



The World Organisation for NDT

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Volume 8 Issue No 12

November 2013

CHAIRMAN'S MESSAGE

ICNDT launches three key initiatives to aid harmonisation and recognition of personnel certification globally

During NDT Week in Croatia, 7-11 October 2013, three key initiatives to aid harmonisation and the recognition of personnel certification globally were launched at the Certification 2013 Conference. These include the following:

- The ICNDT Multilateral Recognition Agreement (MRA);
- The ICNDT Personnel Certification Body Conformity Assessment (PCBA); and
- The ICNDT Examination Question Bank (EQB).

These developments were included in our strategic plan and have been completed by the ICNDT Certification Executive Committee (ICEC) and the ICNDT Executive Committee (IEC), with the strong support of John Thompson, Secretary of the ICEC.



The ICNDT Multilateral Recognition Agreement (MRA)

Under the MRA, ICNDT members sign the agreement and agree to commit to the pursuance of the objectives of the MRA, as follows:

- Promote the recognition and acceptance of the certification issued by PCBs registered under the MRA;
- Assist other interested parties by giving a clear overview of the NDT personnel certification activities in its own country;
- Provide other parties with non-confidential information on the certification scheme(s) operated by PCBs registered under this agreement;
- Consult with and seek membership of the scheme and technical committees of NDT PCBs in its own country;
- Indemnify ICNDT against liability for the party's use or misuse of this MRA.

Further details of the MRA can be found in the ICNDT Operating Procedure OP19.

The ICNDT MRA builds directly on the successful experience of EFNDT with a similar agreement and, since 1994, the Board of EFNDT has recommended that its member societies should now participate in the ICNDT MRA. This will bring wider recognition of the certification offered by PCBs than is provided under the EFNDT MRA.

Nine ICNDT member societies⁽ⁱ⁾ from Europe, Asia Pacific and Pan-America had already signed Schedule 1 and a further 17 members and associate members of ICNDT⁽ⁱⁱ⁾ also signed in Croatia, making 28 signatories to date.

The first PCB to apply for recognition (Ukraine – The Ukrainian Scientific Research Institute for NDT (UkrSRINDT)) has been registered by ICNDT and several other registrations

Continued on page two

Appointment of ICNDT assessors

ICNDT recognises the need for a peer review system for conformity assessment of NDT personnel certification bodies, as a supplement or alternative to accreditation. The primary need for this system is to support the ICNDT Multilateral Recognition Agreement (MRA) for NDT personnel certification. The ICNDT Certification Executive Committee (ICEC), met in Zagreb on 8 October 2013 and agreed the appointment of six assessors. These comprise Lead Assessors based in the UK, Singapore and Russia, and Support Assessors based in Australia, Brazil and Canada.

Contact the ICEC Secretary on iccc-secretary@icndt.org for more information on conformity assessment and the ICNDT MRA.

World Conference on Non-Destructive Testing

19th WCNDT 2016

13-17 June 2016
The International Conference Centre (ICC), 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; Fax: +49 30 678 07 120; Email: conference@wcndt2016.com

www.wcndt2016.com



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Published three times per year.

Editorial contributions are welcomed.

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

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

Chairman's message continued from front page

are being finalised, including those from Portugal and Finland.



A further 17 members and associate members of ICNDT signed the MRA during NDT Week in Croatia

The ICNDT Personnel Certification Body Conformity Assessment (PCBA)

The PCBA offers a route to conformity assessment *versus* ISO 17024 and ISO 9712, likely to be of value where accreditation is difficult. Details can be found in ICNDT Operating Procedure OP20.

The ICNDT Examination Question Bank (EQB)

The ICNDT Examination Question Bank will be an important platform for harmonisation. It is available in English and Spanish, with improved management software. There are 7000+ selected questions at three levels (L1, L2 and L3) in seven methods, all complying with ISO TR 25107 (plus radiation safety and TOFD). The questions are classified by industrial sector and can be combined for multi-sector examinations. The first

certification bodies to purchase the ICNDT EQB were Argentina (IAEA project) and Korea. The four PCBs that purchased the old EFNDT EQB are being offered the ICNDT EQB on special terms.

