

### **CONTENTS**

News1-2
European Regional Group2-7
Pan-American Regional Group 8-9
Asia-Pacific Regional Group 10-11
Calendar of Events

## The World Organisation for NDT

### Volume 9 Issue No 5

### **April 2019**

### CHAIR'S MESSAGE

### 12th ECNDT and revamping IEC with regional participation

ast year ended with recollections of a truly great 12th European Conference on Non-Destructive Testing (ECNDT) and exhibition, organised by the European Federation for Non-Destructive Testing (EFNDT) and held in Gothenburg, Sweden, from 11-15 June 2018. We are pleased to include a report from the Swedish Society in this issue.

ICNDT executives and working groups held various successful meetings in conjunction with the event.

The 12th ECNDT was a remarkable success, hosted by the Swedish Society for NDT (FOP). The conference was graced by

Professor Peter Trampus, who was EFNDT President at the time, and was well attended by its European members. The conference was also attended by ICNDT executives, presidents of the Asia Pacific Federation for Non-Destructive Testing (APFNDT), the Pan-American region and the African Federation of Non destructive Testing (AFNDT), as well as leaders from interregional national societies, including Australia, Argentina, Brazil, China, India, Malaysia, Japan, Korea, Singapore, South Africa and the USA. The conference was represented by over 32 member states of ICNDT. More than 2300 participants attended, with 488 papers and 70 poster sessions presented at the conference. The conference covered various papers in the growth areas, including additive manufacturing, civil infrastructure and composite materials with other conventional industrial applications.

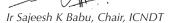
ICNDT held its Executive Meeting, General Assembly and Advisory Committee Meeting during the 12th ECNDT. On behalf of our organisation I would like to thank Sharon Bond and Les Dick, who are retiring from the Executive Committee due to the changes in constitution. Both gave tremendous support to ICNDT over the years in various aspects and I have • requested for them to continue their voluntary services with WG7, ICNDT Administration, • which manages the system operating procedures and administration matters.

The ICNDT General Assembly was well attended; we had reports from all of our working group chairs, regional reports from all of the federations and our liaison report from the International Organization for Standardization (ISO), the International Atomic Energy Agency (IAEA) and the International Institute of Welding (IIW). The new ICNDT Executive Committee (IEC), with members from the regional federations, took office on 14 June 2018. The new IEC members included Roger Lyon from EFNDT, Dr Norikazu Ooka from APFNDT, Harold Jansen from AFNDT and Dr Arny Bereson from the Pan-American region. I believe the new committee will put forward regional ideas collectively and cohesively and bring more benefits to our members.

ICNDT WG1 had a very detailed meeting on the action plan and the comments for the next revision of ISO 9712. The WG1 members participated in various task groups of the ISO/TC 135/SC 7. The revised standard would provide better clarity and strengthen the global use of the standard.

Preparations for the 2020 World Conference in Seoul, which is to be organised by the Korean Society for Nondestructive Testing, are well under way.

I wish you every success in your organisation for the rest of the year.





### 5th Iranian International **Nondestructive Testing Conference (IRNDT 2018)**

he Iranian Society for Nondestructive Testing (IRNDT) hosted the 5th Iranian International Nondestructive Testing Conference (IRNDT 2018) in Tehran, Iran, from 4-5 November 2018. Over 300 Iranian NDT practitioners, as well as international NDT professionals, academics, students, engineers, technicians and NDT companies in the field of NDT, participated in the conference.

The conference was supported by the Iranian Society for Nondestructive Testing. Dr Farhang Honarvar, IRNDT President, addressed the attendees and the conference was then inaugurated by Naser Rastkhah, Conference Chair. The keynote address by Dr Sajeesh K Babu, Chair of ICNDT, followed, after which the ASNT Executive Director's message was read by Morteza K Jafari, International Committee Chair of the conference. The exhibition hall, in which 30 domestic and international companies showcased their latest NDT equipment and services, was opened to the participants after the ceremony and remained opened throughout the conference.



A total of 62 technical papers were presented during the two days of the conference. Also, four panel discussions were held on challenges for the NDT industry and, furthermore, four workshops were conducted, which attracted many of the participants.

The 6th Iranian International NDT Conference will be held in 2020.



