



The World Organisation for NDT

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Volume 8 Issue No 18

April 2016

CHAIRMAN'S MESSAGE

Busy period building up to WCNDT

Preparations for the 19th World Conference on Non-Destructive Testing (19th WCNDT), taking place in Munich from 13-17 June 2016, are now very well advanced and we can look forward to an outstanding event. The technical programme, exhibition and social programme, developed by the German Society for Non-Destructive Testing (DGZfP) and supported by their sponsors, are second-to-none. If you have not yet registered and booked your travel and accommodation, now is the time! Also, please think about whether any of your colleagues should be attending. This is an opportunity that will not be repeated for many years.

For ICNDT, the six months before a world conference is a very busy period as we seek to close out the actions that have been underway, prepare for the meetings that will take place at the conference and set the agenda for the next four years and the new executive team.

Each of ICNDT's committees and working groups are working to progress the actions in its Strategic Plan and, in parallel, drawing up draft follow-on plans for 2016-2020, which will be voted on at the General Assembly. I have been working with the ICNDT General Secretary, Sajeesh Babu, and Committee/WG Chairmen and Secretaries on this. We are very interested to hear ideas from our members for actions and projects to include in the plan. The previous plan can be accessed by visiting the document store at: www.icndt.org

Some of the suggestions for the new plan include:

- Organisation of a questionnaire to seek the views of members on how support can best be provided.
- Closer cooperation between ICNDT and the regions to eliminate duplication, increase efficiency and introduce a new fee structure, recognising the ability of larger societies to contribute more.
- More frequent communication and interaction with members, including a series of ICNDT International Forums in conjunction with national conferences.
- Extension/improvement of the ICNDT Examination Question Bank, taking into account answers to the recent questionnaire.
- Creation of a service whereby 'research challenges' can be circulated to those on the ICNDT register of NDT research organisations.
- Sponsorship of international specialist groups, each hosted by a member or other organisation.
- Update and validation of the spreadsheet, comparing the implementation of ISO 9712 by different personnel certification bodies (PCBs).
- Preparation of recommendations on marking schemes for practical examinations.



Continued on page two

Notice to research institutions

ICNDT is establishing on its website (www.icndt.org) a new register of institutions and other organisations that carry out research into NDT and associated disciplines.

The register may be found under the 'Resources' tab on the home page.

Authorised representatives of organisations involved in research activities are invited to add their details free-of-charge at: www.icndt.org/resources/registerentry.aspx

The register is compiled from information supplied by research organisations. Whilst every effort is made to ensure that the details are correct and as up-to-date as possible, ICNDT cannot accept any responsibility for errors or omissions.

World Conference on Non-Destructive Testing

19th WCNDT 2016

13-17 June 2016

Internationales Congress Center München (ICM), Munich, Germany

Topics include:

Structural engineering
Materials characterisation
Modelling and data processing
Medical products
Energy generation

Contact: German Society for Non-Destructive Testing (DGZfP), Max-Planck-Strasse 6, 12489, Berlin, Germany.

Tel: +49 30 678 07 120; Email: conference@wcndt2016.com

www.wcndt2016.com



ICNDT Journal



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Your new ICNDT Journal is available for downloading from www.icndt.org

Published three times per year.

Editorial contributions are welcomed.

Articles should be sent to Sharon Bond, CINDE. Email: s.bond@cinde.ca

Views expressed in this publication are not necessarily those of the International Committee for Non-Destructive Testing. No liability is accepted whatsoever for errors or omissions.

ICNDT Member Societies are authorised to distribute this newsletter and/or its contents, however permission should be obtained for reproduction of individual articles and extracts.

Material for the next ICNDT Journal should be sent to Sharon Bond, email: s.bond@cinde.ca

14th International Conference on the Application of Contemporary NDT in Engineering

The Slovenian Society for Non-Destructive Testing (SSNDT) is organising the 14th International Conference on the Application of Contemporary Non-Destructive Testing in Engineering, to take place at the Grand Hotel Bernardin in Bernardin, Slovenia, from 4-6 September 2017.



Bernardin, Slovenia, is an ideal location for the conference

A sea resort in the heart of Europe, Bernardin provides an excellent location for the conference. Both Bernardin and Portorož offer a range of hotel accommodation, conference facilities, numerous event venues, delicious cuisine, relaxation facilities, cultural events and entertainment options. Besides all of this, Bernardin is characterised by the short distances between all of the venues, which allow visitors to reach all of the activities, business, social or cultural, on foot.

Conference topics include the following:

- Application of NDT methods for construction and material testing

- Mathematical modelling in NDT
- Computer-aided methods for NDE of materials and constructions
- Automation of NDT of materials and products in mass production
- Innovations in NDT techniques
- Evaluation in indications, reliability estimations and estimation of defect acceptability
- Training, personnel qualification and certification for NDT
- Facilities and equipment qualification and authorisation of NDT
- Standards and application of standards in the field of NDT.

Authors wishing to participate in the conference should submit the title of the article, name of author(s), name of the organisation/institution and a short one-page abstract, including the conference heading and keywords, before 31 December 2016. Visit: www.fs.uni-lj.si/ndt or contact: SSNDT, Faculty of Mechanical Engineering, Aškerčeva 6, SI-1000, Ljubljana, Slovenia.

For further information, contact Professor Dr Janez Grum, Conference Chairman, email: janez.grum@fs.uni-lj.si or tel: +386 1 4771 203. Alternatively, contact the Conference Secretary, Assistant Professor Tomaž Kek, email: tomaz.kek@fs.uni-lj.si or tel: +386 1 4771 729.