Other initiatives on certification

ICNDT is continuing with other complementary actions to further strengthen the proper use of third-party certification and ISO 9712, including:

- An update of the ICNDT Guide – which explains how third-party certification to ISO 9712 can be properly embedded in a company system/written practice. For more information, see: <http://www.icndt.org/Documents/ICNDT-Guide>
- Actions led by WGI Chairman Alexander Mullin to document and compare how different PCBs are implementing the new ISO 9712 as a step towards better understanding and promotion of best practice.

ICNDT/WFNDEC Workshops on Best International Practice in NDT Education and Training

A successful workshop was held at the QNDE conference and a similar event is planned during APCNDT 2013. The aim of the workshops is to share best practice around the world in NDT education, including at undergraduate, post graduate, masters and doctoral levels, and also the integration of this with pre-certification training.

We are hoping to make significant

ICNDT Meetings in Mumbai

Executive Committee

Sun 17 November 2013, 17h00

Conference Opening

Mon 18 November, morning

PGP

Tue 19 November 2013

WG1: Qualification and Certification

Wed 20 November 2013, morning

WG2: Education and Research

Wed 20 November 2013, afternoon

ICNDT/WFNDEC Workshop on Best International Practice in NDT Education and Training

Thu 21 November 2013 11h00-16h00

APCNDT Meeting

Thu 21 November 2013, afternoon.

Advance Notice

IEC and Annual Meeting

Fri 31 January 2014, Glasgow, Scotland
(Followed by Burns Supper and Scottish Ceilidh)

further progress on these initiatives during the forthcoming WGI and WG2 meetings in Mumbai during APCNDT 2013, when the Policy and General Purposes Committee will also be meeting to review our Strategic Plan.



Dr Robin Shipp, the newly-appointed Secretary of the ICNDT Certification Executive Committee

Our thanks are due to the Croatian Society for hosting our meetings in Zagreb, the Indian Society for hosting our meetings in Mumbai and the QNDE organisers for our meetings in Baltimore. I would also like to record our thanks to David Gilbert, the IEC Secretary, and to John Thompson, the ICEC Secretary. John has now retired from his post and we welcome Dr Robin Shipp in his place.

Dr J M Farley
Chairman, ICNDT

Emerging growth markets for NDT inspection services

With slowing global economies and tumbling industrial growth rates, identifying the next or emerging growth markets is a challenge for most companies. Even after identification of the key growth markets, successful penetration into new geographic markets involves an understanding of potential challenges and clearly defined strategies to overcome these challenges in order to attain growth. Frost & Sullivan's latest report (July 2013) on the emerging growth markets for NDT inspection services has identified Brazil, India, China and South Africa as markets that offer positive long-term growth prospects.

The demise of Venezuela as an oil & gas powerhouse in South America has given greater impetus to the Brazilian oil & gas industry, with Brazil emerging as the leader in the continent. Systematic investment in upstream, midstream and downstream infrastructure by Brazil's nationalised oil company, Petrobras, has catapulted the country to the most important oil & gas destination of South America. In its most recent investment plan, Petrobras announced investments of greater than \$220 billion to further develop the country's oil & gas infrastructure. Of this, exploration and production is expected to receive nearly two-thirds of the investment, with \$147.5 billion planned to install new platforms and production units. The downstream segment is expected to witness an investment of approximately \$40 billion in revamping existing refineries and building four new refineries. Hence, the growth opportunities for the NDT inspection services market due to this oil & gas infrastructure development investment are limitless.

Frost & Sullivan's analysis into the third-party NDT inspection service market in Brazil values the market at \$202.3 million for 2012. This market is expected to grow at a compounded annual growth rate (CAGR) of 7.2% to \$286.3 million by 2017.

Despite bold predictions by industry experts, the Indian NDT inspection services market is, in reality, relatively small and valued at \$50.8 million by Frost & Sullivan. Although this might seem small to companies outside India, the market size is relatively large in local currency. Hence, while a tier-1 participant in Brazil generates revenues in tens of millions, tier-1 participants in the Indian NDT inspection services market would typically earn revenues of less than \$10 million annually. The market is also characterised as extremely competitive, with more than 200 competitors fighting for a share of the market, with many of these companies earning less than \$200,000 in revenue. The high number of competitors can be attributed to the low barriers to entry in the market.