### **ICNDT** Journal



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Material for the next ICNDT Journal should be sent to David Gilbert, email: david.gilbert@bindt.org

### **Obituary**

### **Peter Hayward**

It is with much sadness that we report the passing of Peter Hayward in March 2019.

Peter, as a previous Chair and Executive Member of the New Zealand Non-Destructive Testing Association (NZNDTA), was a long-time supporter of the non-destructive testing industry, including through his time as a tutor and mentor to many of New Zealand's non-destructive testing technicians over a long period of time. Peter also served as New Zealand National Project Coordinator for the International Atomic Energy Agency (IAEA) up until 2005.

Members of the New Zealand Non-Destructive Testing Association Executive Committee attended Peter's funeral on Friday 29 March 2019 to show their industry respect.

> Leslie Dick NZNDTA Chair

### Your new ICNDT Journal is available to download from www.icndt.org



## The Slovak Society for Non-Destructive Testing

he Slovak Society for Non-Destructive Testing (SSNDT) is a not-for-profit organisation and the body that coordinates all of the non-destructive testing (NDT) activities in the Slovak Republic. The society was established in 1992

Corporate members of the society include key companies using NDT and also individual members active in the area of NDT.

Since 2018, SSNDT has been a member of the Association of Slovak Scientific and Technological Societies, which is a voluntary, non-profit, democratic and non-political association of public interest, gathering expert scientific and technological societies, associations, committees and regional coordination centres.

SSNDT is an association that is open to anyone interested in NDT. Its main mission is to combine professional interests in the field of NDT to develop NDT of materials and products and increase the professional level of the regions of Slovakia. The society supports the interests of NDT workers and, where necessary, provides expert assistance to its members.

It organises technical seminars, expert conferences, lectures, professional training aimed at disseminating education and new knowledge and current forms of training, qualification and certification of NDT personnel. Within its capabilities, through its members, it organises counselling, evaluation and publishing activities. In addition to other activities in the field of NDT, it is particularly involved in translation and interpretation of NDT-related standards.

SSNDT maintains organisational and regular professional contact with similar domestic and foreign companies.

### **EUROPE**

### **ECNDT 2018**

rom 11-15 June 2018, the NDT community gathered in the city of Gothenburg, situated on the west coast of Sweden, for the 12th European Conference on Non-Destructive Testing (ECNDT). The ECNDT is held every four years, this time through the cooperation of the Nordic NDT societies, with the Swedish NDT Society in the lead. The venue was the Swedish Exhibition & Congress Center in Gothenburg, situated in the heart of the city and connected to the large three-tower hotel complex, Gothia Towers. In this period of the year, the Midsummer celebration takes place in Sweden, which was the theme for the decoration of the venue.



The Midsummer celebration was the theme for the venue decoration

The exhibition was large, with over 164 exhibitors showing the latest NDT equipment and applications within the area of NDT. Most of the European NDT societies were represented and shared their recent news. Professor Leonard Bond presented his key notes concerning the latest developments within NDT in relation to additive manufacturing during the Opening Ceremony. Professor Lars Nyborg from Chalmers, University of Technology, Gothenburg, also provided the audience with a lecture during the ceremony.



The Opening Ceremony included several presentations

On Monday 11 June at lunchtime, the exhibition opened and fruitful discussions, technical exchanges and business interactions took place on the crowded floor. In the evening of the first day, a light welcome party was held and the posters were presented.

The Technical Committee, with members from both the Swedish and the Norwegian societies, collaborated to bring forth a busy schedule, where close to 500 peer-reviewed papers were presented. The well-resourced venue enabled a compact floor plan, where all 128 sessions were held in eight neighbouring conference rooms, right above the exhibition area. In addition, activities on the exhibition floor, such as poster and exhibition sessions and the European Research Day, presented by Academia NDT International, completed the programme. The conference included work presented on electromagnetic

#### **Conference facts**

Papers: 488

Posters: 70

Parallel sessions: 8

Nobel prize winners: 1 – Joachim Frank, with a lecture in the European Research Day that was held within the conference programme

Exhibitors: 164, plus 24 societies

Total area of conference: 7470 m<sup>2</sup>

Total exhibitor area: 2100 m<sup>2</sup>

Total number of participants (including day passes): 2365

Total number of conference delegates (technical programme): 1050

NDE applied in efficient and automated set-ups, often with model-assisted signal processing, especially for multi-channel systems. There were also contributions and discussions in some newer areas, such as electromagnetic methods for material characterisation and inspection of carbon fibre-reinforced composites.