● *Chairman's message continued from front page*

- Preparation of recommendations on good practice concerning human factors affecting the reliability of NDT.
- Update/increased production of ICNDT Guides.

Ideas and comments concerning these suggestions for the new Strategic Plan can be emailed to: mike.farley@icndt.org

The ICNDT Guide to Qualification and Certification of Personnel for NDT is being updated and a new similar guide for condition monitoring is being prepared. The incoming Secretary of the ICNDT Certification Committee, Tony Wooldridge, has been asked to prepare a mailing list of organisations/people who should be sent copies of these guides, as it is very important that the advice reaches the users and regulators of NDT. Suggestions can be emailed to Tony at: iccc-secretary@icndt.org

I am pleased that we received some excellent nominations for the ICNDT Awards, which will be presented at the 19th WCNDT Opening Ceremony and, at the time of writing this, balloting of the members of the ICNDT Policy and General Purpose Committee (PGPC) is underway. A full set of nominations for the ICNDT Executive Committee (Chairman, General Secretary, Treasurer and two Elected Members) has been received, with an excellent geographical balance. There is competition for some of these posts and ballots will be needed in Munich.

ICNDT has received two indications of intent to make proposals to organise the 21st WCNDT in 2024, both from NDT societies in the Pan-American region. They will each present their proposals at the first General Assembly and we will have a ballot of the members at the second.

The 19th WCNDT has a very full programme, supplemented by ISO TC135 meetings on the weekend after the conference, Working Group 1 and PGPC meetings the weekend before and three ICNDT workshops during the conference, entitled: 'Use of social media by NDT societies and certification bodies – sharing best practice', 'NDT and CM training and certification – current issues' and 'E-learning for NDT and CM training'.

Dates, times and locations of all ICNDT meetings are given on the 19th WCNDT website at: <http://www.wcndt2016.com/programme/meetings>

I hope to see you in Munich!

*Dr J M Farley,
Chairman, ICNDT*



GERMAN
SOCIETY FOR
NON-DESTRUCTIVE
TESTING

EXCLUSIVE SPONSOR



19th WCNDT 2016



World Conference on Non-Destructive Testing

June 13 – 17



MUNICH

CONFERENCE – EXHIBITION – POSTER SHOW – NETWORKING

www.wcndt2016.com

ASIA-PACIFIC

Iranian NDT Night a success

On 15 June 2015, the Iranian Society for Nondestructive Testing (IRNDT) and the Iranian Society of Technical Inspection & NDT Companies (IRSNT) held a joint event incorporating the 6th IRNDT Members Gathering and the NDT Night Celebration. This event celebrated IRNDT's full membership status within the International Committee for Non-Destructive Testing (ICNDT) as the official representation for the Iranian NDT community. More than 200 people were in attendance for this important event, which was held in the auditorium of the Faculty of Metallurgy and Materials Engineering at the University of Tehran.



More than 200 people attended the joint event, hosted by the University of Tehran

Ten member companies sponsored the event, each having the opportunity to exhibit their products and services in a small exhibition area outside the meeting room.

The evening began at 6.00 pm with three welcome messages from Dr Raygan, Dean of the Faculty of Metallurgy and Materials Engineering, Professor Honarvar, IRNDT President, and Mr Moieni, IRSNT President.

In his speech, Professor Honarvar presented a short report on IRNDT activities and thanked IRSNT for its support, along with all other organisations that supported IRNDT's application for full membership of ICNDT. He also thanked the ICNDT Membership Committee and, in particular, Dr Mike Farley, ICNDT Chairman, for their efforts in the careful review of IRNDT's application and their positive attitude during the assessment of the application.

Participants were then invited to a panel discussion, which provided a venue to ask questions about the activities of the two societies and make suggestions for future tasks that the two societies



Proceedings commenced with three welcome speeches

should consider. Some of the topics discussed in the panel session included: the development of new NDT technologies and services; closer cooperation of the societies with government organisations; current concerns of the NDT community; the upcoming Iranian NDT Conference; and the publications, membership and cooperation of the two societies.



The evening included a panel discussion with representatives from both IRNDT and IRSNT

IRNDT is a not-for-profit NDT organisation founded in 2013. The organisation has a membership of approximately 125 individual members, 20 corporate members, 5 honorary members and 40 student members.

IRNDT and IRSNT wish to thank everyone who attended for making the night such a successful event and helping to celebrate IRNDT becoming a full member of ICNDT.

Asia-Pacific Conference for Non-Destructive Testing

15th APCNDT 2017

13-17 November 2017

Marina Bay Sands Convention Centre, Singapore

Theme: NDE for Enhanced Safety, Quality and Productivity

www.apcndt2017.com

PAN-AMERICAN

News from the American Society for NDT

New Chief Technology Officer hired

ASNT is excited to welcome James Bennett into the new role of Chief Technology Officer (CTO), a role that is essential to supporting the needs of its ever-growing global partnerships and diverse membership.



James Bennett

James is responsible for the certification and technical services provided by ASNT to its customer base. This includes the domestic and international ASNT NDT Level II and III qualification programme, ASNT Central Certification Programme (ACCP) and the Industrial Radiography Radiation Safety Personnel (IRRSP) programme.

James will also be responsible for supporting other activities to facilitate ASNT's Strategic Plan Goal 4 – 'Lead the world in the harmonisation of NDT certification' – with the help of his team at the International Service Center and ASNT board members.

