SECOND CALL FOR PAPERS

THE CONFERENCE

QNDE is the premiere international NDE meeting designed to provide an interface between research and early engineering through the presentation of current ideas and results focused on facilitating a rapid transfer to engineering development. The annual QNDE Conference is hosted by QNDE Programs and organized by the Center for Nondestructive Evaluation (CNDE), an NSF Industry/University Cooperative Research Center at Iowa State University. The meeting has financial support from the American Society for Nondestructive Testing (ASNT) and is conducted in cooperation with CNDE’s sponsor members. The proceedings from the Conference are published by the American Institute of Physics and papers are indexed in and also available through “Scitation”, the online home of journals and conference proceedings from AIP Publishing.

RELIABILITY IN NDE

In line with the theme of “Reliability”, the QNDE Keynote speakers will include Eric Lindgren, United States Air Force Research Laboratory; Marija Bertovic, BAM Federal Institute for Materials Research and Testing; and Joon H. Lee, Pusan National University, Seoul, Korea. The meeting will include special topical sessions with distinguished and invited presentations to highlight selected topics in research and innovation. There will also be poster sessions and a student paper/poster competition.

The 42nd Review of Progress in Quantitative Nondestructive Evaluation Conference (QNDE) takes place July 25-31, 2015 in Minneapolis, MN. You are invited to participate in this conference, and a collocated short course on “Damage Diagnostics for Prognostics” organized by the World Federation of Nondestructive Evaluation Centers (WFNDEC), to be held July 25-26, 2015. These events will focus on state-of-the-art current research, and opportunities in this growing and demanding field.

FEATUREING THE SIXTH EUROPEAN-AMERICAN WORKSHOP ON RELIABILITY

The workshop will be held for the first time in its history as a part of the 42nd RPQNDE hosted in the Hyatt Regency Minneapolis, Minneapolis, MN, USA. The connection to the biggest scientific conference about progress in quantitative NDE will open the doors to new mutual inspirations. Acquiring deeper understanding of the influencing factors is in the core of the workshop program. It provides a wealth of sessions of rich technical content. Oral presentations will be devoted to industrial demands as topical focus and to scientific progress in the evaluation of the reliability of NDE techniques. The Workshop will be presented as an embedded session and included in the cost of QNDE registration.

CONFERENCE INFORMATION AT:
WWW.QNDEPROGRAMS.ORG

IOWA STATE UNIVERSITY
Center for Nondestructive Evaluation

German Society for Non-Destructive Testing

42ND ANNUAL
HYATT REGENCY HOTEL
MINNEAPOLIS, MN
JULY 25-31, 2015

Review of Progress in Quantitative Nondestructive Evaluation
**Keynote Speakers**

“Status and Prospect of NDT Technology for Nuclear Energy Industry in Korea”

Dr. Lee received a bachelor’s degree in mechanical engineering from Pusan National University in 1983 and his M.S and Ph.D. degrees in mechanical engineering from Tohoku University, Japan in 1986 and 1989, respectively. Dr. Lee is Professor of School of Mechanical Engineering at Pusan National University since Aug 1990, investigating structural health monitoring and diagnosis based on a wide range of sensors and signal processing techniques. During his tenure, he headed Brain Korea 21 and World Class University programs. He served as director both for Basic Atomic Energy Research Institute and for Failure Analysis and Reliability Research Center funded by Korean government. Dr. Lee has been both the executive member of the National Science & Technology Council and advisory member of National Nuclear Safety Commission of Korean government. Prof. Lee was also the first president of Korea Institute of Energy Technology Evaluation and Planning (KETEP) from May 2009 to 2012 when the Korean government launched KETEP under the Framework Act on Energy. As part of the government plan to streamline the public agencies, KETEP was established with the purpose of developing, implementing and evaluating effective national R&D strategies and programs in innovative energy technologies. During his presidency, KETEP funded a wide range of energy research projects totaling to 1,500 million USD annually. Dr. Lee is the member of National Academy of Engineering (NAE) of Korea and is also president of the Korean Society for Nondestructive Testing.