Close to 500 peer-reviewed papers were presented

One clear trend within the X-ray community was the large interest in X-ray computed tomography (CT). In terms of submitted papers, more focus was given to this area than to conventional 2D X-ray radiography. The CT contributions considered laboratory environment usage as well as use within (in-line) quality control in production systems. Generally, it seems to be standard that phased array ultrasonic testing (PAUT) equipment available at the market already incorporates both full matrix capture (FMC) in the total focusing method (TFM). What can also be noted is that several of the system manufacturers are also active in terms of algorithms specifically focused on NDT and scientific articles were presented about this. It is clear that the customer is starting to ask for the technology and that the suppliers are working on getting to it, even in smaller and portable systems.

The Gala Dinner was held on Wednesday evening, with food, music, singing and entertainment provided. The podium was also open for those who wanted to try some dancing after dinner. During the Gala Dinner, a signing procedure took place in the form of an Agreement of Cooperation between the European Welding Federation and EFNDT.

Peter Merck, Håkan Wirdelius, Lars-Ove Skogh

## Historic discussion between IAEA RCA and ARCAL on NDT for civil structures during ECNDT 2018

mutual focus on the promotion of non-destructive testing (NDT) applications for civil structures in the International Atomic Energy Agency (IAEA) Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology for Asia and the Pacific (RCA) and Regional Cooperative Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean (ARCAL) RAS1022 and RLA1014 projects has led to a historic discussion on the way forward for a concerted effort in this area of interest. In the discussion, held during the 12th European Conference on Non-Destructive Testing (ECNDT) in Gothenburg, Sweden, the parties agreed to initiate an interregional effort in establishing a common syllabus and compilation of supporting training materials on NDT for civil structures. Malaysia and New Zealand's national project counterparts from RCA, Dr Ilham Mukriz and Mr Leslie Dick, took part in the discussion, in which Dr Patrick Brisset, the IAEA Technical Officer for NDT, also participated. A representative from Argentina, a member state of ARCAL and project counterpart, was present during the discussion. Partners from NDT associations in Italy and Germany, as well as representatives from the Japanese



Those who attended the discussion for a collaboration initiative between RCA, ARCAL and European partners on NDT for civil structures

Society for Non-Destructive Inspection (JSNDI) and Mandina's Inspection Services Inc, were also present. It is expected that this collaboration initiative between RCA, ARCAL and European partners will maximise opportunities for a significant impact towards developing capabilities and capacities in the application of NDT for civil engineering structures in response to the common interest and priority needs of the regions.

## **News from the French Confederation for Non-destructive Testing**

### Launch of the SHM branch at COFREND

Structural health monitoring (SHM) consists of integrating sensors into a structure and monitoring its state of health using dedicated algorithms.

SHM technologies, which are currently booming, potentially interest many industrial sectors, including aeronautics, civil engineering, energy, pressurised equipment and transport, and will have an increasing influence on the non-destructive testing (NDT) sector.

In an effort to bring together the national community to address this theme, the French Confederation for Non-Destructive Testing (COFREND) has created a branch of activity to structure the SHM sector in France. The work of the SHM branch was officially launched on 15 November 2018 with a one-day event in which 40 people gathered at the House of NDEs.

The morning was devoted to workshops that were divided into sectors of activity, including aerospace, energy, civil engineering, pressurised equipment and cross-sectoral activities.

Different topics emerged, including:

- The great importance of the challenges to be faced in the coming years in all sectors for the maintenance of structures in service;
- The issue of sensor robustness and SHM system reliability. It
  is therefore all the more important to communicate about the
  success of SHM solution deployments to reassure infrastructure
  managers of the relevance of these approaches; and
- The need for funding to develop and validate the SHM approach, hence the interest in sharing or developing common technical platforms.

The afternoon was an opportunity to discuss cross-cutting issues, including:

- Coordination and networking: annual technical day, technology watch, actions with regard to regulatory bodies;
- Communication: increasing the visibility of SHM in France and also making French skills more visible internationally; and
- Vocational/initial training and recruitment problems.