James's professional background includes 13 years at Rolls-Royce plc in Derby, UK, where he first received certifications in several NDT methods. Most recently he was at the Performance Review Institute in Warrendale, PA, where he was Senior Staff Engineer of NDT, Measurement and Inspection.

In addition to ASNT NDT Level III certification, James also holds a bachelor's degree in materials engineering from Sheffield Hallam University in the UK.

Section Leaders Conference
planned for May 2016

ASNT will be hosting its biennial Section Leaders Conference in Columbus, Ohio, on 20-21 May 2016. Throughout the two days,

attendees will participate in workshops and breakout sessions to develop knowledge and leadership skills for ASNT Section management. Registration to attend the event is free. Details, including a schedule of events, can be found online at: www.asnt.org/slc2016

ASNT partners with National STEM Conference
to showcase NDT to students

ASNT is proud to be an Official Partner of the 4th USA Science & Engineering Festival, to be held 16-17 April 2016 in Washington, DC, USA.

ASNT will bring hands-on NDT activities and simulations for all ages to the 350,000 plus K-12 students and parents and over 5,000 teachers at the festival, along with other world-leading scientific and engineering organisations. This event is perfect for teens, children and their families, and anyone with a curious mind who is looking for a weekend of fun and discovery.

Sneak Peak Friday, on Friday 15 April 2016, is open to schools, homeschoolers and military families. For more information on the USA Science & Engineering Festival, visit: www.usasciencefestival.org

Calls for abstracts open for
2016 ASNT topical conferences

Calls for abstracts of presentations are now open for a number of the 2016 ASNT conferences. ASNT is currently accepting submissions for NDE of Aerospace Materials & Structures (7-8 June 2016, St Louis, MO), Digital Imaging (25-27 July 2016, Mashantucket, CT), Ultrasonics for NDT (27-29 July 2016, Mashantucket, CT) and NDE/NDT for Highways and Bridges: Structural Materials Technology (29-31 August 2016, Portland, OR). Those interested in participating may submit abstracts online at: www.asnt.org/abstracts

75th ASNT Annual Conference

24-27 October 2016

Long Beach Convention & Entertainment Center, Long Beach, CA, USA

Celebrating its milestone 75th year in 2016, the ASNT Annual Conference is the largest conference for technicians, researchers and other professionals to exchange information and technologies about non-destructive testing.

Papers will be presented in both special invited sessions as well as additional topical areas, including the following:

- Aerospace
- Digital radiography
- Offshore NDT
- Chemical and petroleum
- Codes, standards and regulations
- Nanotechnology
- Ultrasonics
- Technology transfer
- Railroads
- Time-of-flight diffraction

Contact: The American Society for Nondestructive Testing, 1711 Arlingate Lane, PO Box 28518, Columbus, OH 43228-0518, USA. Tel: +1 614 274 6003; Fax: +1 614 274 6899; Email: conferences@asnt.org

www.asnt.org/annual

Robust programme planned for 25th ASNT Research Symposium

The 25th ASNT Research Symposium will be held 11-14 April 2016 at the Astor Crowne Plaza in New Orleans, Louisiana.

This yearly event leads the way in showcasing non-destructive testing (NDT) research. The programme highlights emerging, popular and cutting-edge technologies through a cooperative environment of collaboration, networking and learning. It is a must-attend for researchers, students, engineers, technicians, equipment makers and anyone with a vested interest in the NDT industry.

This year's event is led by Symposium and Research Council Chair Gary Georgeson, Senior Technical Fellow at Boeing, and Programme Chair Anish Poudel, Transportation Technology Center Inc.

Meetings and exams

Certification exams will be held the weekend before the start of the symposium for anyone wishing to further their NDT education. Throughout the week there will be board, council and committee meetings, many of which are open to all attendees. There will also be special events, including: 'Meet your local Section Leader', a STEM (science, technology, engineering and mathematics) Workshop and a Welcome Reception. First introduced at the 2015 ASNT Annual Conference, there will once again be a Town Hall meeting for members and administrators to converse and share ideas for improvement of the Society. Networking and international receptions are also planned so attendees can continue their discussions in a more relaxed environment.

Plenary addresses

Featured presentations at the 25th Research Symposium include a keynote lecture from the US Army Corps of Engineers. On Wednesday, Henrique Reis, Professor at the University of Illinois at Urbana-Champaign, will present the Research Award for Sustained Excellence Lecture, entitled: 'Non-destructive oxidative damage quantification of aged and rejuvenated asphalt concrete pavements'. On Thursday, Gary Georgeson will deliver the Research Award for Innovation Lecture, entitled: 'An inventor's journey: what I have learned about innovation along the way'.

Additional technical presentations throughout the week will cover the most talked about topics in NDT research, such as corrosion in oil and gas, spot weld analysis, backscatter radiography, digital image correlation, air-coupled ultrasonic testing, acoustography, structural health monitoring, computed tomography and many more. These technologies will touch on a number of applications and industries, ranging from engineering disciplines to infrastructure – pipeline, plate, rail and bridge – as well as aerospace topics.

Companion programme

As always, there will be a companion programme for partners, spouses and travelling companions not attending the technical portion of the symposium. The companion programme includes daily continental breakfast and door prizes, as well as activities throughout the week that highlight the host city. These include an orientation talk by the New Orleans Visitors Bureau, Mardi Gras World tour, beignet and coffee break with a local speaker and a cookbook update.