“Can Automation Automatically Solve “The Human Factors Problem”? ...And Other Illusions”

Marija Bertovic obtained her diploma degree in Psychology at the University of Rijeka in Croatia in 2006. Since then she has been working at the BAM Federal Institute for Materials Research and Testing in Berlin, Division of Radiological Methods in the area of Reliability of Non-Destructive Evaluation Systems as a research scientist and a doctoral candidate. The focus of her work has been on human and organizational factors affecting the reliability of NDT inspections. As a part of a multidisciplinary team and in cooperation with industrial clients, her activities and empirical evidence have brought NDT and psychology back together in a joint effort to acquire knowledge about the causes of the variability in NDT and to generate suggestions for the optimization of the NDT processes. In her talk she will address the importance of the consideration of human factors in the assessment of NDT reliability.

“US Air Force Perspectives on Validated/Reliable NDE – Past, Present, and Future”

Dr. Lindgren is currently the Research Leader for the Characterization, Sensing, and Analytics Research Team, located mainly in the Materials State Awareness and Supportability Branch of the Materials and Manufacturing Directorate of the Air Force Research Laboratory. The Research Team focuses on developing nondestructive and destructive materials/damage characterization methods. Before joining AFRL in 2006, Eric worked as the Director of Nondestructive Evaluation (NDE) Sciences at SAIC Ultra Image, where he led efforts to develop and deploy advanced inspection methods for aerospace applications, including transitioning basic research to inspections used on USAF aircraft structures. Additional experience includes developing materials characterization and process monitoring/control methods using NDE technology. He has over 30 years experience in NDE research, development, transition, and deployment and earned a B.S., M.S., and Ph.D. in Materials Science and Engineering from Johns Hopkins University.
**Submissions of Abstracts are Sought**

Verbal and poster sessions will both emphasize basic science and early engineering developments in quantitative NDE, and closely related technologies including materials characterization, process monitoring/control, advanced diagnostics, structural health monitoring, sensor development, and prognostics that utilize quantitative NDE techniques.

**Categories of the Review will include advances in:**

- Fundamentals (theoretical and experimental confirmation) of all QNDE methods including generation and propagation of interrogating fields, field-flaw interaction
- All signal processing techniques and applications to QNDE.
- Sensors, transducers, and probes for flaw detection, material property measurements, process control, long-term health monitoring, and security applications.
- New QNDE applications, techniques, instruments, and systems.
- QNDE for materials characterization (properties, microstructure, stress and texture, weldments and joined materials, corrosion, and other degradation mechanisms).
- QNDE for advanced materials (composites, electronic materials and devices, ceramics, and biological).
- NDE and NDT for Civil Infrastructure Systems and Civil Engineering Materials
- Applications of QNDE in design, advanced manufacturing, and process monitoring and control.
- Structural health monitoring and prognostics, including smart materials applications.
- Other advances in QNDE and related topics.
- 13th Annual Student Poster Competition.

**Poster Sessions**

QNDE 2015 will present a new display schedule for the Poster Sessions. All posters will be displayed continuously from 12:00 pm on 27 July until 5:00 pm on 30 July. This will provide extra time for viewing the posters. Participants will have the opportunity to speak with presenters during the specified Poster Session as highlighted in the program. **Poster size is limited to 36” x 48”, landscape or portrait orientation.**

**13th Annual Student Poster Competition**

Students should submit an abstract on a topic within the scope of the meeting AND STATE ON THE ABSTRACT THAT IT IS SUBMITTED AS A STUDENT POSTER. Only one poster per student will be selected, and the student must be the senior author AND the presenting author. The posters will be judged on 1) technical content and thoroughness of work; 2) quality of the poster materials and overall presentation; and 3) the student’s mastery of the poster subject and her/his ability to defend it during judging. Prizes will be awarded.

**Student Poster size will be limited to 36” x 48” (.91m x 1.22 m).** A PDF of the completed poster must be submitted electronically through the QNDE Programs website by 5:00 pm CDST on 17 July 2015. This will allow for judging of the content prior to display and the specified poster session.

**All papers related to NDE reliability/POD will be incorporated in the 6th EAW’s program**

http://www.nde-reliability.com/

- Theories and practice of flaw characterization and sizing (including inversion, reconstruction, and imaging), and probability of detection (POD).
- QNDE reliability and inspectability assessments, including applications of POD and model-assisted POD (MAPOD).
Abstract and Paper Submission

Abstract Format: These should give (i) Session/topic area, (ii) title, (iii) authors with affiliations, and (iv) a concise abstract – up to 1 page letter paper with 1 inch margins; 12 pt. Times Roman, single line spacing. Abstracts may include a figure or diagram. Abstracts can include details to cited references and should include an acknowledgement for funding source.