The work will continue with the long-term establishment of these sector working groups and will then be shared in order to

move forward together towards structuring the sector in France. Anyone wishing to contribute to this work is invited to contact the steering committee at: shm@cofrend.com

During this one-day event, the idea of an annual technical day also emerged as a meeting place for the whole community. This year, the event took place on 14 March 2019 at the premises of the French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR) in Marne-la-Vallée, France.

## The 11th International Symposium on NDT in Aerospace

The French Confederation for Non-Destructive Testing (COFREND), in partnership with the Laboratory for Integration of Systems and Technology (CEA List), is organising the 11th International Symposium on NDT in Aerospace, which will take place in Paris-Saclay, France, from 13-15 November 2019.

Non-destructive testing and evaluation (NDT&E) is one of the major requirements in aerospace structural design. Appropriate use of NDT guarantees safety in aerospace and is thus a subject requiring close attention. The Symposium on NDT in Aerospace was established in 2008 and is organised on an annual basis to allow for communication on the latest research and development (R&D) achievements and discussion between scientists, as well as researchers and industrialists, regarding advanced and improved methods. Since 2010, the symposium has always taken place at a location at which aerospace has a home.

Around 200 participants from around 20 countries are expected to attend this event, which will include over 100 technical presentations. During the symposium, an exhibition of NDT materials and equipment will take place, followed by industrial visits. A novelty this year will be a student challenge, where mainly postgraduate students will have to detect hidden flaws in composite samples and present a concept on how to apply structural health monitoring (SHM) for these forms of damages, all being inspired by damage-tolerant design.

More information regarding the venue and the programme can be found at: www.ndt-aerospace2019.com



### **EUROPE**

## Civil engineering at COFREND has its own Sectoral Committee

When the NDT and Civil Engineering Working Group of the French Confederation for Non-Destructive Testing (COFREND) met to review its second year of production, one of the main objectives was to launch the Civil Engineering Sectoral Committee (SC).

32 people participated in these exchanges on Friday 23 November 2018 at COFREND's House of NDEs.

The activity of this working group (WG) is particular, due to its wide scope. Working groups exist in the various industrial groups or professional associations; however, there is currently no structure to date that brings together all of the non-destructive evaluation (NDE) stakeholders in the civil engineering sector. It is for this reason that this working group was set up and that COFREND's Board of Directors voted to create its 5th Sectoral Committee.

Its mission is to bring these actors together to propose a general approach structuring the measurements and their use, by analysing the needs and existing skills in this sector and planning a review for the future. The Sectoral Committee will study the certification needs in the field.

#### The current situation

As demonstrated at the meeting held on 23 November, standards, as well as related training and certification, are rare in civil engineering, compared to the pressurised equipment or aeronautical sectors. Concrete is a living material (evolving in its physicochemical components) and therefore spatially and temporally variable. It is therefore never equal to itself in these two dimensions.

The need to coordinate, or even regulate, the procedures for its assessment and testing techniques is therefore important in order to make the most objective measurements possible, a task in which there are significant difficulties to be overcome.

Four production groups (PGs) of the NDT and Civil Engineering WG presented their progress and plans for the third year of the group.

The 'Anticipate and Define Needs' PG drafted a first deliverable, which is in the process of being finalised, describing NDE applications, such as reinforcement detection and corrosion assessment, concrete characterisation and defect detection. In parallel, it identified the associated NDE methods adapted to different types of structures, including tunnels, bridges, industrial and civil buildings, nuclear buildings, storage infrastructure, historical monuments, etc.

The PG has initiated a second deliverable, which consists of defining the content of a set of specifications for NDE, including training needs.

The 'Qualify Techniques' PG listed and ranked the standards and recommendations for NDE techniques applied to civil engineering (CE). The roadblocks that make standardisation in CE difficult have been identified. The PG focused on the two cross-cutting themes of the WG, defined last year, which are the detection, depth positioning and diameter estimation of reinforcements, and visual tests, known as 'visual inspections' in the profession.

The 'Federate and Communicate' PG identified the community's expectations and prepared the communication plan, aiming at increasing the visibility of this new NDT activity and the overall work in progress of the WG.