Symposium venue

The Astor Crowne Plaza in New Orleans is ideally located on Canal Street at Bourbon in the French Quarter. It is within walking distance of many attractions, such as the Ernest N Morial Convention Center, Harrah's Casino, the French Market and the Riverwalk Mall.

The 'Four Diamond' accommodation offers a number of amenities for travellers, including free Wi-Fi, 24-hour room

service, an outdoor swimming pool and exercise facility. The hotel is also home to Dickie Brennan's Bourbon House and Beyond, a dining destination for Creole cuisine, seafood, barbecue and a vast selection of whiskies, all with a great people-watching view of Bourbon Street.

New Orleans

'The Big Easy' has consistently been a major tourism mecca, even after the devastating effects of Hurricane Katrina in 2005. With its central location and incredibly rich history and culture, it is no secret why. The award-winning city and Mardi Gras capital of the US was named the 'Top Destination in the World for Nightlife' in Trip Advisor's 2010 Travelers' Choice Awards. It was also ranked third in food and wine destinations, ninth for culture and sightseeing and 15th in the list of 'Top 25 Destinations in the United States'. Regarding sightseeing, the world-renowned French Quarter is just the tip of the iceberg. St Charles Avenue is home to Tulane and Loyola Universities, as well as the historic Pontchartrain Hotel and many 19th century mansions, while Magazine Street features countless boutiques and antique shops. City Park, Jackson Square, Café Du Monde, Pat O'Brien's and the WWII Museum are just a handful of other popular tourist attractions.

Further details and online registration can be found at: www.asnt.org/rs

ASNT 2016 Conference Schedule

25th ASNT Research Symposium

11-14 April 2016

Astor Crowne Plaza, New Orleans, LA

www.asnt.org/rs

Nondestructive Evaluation of Aerospace Materials & Structures

7-8 June 2016

Crowne Plaza Hotel St Louis Airport, St Louis, MO

www.asnt.org/aero2016

Digital Imaging 2016

25-26 July 2016

Foxwoods Resort and Casino, Mashantucket, CT

www.asnt.org/digital

Ultrasonics for Nondestructive Testing

27-29 July 2016

Foxwoods Resort and Casino, Mashantucket, CT

www.asnt.org/ut2016

NDE/NDT for Highway and Bridges: Structural Materials Technology

29-31 August 2016

DoubleTree by Hilton Hotel Portland, Portland, OR

www.asnt.org/smt2016

75th ASNT Annual Conference

24-27 October 2016

Long Beach Convention & Entertainment Center, Long Beach, CA

www.asnt.org/annual

2015 ASNT Annual Conference engaging for NDT professionals

The 2015 ASNT Annual Conference, held 26-29 October 2015 in Salt Lake City, Utah, brought together non-destructive testing (NDT) industry attendees from around the world to learn about new products and developments, take part in Society activities and meet colleagues. More than 1800 attendees participated in the event and represented a wide range of NDT techniques and professions, from researcher through to technician and student.

The 2015 professional programme held five short courses over four days and offered more than 100 papers in 25 sessions. After the close of the conference on the Thursday, there was an Industrial Radiography Radiation Safety Personnel (IRRSP) refresher course on Friday followed by an IRRSP certification exam on Saturday. Topics addressed in sessions spanned the methods of NDT and looked at several different applications and industries.

Attendees were also invited to participate in committee meetings, information sessions and networking activities, while the exhibition hall provided ample opportunity to view the products and services of more than 200 companies.



Over 200 companies exhibited during the 2015 ASNT Annual Conference

Student activities

Student events began on the Sunday prior to the beginning of the conference, starting with the Student Career Workshop. Topics included résumé preparation, interview instruction and networking, so that incoming NDT employees could make themselves stand-out candidates in the field. Students could then practice their newly-learned skills in an interview programme with representatives from NDT companies.



Many activities aimed at students took place alongside the conference

On Monday, students and teachers from high schools in the Salt Lake City area were invited to participate in a workshop designed to educate students on the NDT industry and help teachers learn how to present the field and its career opportunities to their classes. Interactive demonstrations taught NDT concepts and kept everyone engaged as they learned.

Monday also had the First Timer's Orientation, which allowed first-time attendees of an ASNT event to learn about membership, meet members and find out how to get more involved in both this conference and the Society in general. ASNT Secretary/Treasurer Dave Bajula and Past President Ricky Morgan both related their own experiences as young members who participated in ASNT events and later became leaders within ASNT.

Throughout the week, students were also invited to volunteer their time helping to run the conference and many attended paper presentations or sat in on committee proceedings. Thanks go to students from Central Piedmont Community College, Ridgewater College, Salt Lake Community College and Southeast College for their attendance and help.

Annual Business Meeting

On Monday, the Annual Business Meeting had 78 members from 38 different sections in attendance, easily surpassing its quorum requirements. The election results were ratified, as were the changes to the ASNT Bye-laws, which had originally been mailed on 7 August 2015.

Dave Bajula presented a positive report for fiscal year 2014-2015. Operations generated a surplus of more than \$700,000 and ASNT's investment portfolio added more than \$600,000.

Chair of the Board Roger Engelbart presented the State of the Society message, highlighting the hiring of new staff at the International Service Center, including Dr Army Bereson as Executive Director, the creation and implementation of the Strategic Plan, international involvement through travel and partnerships with other societies and increased activities involving conferences and publications. This year also saw the creation of Region 20, supporting Canada, and a newly-chartered German Section. (Additional new sections in New Mexico, Oman and China were chartered later in the week at the Annual Conference.)