Frost & Sullivan research into the Chinese NDT inspection services market provided an interesting conclusion. The market generated \$34.2 million in 2012, which is the lowest among the four countries profiled by Frost & Sullivan. As surprising as this may seem, in China there is a preference for performing NDT inspection in-house rather than outsourcing to a third-party service provider. The inherent perception of NDT inspection being a service not requiring third-party validation and performed at a cheaper rate in-house has restrained growth in the Chinese third-party NDT inspection services market. The three largest national oil companies in China, China National Petroleum Corporation (CNPC), China Petrochemical Corporation (SINOPEC) and China National Offshore Oil Corporation (CNOOC), have in-house NDT divisions that cater to all the NDT inspection needs for these companies. In some circumstances, where there is a shortage of labour in these in-house NDT divisions, work is outsourced to third-party NDT inspection service providers.

Although China currently doesn't offer major growth opportunities, Frost & Sullivan research shows that there is a trend towards greater outsourcing of NDT inspection needs amid a move towards higher involvement of Western oil & gas companies

in China. It is expected that with the larger participation of the Western oil & gas companies from the US and Europe, CNPC, SINOPEC and CNOOC will need to start outsourcing their NDT inspection services to third-party service providers in order to comply with the quality systems and procedures of these Western companies.

Despite South Africa not possessing major oil & gas reserves, the country has established good relationships with its neighbouring countries, such as Mozambique and Namibia, that have recently discovered huge natural gas and oil reserves. This is expected to diminish South Africa's reliance on unstable countries such as Iran for its imported oil & gas needs and increase investment in the midstream segment to connect the oil & gas fields in Mozambique and Namibia to the refineries in South Africa. The downstream segment in South Africa also offers good opportunities for growth for NDT inspection service providers, with the average age of refineries in South Africa being approximately 43 years. Hence, to keep them operational and working efficiently, high maintenance is required leading to greater NDT inspection.

Power generation is another segment expected to offer high growth opportunities, with construction of new power stations expected. It is expected that over the next five years there will be additional construction of power stations to ease the power crisis in the country.

Although Brazil, India and China are high growth markets, long-term, for NDT inspection services, the dynamics in South Africa offer the most favourable environment for investment. The foreign investment laws in South Africa are not as stringent as the other emerging growth markets for NDT inspection services, with limited growth challenges and a professional competitive environment. Hence, it is no surprise that global NDT inspection service providers such as Applus RTD, SGS SA and TÜV SÜD have already entered the market over the past decade, with Dekra Industrial GmbH being the latest entrant acquiring Raysonics, the market leader for third-party NDT inspection service providers in South Africa.

In the recently published Frost & Sullivan study, titled: 'Emerging Growth Markets for Non-Destructive Test Inspection Services', detailed analysis on current and future trends in China, Brazil, India and South Africa has been provided, in addition to a comprehensive view on the latest market and technology trends, revenue projections, competitive landscape and growth opportunities in these markets.

For further information, contact the author at nikhilj@frost.com

The 53rd Annual Conference of The British Institute of Non-Destructive Testing

NDT 2014

9-11 September 2014

The Palace Hotel, Manchester, UK

Contact: Karen Cambridge or Amy Cooke, Conference Services, BINDT, Newton Building, St George's Avenue, Northampton NN2 6JB, UK. Tel: +44 (0)1604 89 3811; Fax: +44 (0)1604 89 3861; Email: karen.cambridge@bindt.org / amy.cooke@bindt.org

www.bindt.org

News from the Malaysian Society for NDT

MSNT special forum on certification, Cherating, Pahang, 25 June 2013

In our bid to promote and discuss various issues related to the certification of NDT personnel based on the National Occupation Skill Standard and ISO 9712, a special forum on certification, NOSS and safety was organised by the the Malaysian Society for NDT.



The panel from MSNT, the Department of Skills Development and the main end-user answering questions from participants

This event was the second, the first one being held at Nilai Spring Hotel, Negeri Sembilan, meant for participants from Klang Valley. This particular event was organised in Cherating with participants coming from Kerteh, where most Petronas plants are located, as well from Gebeng Industrial Area in Kuantan.

Many issues were discussed at the event, especially those related to certification and codes of ethics. A lot of follow-up actions will be taken as a result of this forum.

Nuclear Malaysia hosts Sri Lankan trainee

Another Sri Lankan trainee has been on attachment with the NDT Group of the Malaysian Nuclear Agency. Mr Edirisinghe Vidana Pathirana Janitha Niroshana Edirisinghe is the third trainee sent by the IAEA to Malaysia to learn the Malaysian way of developing our NDT programme.