Finally, concerning the skills qualification, the WG drew on COFREND's experience to create a management procedure for the newly created Sectoral Committee, integrating the objectives and its organisation. It is on this basis that the SC was set up and it started its first undertaking at the beginning of 2019. This first work focused on possible training and certification in the visual inspection of civil engineering structures, since this is the first technique applied during inspections and the one that involves the greatest number of operators.







### **SAVE THE DATE**



3 days of conference and exhibition organized by COFREND and the CEA List, the 11<sup>th</sup> NDT in Aerospace will gather all the key actors, researchers and industrials involved in this field.

For more information, contact COFREND T: + 33 1 44 19 05 30 / Mailto: pole.communication@cofrend.com

www.ndt-aerospace2019.com

## First meeting of the Technical Committee for Digitalisation in NDT

n 2018, the German Society for NDT (DGZfP) established a Technical Committee for Digitalisation in NDT. The short-term NDE 4.0 clearly shows the goals of this committee. Advanced digitalisation within factories will result in a new fundamental paradigm shift in industrial production. The vision of future production contains modular and efficient manufacturing systems. Non-destructive evaluation (NDE) is going to be an important part of this technological shift.



Members of the Technical Committee for Digitalisation in NDT in Berlin, February 2018  $\bigcirc$  DGZfP

The considerable number of participants at the constitutional meeting of this committee shows the importance and significance of this topic for further developments in non-destructive testing. DGZfP is looking forward to valuable output and recommendations of the 'NDE 4.0' committee.

In 2019, DACH (DGZfP) – Jahrestagung 2019, the DACH conference of the DGZfP (a common conference of the so-called 'DACH' organisations, including the Austrian Society for Non-Destructive Testing (ÖGfZP), the Swiss Society for Nondestructive Testing (SGZP) and the German Society for NDT (DGZfP)) will once again take place. In 2015, the conference took in place in Salzburg, Austria. This year, the conference is going to be held in Friedrichshafen, on the German lakeside of Lake Constance. Nevertheless, the conference will be held under the auspices of the Swiss Society. During the conference, a meeting of the ICNDT WG 3, Education and Research, is scheduled. The goal of this meeting is the preparation of a particular session for the 20th World Conference on Non-Destructive Testing (WCNDT 2020) in Seoul, Korea.

Dr Matthias Purschke

## **Invitation to the DACH Annual Conference 2019**

Friedrichshafen, Germany 27-29 May 2019

https://jahrestagung.dgzfp.de

## AIPnD National Conference 2019

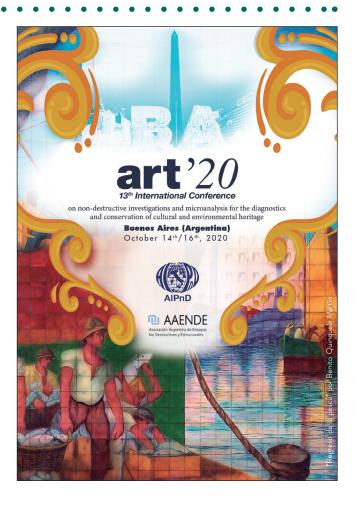
he 18th AIPnD National Conference on Non-Destructive Testing will be held between 23-25 October 2019 at the Unahotels Expo Fiera Milano, Milan, Italy.

The Italian Society for Non-Destructive Testing (AIPnD) was founded in May 1979 with a dual objective: the promotion of scientific and technical knowledge and of technological development in the non-destructive testing (NDT) field through the provision of information and education; and the will to develop membership and cultural life in order to allow and promote the exchange of ideas, experiences and knowledge.

40 years have passed from the first AIPnD National Conference, held in September 1979 in Brescia. The conference has covered many steps during its journey through Italy, in particular Milan in 1990 (for the 10th anniversary from the foundation) and Rome in 2009 (for the 30th anniversary). Rome also hosted the 15th World Conference on Non-Destructive Testing (WCNDT) in 2000, together with the celebration of 20 years from the foundation of the Society.