Roger thanked participants of the 2015 Annual Conference, including the sponsors: Olympus, QSA Global Inc, Carestream NDT, Circle Systems Inc and Pine. He also recognised Devon Clausing as Head of the Spouses and Companions Programme and introduced Professional Programme Chair Claudia Kropas-Hughes. Claudia reported on the scope of the conference and invited attendees to attend the Mehl Honor Lecture keynote address on Tuesday. Other dignitaries and members were recognised, including the outgoing and incoming ASNT Officers, Board Members, Regional Directors, Council Chairs and Past Presidents.

Town Hall meeting

This year's Annual Conference started a new tradition as attendees were invited to participate in an open discussion with Society leadership at a Town Hall meeting. Roger Engelbart facilitated the meeting and opened with an overview of the Strategic Plan (published along with the August 2015 issue of *Materials Evaluation* and available online). The goals laid out by the plan were already set, but members were encouraged to participate in the prioritisation of those goals and the means to achieve them.

Members new and old filled the auditorium and many made suggestions. Specific areas that were mentioned included certification, international participation, partnering with research institutions and expanding outreach to students of all ages. The 2015 ASNT National Officers – President L Terry Clausing, Vice

President Kevin Smith, Secretary/Treasurer Dave Bajula and incoming Secretary/Treasurer David Mandina, in addition to Executive Director Arny Bereson, fielded the questions.



A Town Hall meeting took place for the first time at the 2015 Annual Conference

Arny stressed that the Strategic Plan is a living document that can adjust to new conditions and challenges in the NDT industry. The success of this Town Hall meeting and future ones will help the Society match its activities to the plan.

Exhibitor welcome reception

Following the Annual Business Meeting, the 2015 ASNT National Officers, plus Roger Engelbart, Arny Bereson and Claudia Kropas-Hughes, took part in a ribbon-cutting ceremony to officially open the exhibition hall. A welcome reception therein allowed attendees to mix and mingle, enjoying hors d'oeuvres and networking, while seeing the latest products and services available in the NDT industry.



The exhibition hall was officially opened during a ribbon-cutting ceremony

International reception

International guests and sister society representatives, as well as ASNT Officers and other members, met after the exhibition hall closed on Monday for an International Reception. International guests were welcomed and many gifts and recognitions were exchanged. ASNT (represented by Roger Engelbart) and the German NDT Society, Deutsche Gesellschaft für Zerstörungsfreie Prüfung eV (DGfZP – represented by Ralf Holstein) signed a Memorandum of Understanding, pledging a sharing of knowledge and cooperation on the NDT industry and society activities. DGfZP will host the 19th World Conference on Non-Destructive Testing in Munich, Germany, in June 2016. International reception attendees were also treated to drinks and hors d'oeuvres.

Keynote and plenary addresses

Tuesday morning's address was preceded by a ceremony wherein Salt Lake City Mayor Ralph Becker proclaimed the week of the ASNT Annual Conference to be Non-Destructive Testing Week in the city. He presented Chair of the Board Roger Engelbart with the proclamation and thanked ASNT and its members for their services in keeping people safe.

Following the presentation, Mehl Honor Lecture Award recipient, Shant Kenderian of Aerospace Corp, discussed: 'Non-destructive evaluation as a tool for mission success'. His presentation touched on several different NDT techniques used on the structures of aerospace launch vehicles, including low-frequency ultrasonic testing on thermal protective systems, very focused computed tomography on tiny thruster springs and flash shearography on solar cells. These techniques were chosen because they worked for the materials being tested and also for the properties being investigated.

On Wednesday, Michael Serabian, of PQNDT Inc, discussed the results of the 2014 Salary and Benefits Survey, published by PQNDT, in a plenary address, entitled: 'NDT: can the resurgence continue?'. The 2014 survey shows a growing NDT industry, with more jobs in key industries such as aerospace, petrochemical and construction. However, the NDT workforce is ageing, so work must be carried out to encourage trainees, students and younger employees. Survey respondents were positive about changes in the economy, though, and NDT contractors were confident in their job prospects and their ability to continue finding contracts. The complete 2014 Salary and Benefits Survey is available through the PQNDT website at: www.pqndt.com

On Thursday morning, Stephen M R Covey, CEO of FranklinCovey, presented the keynote address, entitled: 'The speed of trust'. Trust is an important concept for the NDT industry, as tests and testing providers are liable for the safety of test subjects and users. Stephen's presentation explained how trust is created and can be a significant part of business practice, representing competency and reliability in people and systems.

All presentations were well received and well attended as part of the conference's strong professional programme.

Short courses and educational sessions

The short courses taught throughout the week were very much in demand, leading to sold-out attendance for all five. Oscar Lewis, of West Penn Testing, started on Monday morning with: 'How to deliver an effective technical presentation' and Antoinette Bailey, of Hellier NDT, followed in the afternoon with: 'NDT 101: how to establish an NDT programme'.

On Tuesday, Timothy Armitt, of Lavender International, presented: 'A masterclass in time-of-flight diffraction data analysis', Sang Kim, of Guided Wave Analysis LLC, presented: 'Guided wave testing of pipeline and plate structure' on Wednesday and Scott Cargill, of Applus RTD, spoke on Thursday about: 'Interactive discussion of nuclear regulatory commission's title 10, Code of Federal Regulations, Part 37, Part 20 and field inspections'. These courses offered NDT technicians, managers and trainees the education and credits they need to stay current in the rapidly-changing NDT field.