Sri Lankan trainee, Mr Janitha, attending an exhibition booth during MINDTCE 13

The attachment, which took place from 12 May to 25 July, exposed Mr Janitha to various conventional and advanced NDT methods available in Malaysia. Having spent most of his time

working in radiography methods, during this period he was also attached to eddy current, thermography, neutron radiography, shearography and phased array workshops. Mr Janitha was also given an opportunity to participate in MINDTCE13.

Witness Audit of NCB to ISO 17024

A witness audit has been conducted by the National Accreditation Body, 15-16 July 2013, on the handling of examinations by the Department of Skills Development (DSD). The audit was part of the requirement to maintain the accreditation of MS ISO/IEC 17024 Personnel Certification Body. The audit was conducted on the examination of Ultrasonic Testing Level 2 (Direct Access) at one of DSD's appointed examination centres, iTC Skills Sdn Bhd.



An ultrasonic examination taking place at SIRIM Bhd

There was no non-conformance report (NCR) or observation raised during the audit. The lead assessor was satisfied with all the processes and the handling of confidentiality, safety and preventive aspects by DSD during the examination. DSD would like to thank the entire examination team and the examination centre, who gave 100% commitment and co-operation during the witness audit.

11th International Fatigue Conference

FATIGUE 2014

2-7 March 2014
MCG, Melbourne, Australia

The conference will cover all aspects of fatigue of materials, components, vehicles and structures, including managing the service life of fatigue.

Contact: ICMS Pty Ltd, PO Box 170, Hawthorn, VIC 3122, Australia. Tel: 1300 792 466; Email: fatigue2014@icms.com.au

www.fatigue2014.com

Successful International NDT Conference and Exhibition

The Malaysian Institute for NDT's 13th Conference and Exhibition (MINDTCE 13), which took place in June 2013 in Kuala Lumpur, turned out to be a very successful event.

Participants of the Pre-Conference Digital Industrial Radiography Course exceeded the targeted numbers, while the numbers of exhibitors, papers presented and participants were also impressive.

There was support from ICNDT, the Malaysian Nuclear Agency, Petronas and the Department of Safety and Health, and sponsors and exhibitors contributed much to the success of this event.

The organising committee extends its gratitude to all involved.



Delegates during one of the many presentations



Dignitaries at MINDTCE 13



Mr Kamarudin Zakaria, Vice President, Downstream Operation, giving the opening speech



VIPs visiting one of the exhibition booths



Participants at the pre-conference DIR course



Delegates at the Malaysian Institute for NDT's 13th Conference and Exhibition held in Kuala Lumpur

FSEND-RELACRE announce new Chairperson

Following the decision of Ing Pedro Vilaça to accept a new position as Invited Teacher at the Aalto University in Finland, thus bringing to an end a significant period of dedicated service to the Portuguese NDT community, FSEND-RELACRE has elected a new Chair.

At the FSEND-RELACRE General Assembly held on 20 February 2013, The Non-Destructive Testing Sectorial Forum (FSEND) elected Mr Bento Alves as the new Chair, including the international representation.

Bento Alves graduated in technical physics from the University of Lisbon and has strong experience in the field of NDT. He is

currently the Technical Manager of the biggest accredited NDT laboratory in Portugal, ISQ – Instituto de Soldadura e Qualidade, and is qualified to Level 3 in UT, PT, VT and ET. He also collaborates in the PROQUALINDT project (Transfer European Training Programme for the Qualification of NDT Personnel).

The BoA of RELACRE wishes to express its commitment, alongside the excellent cooperation with the ICNDT, and full support to the new FSEND Chair, and to inform that the FSEND-RELACRE Secretariat will be maintained at the RELACRE office.

Finally, we would like to request that all communications be sent to the Secretariat, coordinated by Claudia Almeida, at: fsend@relacre.pt

HSNT holds successful International Conference on NDT

A message from Professor Ioannis N Prassianakis, Professor Emeritus at the National Technical University of Athens and President of the Hellenic Society of NDT

On behalf of the Board of Directors of the Hellenic Society of NDT (HSNT) and the Organising Committee of the 5th International Conference on NDT, IC-MINDT-2013, which took place in May 2013 at the Eugenides Foundation Conference Centre in Athens, Greece, I would like to express our warmest thanks.

There were 93 papers submitted to the conference, 71 of them for oral and 22 for poster presentation, written by more than 280 authors originating from 25 different countries. Most of them were of a very-high scientific level. The conference was also supported by nine sponsors and exhibitors.