The 18th edition of the conference will once again be held in Milan and will develop its traditional aims: scientific sessions and technical workshops will deal with specific and relevant NDT topics (aerospace, automotive, cultural heritage, civil, energy, railway, castings, forgings and rolling). The exhibition will allow for direct interface and exchange among experts and specialists, favouring new collaborations.

www.aipnd.it/18\_congresso\_ biennale\_2019



### **PAN-AMERICA**

### **News from the American Society for NDT**

### New programmes for global NDT community

ASNT volunteers and International Service Center (ISC) staff have been hard at work to bring several industry-impacting programmes to the global NDT community:

- The ASNT ACCP Level 3 programme is under way and ASNT is excited to bring this eagerly anticipated programme to ASNT members and to the non-destructive testing community;
- To meet an identified need in the oil & gas sector, the ASNT Industry Sector Qualification (ISQ) Oil & Gas will provide an industry-specific inspection competency assessment for use by employers as well as consistency in standards. This programme is designed with the collaboration of industry quality leaders and inspection subject matter experts; and
- The Employer-Based Certification (EBC) Audit Program is well formed and progressing towards implementation. The EBC programme will provide an attestation for participating companies as having met a rigorous set of criteria related to the certification programme.

### **Inspection Conference 2020**

The American Society For Nondestructive Testing (ASNT) is partnering with the American Welding Society (AWS), NACE International (corrosion society) and the American Institute of Steel Construction (AISC) to produce Inspection Conference 2020, which will be held from 21-23 January 2020 in Houston, Texas. This interdisciplinary conference is an event entirely dedicated to

inspection topics for corrosion, welding, steel construction and non-destructive testing. Abstracts are currently being accepted for this event. For conference information and abstract submission instructions, visit: aws.org/inspection2020

### **ASNT Regional Planning Meetings**

The ASNT Regional Planning Meetings (RPMs) for section leaders will take place this spring and summer at various locations in the USA. RPMs are an opportunity for section and volunteer leaders to learn about section operations best practice, outreach activity development, brand and marketing strategies and section engagement opportunities. All section leaders are encouraged to attend one of the regional meetings to meet with peers and ASNT volunteer leadership. To join one of these meetings or for more information, contact Debbie Segor, Sections Coordinator, at: dsegor@asnt.org

### **ASNT National Science Foundation grant**

ASNT's partnership to secure a National Science Foundation (NSF) grant to expand educational opportunities for NDT held its Developing a Curriculum (DACUM) meeting in Autumn 2018. Grant partners and ASNT volunteers joined the ASNT grant leads for this session, spanning several days at the Ohio State University. As part of the grant, ASNT is designing a visual display to be included in the AWS travelling experience, 'Careers in Welding'. Pictures of the installation will be unveilled on social media shortly.

### Make sure ASNT events are in your calendar

ASNT is excited to share the activities and initiatives planned for 2019, as well as several events planned for 2020, including a full calendar of events and industry-impacting programmes.

ASNT will produce another year of world-class events:

Event	Date	Location
Digital Imaging 2019  Hosted in the new location of New Orleans, just steps from the famed French Quarter, this combined conference brings together these methods for three days of application and technology innovation.	23-25 July 2019	New Orleans, LA
International Symposium on Nondestructive Characterization of Materials This event is ASNT's first international production. Being entrusted to bring this event to the NDT community this year is a privilege for ASNT and it is poised to be a successful addition to the family of ASNT topical conferences.	17-19 September 2019	Portorož, Slovenia
ASNT Annual Conference  The largest annual gathering for the NDT industry and stakeholders, this year's conference goes to Las Vegas! Always a highly attended destination, abstracts are currently being accepted to build another great programme of applied NDT, innovative techniques and an exhibition hall full of hundreds of suppliers, distributors and service providers.	18-21 November 2019	Las Vegas, NV
Inspection Conference 2020	21-23 January 2020	Houston, TX
28th ASNT Research Symposium	23-26 March 2020	Williamsburg, VA
ASNT Annual Conference	9-12 November 2020	Lakeland, FL
Nondestructive Evaluation of Aerospace Materials and Structures	2-3 June 2020	St Louis, MO

For event programme details, the abstract submission portal and registration information, visit: asnt.org/events

# News from the Brazilian Association of Non-Destructive Testing and Inspection

## ABENDI launches new event – 1st Technical Inspection Knowledge Journey (JTCI)

This year, the Brazilian Association of Non-Destructive Testing and Inspection (ABENDI) is launching a new event, the first edition of the Technical Inspection Knowledge Journey (1st JTCI), to take place 28 August 2019 in São Paulo, Brazil. The event aims to provide attendants, in a dynamic and innovative environment, with a forum for the discussion of innovative techniques in the industry and a demonstration of products and services, bringing together the main players in the area of inspection.



