



The World Organisation for NDT

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Volume 9 Issue No 8

May 2021

CHAIR'S MESSAGE

Sweeping through 2020 and leading a new normal by the end of 2021

It was a challenging year for all of us last year; we lost 2.6 million lives globally due to the pandemic, it affected our businesses, the operation of national societies and the way we do our testing and inspection and put us all in an exceedingly difficult situation. With collective efforts from all over the world, we are getting our vaccinations and looking forward to living a 'new normal'.

While social distancing is being practised across the world, we have embraced greater digitalisation and telecommuting has become the new mode of working. I am glad that members of ICNDT stayed safe throughout 2020 and are now bringing the societies back into full operation.

ICNDT started the year with its Annual Meeting. Held virtually over Zoom on 11 February 2021, several members attended the meeting and we set our budget for 2021. David Gilbert presented the ICNDT Annual Report and Gerhard Aufrecht, ICNDT Treasurer, presented the balance sheet, which was approved during the meeting. Reports from various working groups were presented and a key update on the 20th World Conference on Non-Destructive Testing (20th WCNDT) was also presented by the Korean Society for Nondestructive Testing (KSNT).

Several national societies successfully delivered virtual exhibitions and conferences in 2020 and I have noticed that some have already planned their events for 2021 and beyond. I would request that those members succeeding with their virtual events kindly assist the member societies in their region that are seeking help to organise such an event.

On 14-15 and 20-21 April 2021, ICNDT co-hosted the International Virtual Conference on NDE 4.0 with the German Society for Non-Destructive Testing (DGZfP). Digitalisation, artificial intelligence and the combined use of multiple NDT methods and techniques are some of the key areas where more research and specific practical applications are needed to improve our productivity and reliability and take it to the next level. This will further improve the safety and performance of various industries.

NDT societies are playing a greater role in attracting young engineers into the industry by actively working with educational institutions. One such example in Singapore is the success story of the Integrated Work Study Programme (IWSP) offered by the Singapore Institute of Technology (SIT). Within the programme, students are attached to industries to gain NDT work experience for almost 12 months during the midterm of university education. Students are then given the opportunity to take certification examination to ISO 9712 Level 2 in certain methods after the programme and are readily employable in the industry after their four years of study and graduation.

As a closing note, I hope you all stay in good health and I look forward to meeting in person at one of our national or international conferences.

Stay safe, stay positive and stay healthy.

Ir Sajeesh K Babu, Chair, ICNDT

Welcome to the world of NDE 4.0

Johannes Vrana and Ripi Singh
ICNDT SIG NDE 4.0

The world of non-destructive evaluation (NDE) has seen digitisation since the Third Industrial Revolution. Over the last decade or so, we have also observed digitalisation, to a point where it is now ready for digital transformation, in sync with the Fourth Industrial Revolution (Industry 4.0). This, however, needs serious connectivity of technology and processes, which requires further standardisation and concurrence of industry leaders, globally. Digital transformation is not an overnight switch. It is a journey full of challenges and uncertainty. It is possible only when we work together. Fortunately, we have several professional bodies around the world that have shown interest in collaborating on this topic. It is time for action.

Introduction

The Fourth Industrial Revolution, fuelled by digital connectivity and cyber-physical confluence, is rapidly changing every sector. For the world of NDE, it offers unprecedented opportunities for infrastructure and asset safety, inspector wellbeing, manufacturing quality assurance and product design improvement. A design thinking approach systematically brought out over a dozen use cases and a way to look at the emerging transformation^[1].

NDE 4.0 international collaboration

The global inspection community is taking NDE 4.0 seriously. In 2017, the German Society for Non-Destructive Testing (DGZfP) started the 'ZfP 4.0' committee, in 2018 the ICNDT Specialist International Group (SIG) 'NDE 4.0' was formed and in 2019 the American Society for Non-Destructive Testing (ASNT) established a committee on 'NDE 4.0'. ASNT also formulated an NDE 4.0 Global Ambassadors sub-group to exchange practices across national boundaries.

Continued on page two



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

Continued from front page

During the first meeting of global ambassadors, it became obvious that developments on cyber-physical integration of NDE are happening within corporations and universities, whether they call it NDE 4.0 or not. Areas of shared interest that emerged in the introduction session included: an acceptable definition of NDE 4.0; intersection with certification; and stakeholder awareness. The ambassadors decided collectively that an international exchange would be useful and should be carried out periodically, preferably every quarter.

By the end of 2020, the global ambassadors and the SIG agreed to come together under the banner of 'ICNDT SIG NDE 4.0 and create internationally acceptable guidelines. As of today, the following 18 nations are actively engaged: Argentina; Australia; Canada; China; Finland; France; Germany; India; Italy; Japan; Portugal; Mexico; the Netherlands; Russia; South Korea; Spain; the UK; and the USA. The SIG is looking forward to including more nations as they pick up speed and enhancing the knowledge exchange on this topic, which has become even more relevant with the new reality.

The SIG encourages nations to broaden engagement on the topic of NDE 4.0, spread the idea, start activities regarding building national committees on NDE 4.0 and meet regularly with the other ambassadors for international exchange (best practice sharing). The idea is to have two ambassadors from each country/national NDT society and one from each of the following NDT regional groups: the Asia Pacific Federation for Non-Destructive Testing (APFNDDT), the European Federation for Non-Destructive Testing (EFNDDT), the Pan-American Federation for Non-Destructive Testing (PANNDT) and the African Federation for Non-Destructive Testing (AFNDDT). All ambassadors must have a keen interest in NDE 4.0 and Industry 4.0.