The conference was honoured by the presence of two leaders in the world of NDT: the Chairman of ICNDT, Dr Mike Farley, and the President of EFNDT, Dr Matthias Purschke.

During the conference a very important meeting took place between the Chairman of ICNDT, the President of EFNDT, the Vice Rector of the National Technical University of Athens, Professor Antonia Moropoulou, and the BoD of HSNT.

Everyone attending agreed that the preparation, the execution, the service provided to all the participants, sponsors and exhibitors, the whole atmosphere and the level of the conference were excellent.

Complementary to the conference, the following social events took place:

- The gala dinner in the marvellous projection room of Eugenides Planetarium on the second floor in the Peristyle-Tholos of Eugenides Foundation.



Professor Ioannis Prassianakis (third from left) with ICNDT President Mike Farley and other VIPs

- An excursion to the Sounion and a visit to the Apollon Temple of Sounio.
- A visit to Akropolis, the city of Athens, and the museum of Acropolis.

I would like to express how pleased we all are that, under the global as well as our national economic crisis, this conference took place and was completed successfully. Our warmest thanks go to the BoD of HSNT as well as to the conference Organising Committee. We thank you all and are looking forward to seeing you again at our next International Conference on NDT, which we hope will take place in 2015.

Finally, I would like to express our thanks to the Eugenides Foundation, which offered to us its marvellous conference centre.



ICNDT President Mike Farley speaking at IC-MINDT-2013

11th International Conference on Non-Destructive Investigations and Microanalysis for the Diagnostics and Conservation of Cultural and Environmental Heritage

Art '14

11-13 June 2014
Museo Arquelógico Nacional, Madrid, Spain

Organised by the Spanish Society for NDT
and the Italian Society for NDT

www.aend.org

INVITATION TO PRAGUE - CAPITAL OF THE CZECH REPUBLIC

News from The American Society for NDT

Second edition of ASNT Level III Study Guide: Basic published

Through the diligent work of more than 15 volunteers over the course of six months, ASNT has published the second edition of the *ASNT Level III Study Guide: Basic*. This new edition builds on the first edition written by Matthew J Golis. As with the previous edition, the second edition also divides the subject matter into three main sections corresponding with the three sections of the basic exam:

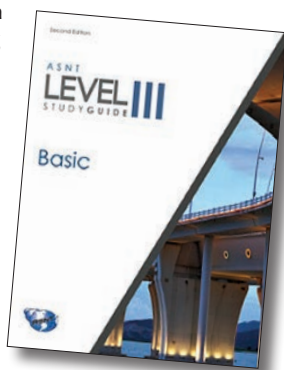
- Section I: Certification and qualification of NDT personnel as outlined in SNT-TC-1A and CP-189;
- Section II: An overview of commonly used NDT methods;
- Section III: Materials and processes in manufacturing and industry in relation to NDT technology.

The only difference in organisation is in the numbering of chapters. What was Chapter 1 in the first edition is now the Introduction to Section I.

Section I has been updated to reflect the latest editions of two key ASNT documents: ANSI/ASNT CP-189: ASNT Standard for Qualification and Certification of Non-Destructive Testing Personnel and Recommended Practice No SNT-TC-1A: Personnel Qualification and Certification in Non-Destructive Testing. Likewise, the topical outlines of the NDT methods presented in Section II have been drawn from the 2011 edition of ANSI/ASNT CP-105: ASNT Standard Topical Outlines for Qualification of Non-Destructive Testing Personnel.

To facilitate the study of these documents, in Sections I and II, word-for-word excerpts are highlighted in blue. Questions in all three sections have been modified, as needed, to reflect current ASNT exam practice of offering four unique answers per question. Also, in Section II, questions have been added for two additional NDT methods: magnetic flux leakage and vibration analysis.

Order the new edition and other publications online at www.asnt.org/store



ASNT's membership rolls growing

In the first half of 2013, ASNT's membership reached 13,300 individual members and 631 corporate partners. This growth can be attributed to the 'Member Up!' recruitment campaign that has been in earnest action since October 2012. ASNT's new campaign encourages its members to offer referrals of new members or seek out fellow NDT professionals and endorse their membership. The campaign will continue through October 2013 and is expected to bring in even more members.

