSM,” and “APTM” are distracting. Users might have been interested in MATLAB codes based on the techniques presented here, but these are nowhere mentioned or included anywhere on a website. No practice questions or exercises at the end of each chapter are given, and thus it would be difficult to use this as a primary textbook.

Nevertheless, it is an interesting book for serious analysts. It is available via Amazon.com and perhaps other sites.

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Product News

ROCKFON's Own Ceiling Systems Enhance Its New Offices in Ontario, Canada

Bochsler Creative and ROCKFON

A newly built office in Ontario, Canada, brings together four divisions of people and products into one building for the first time. Each day, members of the North American ROCKFON® team gather with their colleagues from ROXUL®, GRODAN®, and ROCKWOOL® Technical Insulation. The active workspace also serves as a real-world showroom for ROCKFON's complete ceiling systems.

Every space in the new two-story, twenty-four-thousand-square-foot office strives to enhance the work environment on a visual, acoustic, and energy-efficient level. Demonstrating its commitment to these goals, the building is pursuing LEED® Gold certification from the Canadian Green Building Council.

"Living with these products every day, we truly see, hear, and feel how they improve the workplace—our workplace. We more deeply appreciate the comfort, health, safety, and environmental qualities that they bring to every building project," says Chris Marshall, ROCKFON's vice president of marketing and business development.



ROCKFON worked hand-in-glove with [SRM Architects](#) and interior designer Lorelie Ratz to develop a contemporary office plan that plays to the strengths of its products' performance and aesthetics. "Their office is a showpiece for their products, and we incorporated as many varieties as possible, while still making it a cohesive space," describes Ratz.

To inhibit office noise from traveling through an open space and disturbing people, a highly sound-absorptive ceiling typically is required. Due to its open

porous structure, stone wool is a high-performing sound-absorptive material used to manufacture ROCKFON ceiling panels, baffles, and islands, imbued with excellent noise-reduction capabilities.

Along with acoustic performance, ROCKFON's ceiling systems also enhance the office's contemporary design. Creating a sense of unity, the ceiling design continues the rectangular format between the closed and open workspaces.

About ROCKFON

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

For more information, visit www.rockfon.com. Follow the links to [view online](#), to download a [PDF of the case study](#), and to download a [compressed file](#) with high-resolution photos.





Scantek West Sales Office Opens

Scantek, Inc., a leading provider of noise and vibration measurement instrumentation, is excited to announce the opening of the Scantek West sales office in Los Osos, California. The Scantek West sales office will provide customer sales and support for the western regions of North America. All the products for which Scantek has become the preferred provider will be sold and supported by Scantek West.

For more information about Scantek, along with contact information for the Scantek West sales office, visit www.scantekinc.com. 





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

The search committee consists of:

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- Jim Thompson
- Gordon Ebbitt
- Rick Kolano
- Dave Herrin
- Steve Conlon
- Yang-Hann Kim 

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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.

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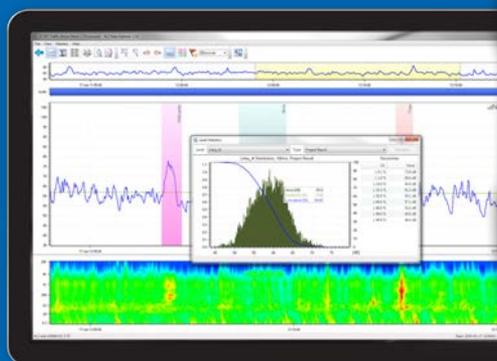
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- Limit monitoring and external I/O control
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Further powerful extensions are available:

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- Spectral limits evaluation including 1/6th and 12th octave analysis
- Speech Intelligibility measurement (STI-PA)



XL2 Data Explorer



Sound Level Meter



Real Time Zoom FFT



Spectral Limits 1/12th



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* Type approved in detached configuration

Acknowledgments

Conference Calendar

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New Zealand.....	Centre for Sound Studies, Institute Food Nutrition and Human Health, Massey University Wellington, Wellington
Portugal	Laboratorio Nacional de Engenharia Civil, Lisboa
Sweden.....	Department of Applied Acoustics, Chalmers University of Technology, Gothenburg
United States of America.....	Graduate Program in Acoustics, The Pennsylvania State University, Pennsylvania

Below is a list of congresses and conferences sponsored by International INCE and INCE-USA. A list of all known conferences related to noise can be found by going to the International INCE website on the Internet (www.i-ince.org).

■ June 13–15, 2016

NOISE-CON 2016

Noise Control Engineering Conference
Providence, Rhode Island, USA
www.inceusa.org

■ August 21–24, 2016

INTER-NOISE 2016

2016 International Congress on Noise Control
Hamburg, Germany
www.internoise2016.org

■ June 12–14, 2017

NOISE-CON 2017

Noise Control Engineering Conference
(with SAE Noise and Vibration Conference)
Grand Rapids, Michigan, USA
www.inceusa.org

■ August 27–30, 2017

INTER-NOISE 2017

2017 International Congress on Noise Control
Hong Kong, China
<http://www.i-ince.org/>

Directory of Noise Control Services

Information on listings in the Directory of Noise Control Services is available from the INCE-USA Business Office, 12100 Sunset Hills Road, Suite 130, Reston, VA 20190-3221 Telephone: +1.703.437.4073 e-mail: ibo@inceusa.org. The price is USD \$344 for 4 insertions.

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Contact: IBO@INCE-USA.org or call: +1-703-234-4124

Additional publications available at the INCE-USA online digital library:
<http://www.inceusa.org/publications>.

INTER-NOISE 2015 and Additional Proceedings

This searchable flash drive contains the proceedings from INTER-NOISE 2015, held August 9–12 in San Francisco, CA. The theme of the congress was “Implementing Noise Control Technology.” This flash drive also contains the proceedings of six additional INTER-NOISE congresses held in the United States and Canada beginning with the INTER-NOISE 1995 proceedings. The years included are 1995, 1999, 2002, 2006, 2009, and 2012.

NOISE-CON 14 and Additional Proceedings

This searchable flash drive contains the proceedings from NOISE-CON 14, held September 8–10, 2014, in

Fort Lauderdale, FL. The theme of the conference was “Advancing the Technology and Practice of Noise Control Engineering.” This flash drive also contains the proceedings of all NOISE-CON conferences held since 1996. This includes the years 1996, 1997, 1998, 2000, 2001, 2003, 2004, 2005, 2007, 2008, 2010, 2011, 2013, and 2014. Also included are the proceedings of three sound quality symposia from 1998, 2002, and 2008.

Books Available

Noise and Vibration Control, edited by Leo L. Beranek
Noise Control in Buildings, by Cyril M. Harris