The meeting will be held in São Paulo, Brazil

Image courtesy of Júlio Boaro (Creative Commons License: https://creativecommons.org/licenses/by/2.0/uk)

#### Sectors:

- Aerospace
- Construction industry
- Renewable energy (wind)
- Subway transportation
- Mining/cement industry
- Naval
- Oil & gas
- Petroleum/petrochemical.

#### Themes:

- Failure analysis
- Automation of NDT
- Reliability of NDT
- Equipment reliability
- Inspection innovation cost and benefit
- NDT in Industry 4.0 and the Internet of Things
- NDT in product quality control
- Inspection of ducts and pipelines.

### Parallel event:

 Relationship area with demonstrations of products and services.

### **Special technical sessions:**

- Technological inspection advances
- Auto-refrigeration
- Structural integrity failure analysis
- Integrity of submarine systems
- Inspection of concrete structures
- Inspection in composite materials
- Inspection in large metal structures
- Non-intrusive inspection

- Equipment integrity and life extension
- New technologies for inspection through NDT
- NDT research and development.

The meeting will be held on 28 August, from 9.00 am to 5.00 pm, at São Paulo Center, Avenida Lineu de Paula Machado, No 1088/1100 – Cidade Jardim, in São Paulo, Brazil.

## ABENDI – the only organisation in Brazil with international recognition in NDT

ABENDI has once again been recognised as an entity of excellence in personnel certification in non-destructive testing (NDT) for welded products, this time also extending to cast, forged and tubular products, in the five main NDT methods, by the ICNDT, the main global authority on the subject. In summary, this means that ABENDI's certificated professionals are in line with the quality and reliability principles of ISO 9712 (the international standard for personnel qualification and certification in NDT).

ABENDI has thus satisfied all of the eligibility criteria for registration under the ICNDT Multilateral Recognition Agreement (MRA) for Personnel Certification Bodies (PCBs), including having undertaken to abide by the ICNDT Code of Practice, and has been nominated and accepted for registration within the terms of the Agreement signed by those members of the International Committee for NDT (ICNDT) listed in Schedule 1 of the Agreement.

All signatories to the Agreement, and all PCBs registered under it, are bound to promote the recognition and acceptance of the certificates issued by all other ICNDT-registered NDT PCBs

"With this ICNDT seal, we restate that our certifications are conducted with quality, correctness and commitment. In addition, the certification system harmonisation with other countries provides new opportunities to our professionals," emphasised Maurício Ballarine, ABENDI's Certification Manager. We reiterate that the recognition in NDT is valid for the following methods: ultrasonic testing (UT), testing penetrant radiographic (RT), testing magnetic testing (MT) and visual testing (VT), in the three certification levels. It is also important to emphasise that the recognition and the resulting Certificate of Compliance is valid for three years, from 21 January 2019 to 20 January

For more information and to see the signatories to the ICNDT MRA, visit: www.icndt.org

46th Annual Review of Progress in Ouantitative Nondestructive Evaluation

**QNDE 2019** 

*Oregon, USA*14-18 July 2019

jvit@iastate.edu

### **ASIA-PACIFIC**

### AINDT welcomes you to South Australia in 2019

he Australian Institute for Non-Destructive Testing (AINDT) is pleased to announce that it will once again be hosting a national conference this year in the beautiful state of South Australia. The 2019 AINDT Conference and Trade Exhibition will be a three-day gathering of non-destructive testing (NDT) and condition monitoring (CM) experts from a wide range of industry, research and academic backgrounds. The event, to be held 4-6 November 2019 at the Adelaide Convention Centre, Adelaide, promises to be a premier networking event that will promote an environment for discussion of modern trends and current advances in the ever-increasing demanding fields of NDT and CM.

The 2019 AINDT Conference and Trade Exhibition will comprise a programme of presentations and technical papers under a range of industry 'streams', which will look at the challenges our industry faces in applying NDT and CM to risk-based maintenance. This will provide an opportunity to open up discussions on the current status of national and international standards and provide the opportunity to converse on topics such as fitness for service of new and existing plant and equipment and much more.