Educational sessions throughout the week offered 30-minute research paper presentations on a wide array of NDT topics. They looked at specific technologies, such as guided wave testing, digital radiography and probability of detection, and at general industries, such as aerospace, chemical and petroleum and infrastructure. Session chairs and other presenters frequently made themselves available for follow-up questions and further interactions after speaking, so attendees could continue their learning.

New to the conference this year, the Penetrating Radiation Committee offered a free seminar, entitled: 'Digital and film radiography – comparison and contrast'. Experts from the radiography field discussed the differences between digital and film

techniques, including capabilities, hardware and requirements, as they are applied in the field.

Annual Awards Banquet

ASNT members gathered on Wednesday evening for the Annual Awards Banquet. ASNT recognised volunteers and NDT community members for their contributions to the industry and to the Society itself.

Morteza K Jafari was recognised with the Charles N Sherlock Meritorious Service Award and Christopher Black was named the Lou DiValerio Technician of the Year. Two new awards were given: the Award for the Advancement of Women in NDT was presented to Lalita Udpa and the Award for the Advancement of Active Military and Veterans in NDT was presented to J Mark Davis. Mark was also named an ASNT Fellow, along with Ali Abdul-Aziz, N David Campbell, John Iman, David G Moore, Richard Seals and Todd Sellmer. Richard C Barry, George J Binczewski, Robert E Cameron, Robert A Feole, Charles J Hellier III, George R Henke, Robert W McClung and Eugene S Monks were all recognised as 50-year Members. The Golden Gate, Greater Houston, Greater Los Angeles, Old Dominion, Pacific Northwest, San Diego and Saudi Arabian Sections were all presented with the gold level President's Award for their activities in 2014-2015.

As always, NDT education and mentoring were an important part of the Awards Banquet. Undergraduate students Joshua Javor, of the Ohio State University, and Monica Denisse Pinon Martinez, of the University of Texas at El Paso, were recognised with the Engineering Undergraduate Award. Michael McGloin was presented with the George L Pherigo Tutorial Citation and Eugene V Charpia, Edward P Dukich, Gary E Georgeson, George Howard (deceased) and Dan S Kerr were all honoured with the Mentoring Award. Faculty grants were presented to the University of Alabama at Birmingham and the University of Idaho at Idaho Falls for beginning or enhancing NDT education. Fellowship Awards were presented to students and teachers for NDT research at the Missouri University of Science and Technology, Northwestern University, North Carolina State University and the University of Pittsburgh. Outstanding Paper Awards were presented to Xin Chen, Thomas Michaels and Jennifer Michaels, for materials evaluation, and to Christopher Trampel and John Bowler, for research in non-destructive evaluation.

At the end of the evening, the incoming Board of Directors was recognised and outgoing members were presented with plaques. Outgoing President Terry Clausing passed the presidential collar

to 2015-2016 ASNT President Kevin Smith. The new President's inaugural address (published in the November issue of *Materials Evaluation*) looked at helping ASNT to become an international and inclusive Society, and compared the communication and trust involved in Kevin's hobby of mountaineering to those necessary to collaborate with Society members. After the banquet, the annual After Party allowed members to meet and talk in a casual atmosphere and to enjoy desserts and drinks.



Outgoing President Terry Clausing passes the presidential collar to 2015-2016 ASNT President Kevin Smith

Attendees of the 2015 ASNT Annual Conference had the opportunity to meet and learn from their colleagues in the NDT industry, view new products and services available to them, and participate in making the Society a stronger part of NDT worldwide. ASNT thanks all the participants and volunteers who helped to make this year's event a success. The Society would once again like to thank the conference sponsors: Olympus, QSA Global Inc, Carestream NDT, Circle Systems Inc and Pine.

The 2016 ASNT Annual Conference will be held 24-27 October 2016 at the Long Beach Convention Center in Long Beach, California. It will feature many enlightening and fun events highlighting the 75th Anniversary of ASNT, so make plans now to attend. More information will be available on the ASNT website in the coming months.

Digital Imaging 2016

25-26 July 2016

Foxwoods Resort and Casino, Mashantucket, CT, USA

The Digital Imaging Conference is ASNT's longest running conference for suppliers and users of digital and radiographic imaging. Now in its 19th year, this event emphasises the important role of, and challenges to, NDT for new construction and in-service inspection.

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www.asnt.org/digital

Some historic events in the development of ISO 9712:2005

For more than 40 years, the competence of the Non-Destructive Testing (NDT) Operator has been the subject of discussions at both a national and international level and several international organisations have addressed the question of the international harmonisation of personnel certification schemes.

At its meeting in Warsaw in 1973, the International Committee for Non-Destructive Testing (ICNDT) recognised the need for international harmonisation in training, qualification and certification and formed a Working Group, the objective of which was to develop such harmonisation. Between 1973 and ICNDT's meeting in Melbourne in 1979, this Working Group attempted to critically review and compare national systems. A long discussion in Melbourne resulted in a new approach: agreement upon some common basic rules followed by the development of detailed syllabuses for each NDT method:

1. Training and qualification according to test method.
2. Training and qualification divided into three levels.
3. Definition of minimum knowledge and skills.
4. Qualifying examinations to be carried out by a neutral and independent body.