First NDT of Composites Conference a well-attended success

In response to a growing interest among its members about the expansion of composite testing in the non-destructive testing industry, The American Society for NDT held its first ever NDT of Composites Conference from 13-14 May 2013 in Seattle, Washington. This unique topical conference was met with positive response from the 165 attendees, who came from countries all over the world, including Japan, Brazil, Israel and Sweden. The conference featured 24 presentations on subjects ranging from 'Ultrasonic inspection of composites 101' to 'Quantitative thermography of composites using temporally extended excitation'. Attendees also had the chance to meet with representatives from 12 exhibiting companies.

Dianne Chong PhD, Vice President of Assembly, Factory and Support Technologies at the Boeing Company, gave the welcome and keynote address, entitled: 'Non-destructive testing of fibre-reinforced composites'. She discussed how fibre-reinforced plastic composite materials have migrated over the past several decades into numerous commercial products and high-performance industrial applications. The talk also covered how NDT/E methods are facing challenges to cost-effectively find any critical size features within complex CFRP geometries and return quantitative numbers on the fitness-for-service, both at the time of manufacture and later in-service.

The lunchtime keynote was delivered by Paolo Feraboli PhD, Director of the Automobili Lamborghini Advanced Composite Structures Laboratory (ACSL). His presentation, entitled: 'What do a Lamborghini and the Boeing 787 have in common?', revealed the growing use of composites, highlighting that the 787 and the Lamborghini were once 10% composite material but today are 50% or more. His address also touched upon the challenges faced by the Boeing and Lamborghini assembly lines, as well as new technologies used for inspection qualifications and processes.

New training materials enhanced with updates and interactive components

NDT Trainees and Level I personnel will now have greater resources to train for their Level I and II exams through ASNT's upcoming Personnel Training Publications (PTP), covering UT and ET methods. The new editions will feature:

- Updated information conforming to CP-105 (2011);
- New CD-ROMs that provide interactive training programmes for students to review material;
- New review questions with new and familiar diagrams;
- Extended explanations of answers to quiz questions;
- Over 50 comprehensive multiple-choice questions per volume with reference pages for further review of missed questions.

The addition of the interactive digital content is a critical enhancement to this series as it will allow the student to test his or her knowledge and then assess their own progress. The CD-ROM will provide interactive quiz questions with immediate feedback and comprehensive self-tests with instant results and recommendations of areas for further study. Additionally, the CD will provide streamlined slide content to assist the student in

making steady progress through lessons.

ASNT's PTP Programmed Instruction Series is intended to be used as a self-study review of CP-105, providing up-to-date material on major methods with additional information on newer techniques. The series provides resources on electromagnetic, liquid penetrant, magnetic particle, radiologic and ultrasonic testing.

Paper submission for *Materials Evaluation* now online

NDT professionals interested in submitting their articles for ASNT's *Materials Evaluation* journal (*ME*) may now do so online through the ScholarOne system. This exciting new system, launched in February 2013 to replace an email-based program, will increase the efficiency of the submittal and review process by improving communication between the authors, reviewers and *ME* editorial staff, resulting in faster turnaround times from submittal to approval.

ScholarOne not only allows authors to submit their work but also provides a robust set of tools, including the ability for *ME* editorial staff to manage documents, assign articles for peer review and communicate directly with the authors and reviewers involved. The entire process is documented so that a complete sequence of events can be followed for a manuscript; from submission through review to a final decision. Participants are able to log in to view their online dashboard and check the status of their paper and what has yet to be carried out.

ASNT members who volunteer to review are able to provide comments on assigned manuscripts, use form-based scoring and will also get automatic email reminders if they miss a benchmark date.

While the submission process has changed, the requirements for publication, including the peer-review process, have not. Readers will not notice any changes in the content of the journal.

Those who are submitting must create an account and use the submission portal at mc04.manuscriptcentral.com/me

Materials Evaluation is a peer-reviewed journal that relies on

technicians and researchers to help grow and educate the NDT community by providing relevant, cutting-edge and exclusive content containing technical details and discussions. *ME* is circulated to members and non-member paying subscribers in over 90 nations. Read *ME* online at: www.asnt.org/me

ASNT Level III Study Guide: Magnetic Particle Testing updated and published

The *ASNT Level III Study Guide*, which provides a review of technical knowledge to help NDT professionals prepare for the ASNT NDT Level III exam, has been revised and published in its second edition with a new, cleaner design. Updates include:

- An update to the entire book to reflect CP-105 (2011);
- The expansion of several sections, including those covering UV light, indications, surface discontinuities, welding discontinuities, subsurface discontinuities and interpretations, and UV light hazards;
- New photographs of specific types of indications;
- The addition of a table of discontinuities found using magnetic particle testing;
- The addition of many new chapter review questions, with many existing questions also being revised.