The conference, integrated with the trade exhibition, will provide an opportunity for industry to be made aware of newer technologies, so that the efficiency of operations can be improved, as well as be an outlet for new research in the form of practical workshops on selected technologies.



The conference will be held in the beautiful surroundings of Adelaide in South Australia

Approximately 80-120 delegates are expected to attend, from all facets of the asset health sector. Delegates attending the conference will represent a wide range of industries, including mining, defence, oil & gas, offshore, pipelines, power generation, petrochemical, manufacturing, fabrication and construction.

The 2019 AINDT Conference and Trade Exhibition will be held in the beautiful surroundings of Adelaide in South Australia. Bursting with culture, wildlife encounters, exceptional food and wine, events and entertainment, South Australia offers a world of experiences right at your fingertips.

Venue, sponsorship and registration information will be published across all of the AINDT media shortly. We hope to see you at the 2019 AINDT Conference in SA!

## ICNDT delegation participates in IIW conference





ICNDT Chair Sajeesh K Babu and General Secretary David Gilbert attended the 71st Annual Assembly and International Conference of the International Institute of Welding (IIW), held in Bali, Indonesia, from 15-20 July 2018. The delegation was warmly welcomed and invited to attend meetings, including technical meetings of IIW Commission V: NDT and Quality Assurance of Welded Products, and the General Assembly (Dr Babu is fourth from the right in the picture above left)

**3rd Quantitative Infrared Thermography Conference Asia** 

QIRT-Asia 2019

Tokyo Institute of Technology, Japan 1-5 July 2019

www.girtasia2019.com



# 2019 **South Australia Conference** & **Trade** Exhibition

4-6 November 2019, Adelaide Convention Centre

Presented by Australian Institute for Non-destructive Testing

## **SAVE THE DATE!**

The 2019 AINDT Conference will be a three-day gathering of NDT & CM experts from a wide range of industry, research and academic backgrounds including; mining, defence, oil and gas, offshore, pipelines, power generation, petrochemical, manufacturing, fabrication and construction.



For more information about registering as an attendee or exhibitor, contact the Federal Office of AINDT on +61 03 9328 8831 or email federaloffice@aindt.com.au







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### **CALENDAR OF NDT EVENTS**

Month	Date	Venue	Event	Contact
May 2019	22-23	Prague Czech Republic	3rd International Conference on Diagnostics of Structures and Components using Metal Magnetic Memory Method	cndt@cndt.cz www.cndt.cz/mmm2019
June 2019	17-21	Sozopol Bulgaria	NDT Days 2019	ndtdays@abv.bg www.bg-s-ndt.org/NDT_ Days/2019/2019.html
	24-26	Bordeaux France	12th International Conference on Multiaxial Fatigue and Fracture (ICMFF12)	icmff2019@adera.fr
	25-27	Glasgow UK	16th International Conference on Condition Monitoring and Asset Management (CM 2019)	conf@bindt.org www.bindt.org
	25-27	North Carolina USA	NDE in Nuclear 2019	ndeinnuclear2019@epri.com www.ndeinnuclear2019.com
	25-27	Nürnberg Germany	Sensor+Test 2019	info@ama-service.com www.sensor-test.de
July 2019	1-5	Tokyo Japan	3rd Quantitative Infrared Thermography Conference Asia (QIRT-Asia 2019)	sec@qirtasia2019.com www.qirtasia2019.com
	2-4	Fürth Germany	International Symposium on Digital Industrial Radiology and Computed Tomography	tagungen@dgzfp.de dgzfp.de
	14-18	Oregon USA	46th Annual Review of Progress in Quantitative Nondestructive Evaluation – QNDE 2019	jvit@iastate.edu
August 2019	27-29	Potsdam Germany	5th International Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures (SMAR 2019)	smar2019@dgzfp.de www.smar2019.org
September 2019	3-5	Telford UK	58th Annual British Conference on NDT and Materials Testing Exhibition	conf@bindt.org www.bindt.org
	10-12	California USA	12th International Workshop on Structural Health Monitoring (IWSHM 2019)	http://web.stanford.edu/group/sacl/ workshop/IWSHM2019/index.html