A sample abstract can be seen on the QNDE website.

Abstracts are due Monday, April 27, 2015.

The submitted materials will be published in an electronic book of abstracts.

Abstracts will be reviewed by a program committee. Author(s) will be informed of acceptance by Friday, May 15, 2015.

With the acceptance of an abstract, the Committee understands and expects that you will attend the Conference and present your paper, as scheduled, and that you will also prepare and submit a manuscript to be reviewed and published in the Conference Proceedings.

Submit abstracts electronically at: www.qndeprograms.org/abstracts

The meeting Proceedings will be published by the American Institute of Physics in a combination of a hardbound volume and an accompanying CD. The manuscript format for papers submitted to the proceedings will be the same as that used for the 41st QNDE (held 2014). Papers can be 10 pages in length. Please refer to manuscript preparation details on the QNDE web site (www.qndeprograms.org).

High-Quality Papers and Presentations.
Each year, a large number of presentations are given by professionals distinguished in their fields. The special sessions, with embedded plenary speakers, feature internationally prominent researchers working on NDE disciplines that significantly impact the world in which we live. Participants are briefed on cutting-edge technologies emerging from and intersecting with their disciplines.

Multidisciplinary Focus.
This is the only conference designed to facilitate NDE disciplines and dialogue among members of government, industry, and the academic community.

Exceptional Networking Opportunities.
The conference provides extraordinary opportunities for discussions and collaborative dialogue with international NDE professionals. Professional exchanges, which often extend years beyond the week-long conference, benefit the participants, their organizational sponsors, industry, and the engineering and scientific professions.

Author Development.
The conference provides thorough and supportive paper reviews, relying on expert guidance from senior engineers and scientists with an opportunity for instructive interaction between author and reviewers.

Conference Proceedings.
A digital version of the Conference Abstracts is included in the registration package. The Conference Proceedings will include a hard bound volume of Keynote and Plenary Keynote papers with the complete full color proceedings on a CD.

International Participation.
The conference attracts a growing number of foreign participants. Representatives of 30 countries participated in the 2014 conference.

Consider attending if you have a professional interest in Nondestructive Evaluation Science and wish to:
- Present results and insights from your own work.
- Interact with colleagues who present papers in your field.
- Engage with people and ideas across a broad spectrum of NDE technologies.
- Understand how your organization might benefit by participating in QNDE Conference each year.

QNDE is registered with the National Academies to assist our International Participants.
International participants requiring Visa assistance, are encouraged to read http://www.cbp.gov/travel/international-visitors for more information. Please contact Pamela Backstrom (pkbackst@iastate.edu) for further assistance.

- A comprehensive technical program is planned that consists of leading-edge keynote and plenary talks, technical sessions organized by research leaders in their specialty fields and contributed sessions, both verbal and poster.
- The Conference includes the 13th Annual Student Poster Competition, which is judged by a group of international NDE experts. Winners of the Student Poster Competition will be announced and celebrated at the conference dinner.
- The Conference serves as a forum and interface for both researchers (including students) and practicing NDE engineers and is recognized as a world-leading NDE conference.
- The Conference setting provides a friendly and conducive format for technical exchange between all concerned with NDE.
- The 5K Fun Run continues as an annual event that showcases a winning combination of competitiveness and collegiality.

The Bruce Thompson Memorial 5K Fun Run
The 2015 QNDE will feature the inaugural Bruce Thompson 5K Fun Run. Participants will enjoy the route through Loring Park adjacent to the Hyatt Regency Minneapolis. The course route can be found on the QNDE website.
THE QNDE SCIENTIFIC ADVISORY COMMITTEE

- Addison, Bob – Retired, Rockwell Scientific Co., USA
- Alers, George – EMAT Consulting, USA
- Ayers, James - Army Research Lab, USA
- Balasubramaniam, Krishnan - Indian Institute of Technology, Madras, INDIA
- Bar-Cohen, Yoseph – Jet Propulsion Lab, USA
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- Han, Xiaoyan - Wayne State University, USA
- Hirsekorn, Sigrun - Fraunhofer Institute for NDT, GERMANY
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- Jiles, David - Iowa State University, USA
- Kanzler, Daniel - BAM Berlin
- Leckey, Cara - National Aeronautics and Space Administration, Langley Research Center, USA
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- Popovics, John - University of Illinois, USA
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- Schmerr, Les – Center for NDE, Iowa State University, USA
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- Tittman, Bernhard - Penn State University, USA
- Udpa, Satish - Michigan State University, USA
- Zoughi, Reza - Missouri University of Science and Technology, USA