The *ASNT Level III Study Guide: Magnetic Particle Testing* is intended to be used with a comprehensive NDT text, such as the *Nondestructive Testing Handbook, Second Edition, Volume 6, Magnetic Particle Testing*. You can order this new edition online at www.asnt.org/store



23rd ASNT Annual Research Symposium

24-27 March 2014

Minneapolis Hilton, Minneapolis, Minnesota, USA

Symposium objectives:

- Promote NDE technology transfer among researchers, engineers, inspectors and equipment makers.
- Provide a professional forum for communication among non-destructive evaluation (NDE) researchers.
- Identify emerging NDT technologies, determine trends and increase the knowledge base.

- Turn the spotlight onto nationally or internationally critical technologies for which NDE can play a vital role.

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

32nd Brazilian National Congress on NDT and Inspection (CONAEND)

Every two years since 1997, ABENDI – the Brazilian Association of Non-Destructive Testing and Inspection – has conducted its National Congress to present and discuss the main applications of NDT, inspection, condition monitoring and control of quality in different industrial sectors. In 2006, through a partnership with PROMAI – a Multinational Project of Integrity Evaluation and Life Extension to Industrial Equipments – the International Conference on Evaluación of Integridad Y Extension Life of Equipments Industriales (IEV) was also brought to Brazil, broadening the programme and scope of the event. CONAEND – the National Congress of Non-Destructive Testing and Inspection – is the traditional event of ABENDI that in its last staging attracted over 1000 participants. It comprises lectures, presentations of technical papers, awards and promotional opportunities. The 2014 Congress, to be held 18-21 August 2014 in São Paulo, will

house the following parallel events to meet the specific demands of each area:

- 19th EXPOEND – Technical exhibition of products and services for non-destructive testing and inspection;
- XV meeting of MERCOSUL Standardisation in NDT;
- 5th meeting of Auditors Management Systems;
- 7th meeting of National Professional Certificates by SNQC (N1, N2 and N3);
- 9th Forum CTVP – Challenges of the Brazilian industry of piping and pressure vessels 2012-2022.

For further information, contact ABENDI, Av Onze de Junho, 1317, Vila Clementino, CEP 04041-054, São Paulo - SP, Brazil. Tel: +55 11 5586 3199; Fax: +55 11 5581 1164; Email: abendi@abendi.org.br; Web: www.abendi.org.br

Bolivian Association of Welding, NDT, Inspection and Corrosion established

The ASBOSENDIC (Bolivian Association of Welding, Non-Destructive Testing, Inspection and Corrosion) has been recently constituted and is located in Cochabamba, Bolivia, having as a goal the dissemination of information concerning the techniques of NDT, welding and corrosion in Bolivia.

The Brazilian Association of Non-Destructive Testing and Inspection (ABENDI) was invited by ASBOSENDIC's management to take part in the first international meeting promoted by this entity.

the opportunity to spread information about their expertise and offerings in a commercial context.

H Rodrigues



The first international meeting of ASBOSENDIC is opened in Cochabamba, Bolivia

The event enjoyed the participation of representatives from Colombia (Corporation for the Investigation of Corrosion Industrial University of Santander), Spain (AEND – Spanish Society of Non-Destructive Testing), Chile (Antofagasta University) and Brazil (ABENDI – Brazilian Association for Non-Destructive Testing and Inspection).

There were 24 papers presented, all with a technological flavour, directed especially to the areas of welding, corrosion and analysis of failures.

There were two institutional presentations, from ABENDI and AEND, and two presentations from government bodies.

An exhibition was held in parallel with the event. There were six exhibitors present that operate in providing welding and NDT services to the oil & gas industry. These exhibitors took



There were 24 papers presented, as well as talks from ABENDI and AEND and two from government bodies



An exhibition was held in parallel with the event



INTERNATIONAL COMMITTEE FOR NON-DESTRUCTIVE TESTING

The World Organisation for NDT

The ICNDT Examination Question Bank

What is the ICNDT Examination Question Bank?