At the time of the 10th World Conference on NDT in Moscow in 1982, ICNDT's Working Group submitted a recommended syllabus for ultrasonic testing and reported on parallel and coordinated activities within the European Working Group for harmonisation of training and qualification of NDT personnel. Following discussion, the ICNDT agreed that the Working Group should finalise its task in time for the next meeting, scheduled for Las Vegas in November 1985.

Another international body of NDT experts, the International Organisation for Standardisation (ISO) Technical Committee 135 Subcommittee 7 – Non-Destructive Testing: Personnel Qualification (TC135/SC7), formed in 1974, held its first meeting in Ottawa in September 1983. Along with the decision to proceed with the development of an international standard, the subcommittee

agreed that the proposed standard would be based on the four basic principles accepted by the ICNDT Working Group.

In parallel, several United Nations organisations, led by IAEA, joined forces in 1982 to fund a Regional Non-Destructive Testing Project for Latin America and the Caribbean. By 1985, 17 countries in the region, with international support, were jointly developing a regional training and qualification standard for NDT personnel. This initiative was extended in 1986 to the Asia-Pacific region in an IAEA project and later joined by African countries.

In early 1984, IAEA convened a meeting of international experts in Vancouver and asked their advice on the status of international harmonisation.

Following the recommendations of this meeting, IAEA decided to support the work of ISO/TC135/SC7 and to recommend its draft for use in all IAEA projects, yet closely monitoring developments and keeping open the option of developing its own document if progress appeared to be too slow. As another result of this meeting, the IAEA became a member of ISO TC135/S7 and contributed strongly to its work.

Within the Regional NDT Project for Latin America and the Caribbean, common guidelines for the qualification and certification of NDT personnel were developed by a Working Group made up of a representative of each participating country. An IAEA Consultants Meeting, held in Milan in May 1986, recommended that IAEA should publish the guidelines and this was carried out in 1987. These guidelines were presented to ISO TC135/SC7 to assist in the development of recommendations for an international standard and formed the basis of the ISO 9712:2005 standard.

This article was compiled in October 2015 by Asociación Argentina de Ensayos No Destructivos y Estructurales (AAENDE) and is based on information provided by Honorary Member Ken Beswick.

The Costa Rica Institute of Technology opens gamma radiation laboratory

The Costa Rica Institute of Technology (Tecnológico de Costa Rica – TEC), located in Cartago, Costa Rica, celebrated the opening of a new gamma radiation laboratory during a ceremony in January 2016. Attendees included Yukiya Amano, Director General of the International Atomic Energy Agency (IAEA), and Luis Langoria, Director for Latin America and the Caribbean.

The centrepiece of the laboratory consists of a new shielded reactor, the first of its kind in Costa Rica. Special construction of this reactor provides higher radiation safety conditions than typical reactors available on the market. For example, if an earthquake or interruption of electric power occurs, the radiation process is interrupted. It is also housed in permanent shielding, which restricts physical access during operation.

Supported by the government of Costa Rica and forming part of an IAEA national project, the acquisition of the reactor was jointly funded by the Costa Rica Institute of Technology and the IAEA and will be used for research in the sterilisation of medical and hospital devices, inducing mutations in plants to achieve more resilient species and modifying properties of new materials, among many other applications.

Mr Amano congratulated the Institute and praised the university and Costa Rica for taking these important steps in the safe use of peaceful nuclear technology for charitable purposes.

The School of Materials Science and Engineering (formerly called the School of Metallurgy) has been working with radiation

technologies since 1989. Staff have received substantial national and international support for training through regional cooperation efforts such as: Mexico, technical training in the use of gamma radiation emitting equipment, National Atomic Energy Commission of Argentina (CNEA) and FOAR – Level 3 certification in radiography and ultrasonics. This cooperative effort, together with Costa Rica's National Standards Body (INTECO), strengthens the development and implementation of the National Certification System.

The School of Materials Science and Engineering has also been the national counterpart on three regional projects – Regional Cooperation Agreement for Latin America (ARCAL). It has promoted the use of nuclear technology in the industrial area:

1. The gamma irradiator.
2. The complete kit for the detection and processing of data for testing radiotracers, donated by the IAEA. Radiotracers allow the determination of residence time in treatment plants sewage, optimising mineral processing plants and the study of the hydrodynamics of fluids.
3. Three sources of cobalt-60 and a full-armour system and datalogging for the application of the gamma scanning technique, donated by the IAEA. This technique makes it possible to study the operation of distillation columns and towers in full operation and analyse the internal state of piping designed for the conveyance of fluids.

News from the Brazilian Association for NDT and Inspection

ASNT delegation visits Brazil

ABENDI welcomed a delegation from the American Society for Nondestructive Testing (ASNT) from 9-12 November 2015. The delegation, comprising Terry Clausing (Administration Council President), Kevin Smith (President) and Dr Arny Bereson (Executive Director), attended scheduled visits and meetings in Rio de Janeiro, São Paulo and São José dos Campos (in São Paulo), accompanied by ABENDI's President, Marcelino Guedes, and Executive Director, João Conte.

ABENDI participates in COMADEM and CORENDE

ABENDI's Executive Director, João Conte, and Manager of Institutional Relations, Antonio Aulicino, both participated in the 28th International Congress of Condition Monitoring and Diagnostic Engineering Management (COMADEM 2015), which was held jointly with the 10th Regional Non-Destructive & Structural Testing Congress (X CORENDE).