WORK WORLD FEDERATION OF NDE CENTERS WORKSHOP

The World Federation of NDE Centers will hold a two day comprehensive short course, preceding QNDE, on “Damage Diagnostics for Prognostics” on July 25-26, 2015 at the Hyatt Regency Hotel. The short course has been developed by Pradeep Ramuhalli, Pacific Northwest National Laboratory.

The course will feature presentations from many recognized and respected international speakers on NDE topics.

Participants who register for the WFNDEC Short Course Workshop in conjunction with their paid attendance to the QNDE conference will receive discounted tuition for the short course.

WORKSHOP INFORMATION ON-LINE AT: WWW.WFNDEC.ORG
HYATT REGENCY MINNEAPOLIS
1300 NICOLLET MALL
MINNEAPOLIS, MINNESOTA, USA, 55403

VENUE AND ACCOMMODATIONS

The Hyatt Regency Minneapolis is perfectly situated on Nicollet Mall. The recently redesigned hotel pays tribute to the unique culture of Minnesota, with sleek mid-century Scandinavian décor highlighted by a spacious lobby featuring an expansive stone fireplace framed by rustic wooden logs. The hotel’s premiere downtown location provides convenient access to an incredible array of Twin Cities’ attractions, from shopping to sports, the arts or the great outdoors.

Student identification will be needed to receive the student rate. Government ID will be required for the Government rate.

<table>
<thead>
<tr>
<th>Registration Fees</th>
<th>Professional</th>
<th>Student</th>
<th>Total</th>
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<tr>
<td>QNDE Conference registration received on or before 19 June using conference hotel</td>
<td>$790</td>
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<td>6th EAW Tutorial Session</td>
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Optional Registration Fee

| Conference Banquet Adult Guest Name(s): Entree: | $55.00 |
| Conference Banquet Child (age 5-12) | $25.00 |
| 5K Fun Run TShirt S M L XL | $25.00 |
| Wire Transfer Fee | $25.00 |

GRAND TOTAL
REGISTRATION FORM - PARTICIPANT INFORMATION:

(ALL participants, including chairpersons, must complete and submit this form. Detailed mailing information is essential for processing. Please type or print clearly.)

Surname/Last Name   First Name  

Company Name  

Mailing Address  

City   State  

Zip+4/Postal Code   Country  

Phone   Fax  

Email  

Conference Hotel  Confirmation Number  

Are you a previous participant at QNDE Conferences?  Yes   No  

SPECIAL NEEDS/REQUESTS: Please be specific  

Do you require accommodations due to physical challenges?  

Do you have dietary considerations or restrictions?  

Please Indicate Tuesday Dinner Entree Choice  

_____Grilled Flat Iron Beef with Au Jus Reduction Sauce  

_____Chicken Marsala with Creamy Mushroom Marsala Sauce  

_____Tarragon Salmon with Grilled Lemons  

_____Roasted Yellow Pepper Stuffed with Kidney Bean and Quinoa Salad  

CONFERENCE FEE CALCULATION TOTAL PAYMENT:  

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<td>Discover</td>
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<tr>
<td>MasterCard</td>
<td>Print Name (as it appears on credit card):</td>
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<tr>
<td>VISA</td>
<td>Card Number:</td>
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<tr>
<td>Wire Transfer + $25.00**</td>
<td>Signature:</td>
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** If paying by wire transfer, ADD the equivalent of $25.00 (U.S. funds) to cover transfer fees incurred by QNDE. At the conference site, overages will be refunded and any remaining fees will be charged to the participant. To process a wire transfer, contact pkbackst@iastate.edu for account information.  

Complete All pages; Fax, Scan/Email or Mail All pages to: 515-294-7771, kallsen@iastate.edu or QNDE Programs – CNDE, 111 Applied Sciences Complex II - 1915 Scholl Road - Ames, IA  50011-3042