- A stand-alone database application
- Contains over 7,000 multiple-choice questions
- Covers Levels 1, 2 and 3
- General and sectors (aerospace, welds, castings, etc)
- Available currently in English and Spanish
- Compliant with the latest issue of ISO 9712

What is the application capable of?

- Generating question papers manually or automatically
- Selection options for sector, method, level and difficulty
- Each paper has a unique reference and is permanently archived
- Input form for adding further questions
- Data outputs for statistical analysis

What methods and sectors are covered?

- Radiation safety: General
- Materials Science: Multi-sector
- Time of Flight Diffraction: Welds
- Visual Testing: In-Service Inspection, General
- Magnetic Particle Testing: In-Service Inspection, General
- Penetrant Testing: In-Service Inspection, General
- Eddy Current Testing: Aerospace, General, In-Service Inspection, Tubes, Welds, Wrought products
- Radiographic Testing: Aerospace, Castings, General, In-Service Inspection, Welds
- Ultrasonic Testing: Aerospace, Castings, General, In-Service Inspection, Welds, Wrought products

Who has access to the question bank?

- Personnel Certification Bodies nominated by an ICNDT member
- Who have signed or commit to sign the ICNDT Multilateral Recognition Agreement
- And have agreed to meet the requirement for security of the data in the Examination Question Bank

What are the benefits?

- Enable national bodies to share effort in generating suitable questions and so reduce the burden on each body
- Help harmonise standards by ensuring national bodies around the world are using a similar quality of questions
- Enable the generation of a higher quality of examination paper by increasing the number of questions from which those used on a particular paper can be selected
- Help to make examinations more rigorous by enabling participating bodies to ensure that their papers more evenly cover the required bodies of knowledge for a particular subject
- Satisfy the EN ISO IEC requirement for fairness, validity and reliability in qualification examinations

What does it cost?

- One-off outright purchase fee of €7,500
- Optional annual fee of €750 to support:
 - Advice on use
 - Solutions to user or application problems
 - Improvements to the application
 - Extensions to the bank

For further information

Contact the Secretary of the Certification Executive Committee at iccc-secretary@icndt.org

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CALENDAR OF NDT EVENTS

Month	Date	Venue	Event	Contact
November 2013	18-22	Mumbai India	14th Asia-Pacific Conference on NDT (APCNDT 2013)	bvenkat@igcar.gov.in / presidentapcndt@gmail.com www.isnt.org.in
	29	Lyon France	International Symposium on Structural Health Monitoring and NDT	watson2013@listes.insa-lyon.fr http://lva.insa-lyon.fr/symposium2013
February 2014	18-20	Russia Moscow	13th International Exhibition for NDT and Technical Diagnostics	ndt@primexpo.ru www.ndt-russia.primexpo.ru/en/
March 2014	2-7	Melbourne Australia	11th International Fatigue Congress	www.fatigue2014.com fatigue2014@icms.com.au
	24-27	Minneapolis Minnesota, USA	23rd ASNT Annual Research Symposium	conferences@asnt.org www.asnt.org
May 2014	13-14	Missouri USA	NDE Aerospace Materials and Structures IV	conferences@asnt.org www.asnt.org
June 2014	10-12	Manchester UK	Eleventh International Conference on Condition Monitoring and Machinery Failure Prevention Technologies	karen.cambridge@bindt.org / amy.cooke@bindt.org www.bindt.org
	11-13	Madrid Spain	11th International Conference on Non-Destructive Investigations and Microanalysis for the Diagnostics and Conservation of Cultural and Environmental Heritage – art '14	informacion@aend.org www.aend.org
July 2014	7-11	Cambridge UK	16th International Conference on Experimental Mechanics	secretariat@icem16.org www.icem16.org
September 2014	3-5	Dresden Germany	31st European Conference on Acoustic Emission Testing	de@dgzfp.de www.ewgae2014.com
	9-11	Manchester UK	53rd Annual British Conference on NDT – NDT 2014	karen.cambridge@bindt.org / amy.cooke@bindt.org www.bindt.org
October 2014	6-10	Prague Czech Republic	11th European Conference on NDT (ECNDT 2014)	ecndt2014@guarant.cz www.ecndt2014.com
May 2015	10-15	Munich Germany	International Congress on Ultrasonics	2015-icu-metz@me.gatech.edu http://2015-icu-metz.gatech.edu
June 2016	13-17	Munich Germany	19th World Conference on NDT (19th WCNDT)	www.wcndt2016.com