The purpose of the congress, which took place 1-4 December 2015 at CNEA – Centro Atômico Constituyentes (CAC) in Buenos Aires, Argentina, is to encourage and facilitate the exchange of information and experiences from all regions of the world.

João Conte also participated in END's Pan-American Federation Meeting.

Paraty hosts event with NDT specialists

The Brazilian Center for Nondestructive Evaluation (CAND) hosted a work meeting in the city of Paraty, Rio de Janeiro, which took place 10-11 November 2015 and counted on the presence of around 40 specialists from Brazil and abroad.

There were a total of 10 lectures, most on new technologies including digital radiography. Lecture highlights included: 'Deep learning in the future of NDE', by Greg Selby (EPRI), 'NDT's new technologies', by Peter Reimann (AREVA), 'Non-destructive testing of intermediate storage casks – a CAND project study', by Michael Kröning (QNET), 'Intermediate storage casks and facilities – a German experience', by W Steinwarz (SB GmbH), 'Bundesanstalt

für materialforschung und prüfung (Minimum requirements for digital radiography)', by Pedro Portella (BAM) and 'Equipment and measurement procedures by different industries and standard organisations', by Uwe Ewert (BAM).

ABENDI participates in VI COPAEND

Antonio Aulicino, ABENDI's Manager of Institutional Relations, was one of the debaters in the Personnel Certification Forum, alongside Terry Clausing from ASNT (USA) and Sharon Bond from CINDE (Canada). The event formed part of the 6th Pan-American Conference for NDT (VI COPAEND), which took place 12-14 August 2015 in Cartagena, Colombia.

ABENDI hosts ISO'S International Technical Meeting

Representatives from countries such as Japan, China, Kazakhstan, Holland and Austria met recently at ABENDI's headquarters for ISO's International Technical Meeting, to discuss issues relative to the use of acoustic emissions in concrete and in detecting leaks. The event was restricted to members of the Acoustic Emissions Subcommittee – SC9.

The following people participated in the meeting: Gongtian Shen (SAC/China), Professor Tomoki Shiotani (JISC/Japan), Dr Hideyuki Nakamura (JISC/Japan), Herman Schoorlemmer (NETH/Holland), Peter Tscheliesnig (ASI/Austria) and Oxana Tivanova (KAZMEMST/Kazakhstan), as well as Pedro Feres (PASA), Luis Damasceno (Petrobras and SEQUI), Rafael Ramos (ABNT) and Alessandra Alves, Antonio Aulicino, Luis Mauro, Ana Paula Giolo and Carla Castilho from ABENDI.

PANNDT selects headquarters in Brazil

The Pan-American Conference for Nondestructive Testing (PANNDT) has chosen ABENDI as the location for its headquarters in Brazil.

PANNDT is an international institution composed of several countries that delegate, through representatives, various activities in order to develop tests and inspections worldwide.

7th ACNDT

26-28 November 2016

Oran, Algeria

Topical areas of the 7th African Conference on Non-Destructive Testing (ACNDT 2016) include the following:

- NDT methods R&D
- NDT personnel certification and regulation
- Life prediction
- Nanotechnologies and high-resolution NDT
- Material characterisation
- New methods
- Modelling and data processing
- Structural health and condition monitoring

<http://icwndt.csc.dz/>

CALENDAR OF NDT EVENTS

Month	Date	Venue	Event	Contact
April 2016	11-14	New Orleans, Louisiana USA	25th ASNT Research Symposium	conferences@asnt.org www.asnt.org
May 2016	19-20	Budapest Hungary	International Conference on Diagnostics of Structures and Components using the Metal Magnetic Memory Method	gillemot@marovisz.hu www.marovisz.hu
	24-26	Dayton, Ohio USA	MFPT 2016 and ISA's 62nd International Instrumentation Symposium	chris@mfpt.org www.mfpt.org/mfpt2016/
June 2016	13-17	Munich Germany	19th World Conference on NDT (19th WCNDT)	tagungen@dgzfp.de www.wcndt2016.com
September 2016	5-7	Exeter UK	11th International Conference on Advances in Experimental Mechanics	info@bssm.org www.bssm.org
	7-9	Prague Czech Republic	32nd European Conference on Acoustic Emission Testing (EWGAE 2016)	cndt@cndt.cz www.cndt.cz/ewgae2016
	12-14	Nottingham UK	55th Annual British Conference on Non-Destructive Testing – NDT 2016	conf@bindt.org www.bindt.org
	12-16	City of Oulu Finland	9th EUROSIM Congress on Modelling and Simulation	office@automaatioseura.fi www.eurosim.info
October 2016	10-12	Paris France	13th International Conference on Condition Monitoring and Machinery Failure Prevention Technologies – CM2016/MFPT2016	conf@bindt.org www.bindt.org
	24-27	Long Beach, California USA	75th ASNT Annual Conference	conferences@asnt.org www.asnt.org
	25-27	Moscow Russia	16th International Exhibition of Equipment for NDT and Technical Diagnostics	stefag@primexpo.ru www.ndt-russia.ru
November 2016	15-17	Ontario Canada	6th International CANDU In-Service Inspection Workshop and NDT in Canada Conference	events@cinde.ca events.cinde.ca
September 2017	4-6	Bernardin Slovenia	14th International Conference on the Application of Contemporary NDT in Engineering	janez.grum@fs.uni-lj.si www.fs.uni-lj.si/ndt
June 2018	11-15	Gothenburg Sweden	12th European Conference on NDT (ECNDT 2018)	info@ecndt2018.com www.ecndt2018.com