As of January 2021, the topics deserving SIG attention (not all inclusive) can be broadly classified as follows:

- **Technical standards:** interfaces, data formats, inspections, reliability (probability of detection (POD)), validation, etc
- **Process:** terminology, NDE 4.0 roadmap and application guidance, knowledge platform, etc
- **Business:** data ownership, business models, etc

International Conference on NDE 4.0

**26-28 April 2022
Munich, Germany**

Contact: Steffi Dehlau, DGZfP eV,
Max-Planck-Straße 6,
12489 Berlin, Germany.
Tel: +49 30 67807 120;
Fax: +49 30 67807 129;
Email: tagungen@dgzfp.de

<https://conference.nde40.com>

- **Human:** changing role, training and certification, ethics, diversity and inclusion, COVID-19, etc.

Current NDE 4.0 definition

The SIG has defined NDE 4.0 (for the moment) as cyber-physical NDE; arising out of a confluence of Industry 4.0 technologies and traditional NDE physical methods, to enhance inspection performance and decision-making for safety and quality assurance, as well as to provide relevant data to improve design, production and maintenance^[2].

ICNDT International Specialist Workshop on NDE 4.0

At the 20th WCNDT, an ICNDT International Specialist Workshop on NDE 4.0 will be organised by Johannes Vrana and Roman Maeve for further promotion and knowledge exchange on the topic of NDE 4.0. This workshop is planned for three hours and will include a panel discussion and nine presentations.

International NDE 4.0 conference

Due to the current situation, the first International Conference on NDE 4.0 was organised in two parts: a virtual conference, which took place in April 2021, and a three-day conference taking place in April 2022.

NDE 4.0 special issues

- *Journal of Nondestructive Evaluation*: https://link.springer.com/journal/10921/topicalCollection/AC_784b1b0b7c2fa6cb021e9b4eb3b770ae
- *Research in Nondestructive Evaluation*: www.tandfonline.com/toc/urnd20/31/5-6
- *Materials Evaluation*: <https://mydigitalpublication.com/publication/frame.php?i=664559>
- 'Welcome to the World of NDE 4.0': www.youtube.com/c/nde40

References

1. J Vrana and R Singh, 'NDE 4.0 – From design thinking to strategy', *Journal of Nondestructive Evaluation*, Vol 40, No 8, 2021.
2. R Singh and J Vrana, 'NDE 4.0 – Why should 'I' get on this bus now?' *CINDE Journal*, Vol 41, No 4, pp 6-13, 2020.

Dr Hae Lee

16 September 1932 – 5 December 2020

Dr Hae Lee, former President of the Korea Institute of Machinery and Materials (KIMM) and former President of the Korean Society for Nondestructive Testing (KSNT), sadly passed away on 5 December 2020 in Seoul, Korea.



Dr Lee was one of the first-generation engineers educated abroad, most of whom contributed to the national restoration of science and technology in Korea after lagging behind many other nations due to the devastating Korean War. After obtaining his PhD degree from the Pennsylvania State University, USA, he established a career as a system dynamics engineer at Westinghouse in the 1970s and joined the Korea Atomic Energy Research Institute (KAERI) as a Vice President. This provided the opportunity for him to recognise the importance of NDT technology, as there were many new constructions of nuclear power plants in South Korea.

Dr Lee was one of the founding members for the inauguration of KSNT in 1980. Besides his tenure as the President of KSNT for two terms in the early 1990s, he was instrumental in bringing KSNT activities to the international arena. During the 14th WCNDT in New Delhi, India, he inspired his junior colleagues at KSNT with the idea that Korea could one day host the WCNDT. This initiative has been realised with the organisation of the 20th WCNDT and he was ready to attend the long-awaited event last June. However, it was postponed and, regrettably, he could not wait any longer.

Dr Lee's contributions to the nation include his role as Commissioner of the Nuclear Safety and Security Commission and other governmental positions, all of which led to him being honoured with the Peony Medal, the second highest order of civil merit in Korea.

Our deepest condolences are extended to the family, friends and colleagues of Dr Lee.

Eduard Stepanovich Gorkunov

Died 25 October 2020



Adistinguished scientist and lecturer in the fields of magnetic phenomena, technical diagnostics and non-destructive methods and a talented, loved and respected leader and teacher, Eduard Stepanovich Gorkunov died on 25 October 2020 after a brave battle with coronavirus.

Eduard was a Professor, Doctor of Sciences, Head of the Institute of Mechanical Science of the Ural Branch of the Russian Academy of Sciences (URO RAN), Deputy Professor of Sciences and Chairman of URO RAN, and Honorary President of the Russian Society for Non-Destructive Testing and Technical Diagnostics (RSNTTD). Chair of the RAN Scientific Council on the problems of automatic diagnostic systems, Eduard was Editor-in-Chief of *Diagnostics, Resource and Mechanics of Materials and Structures* and a member of the Editorial Board of the journals *Defectoscopy* and *Control Diagnostics*. He was also a member of the Editorial Board of the journal *NDT Days*, published by the Bulgarian Association for Non-Destructive Testing (BGSNDT), as well as *Machines. Technologies. Materials*, published by the Scientific and Technical Union of Mechanical Engineering. He was recognised for his achievements in the science and application of NDT with state honours of the Russian Federation: the Order of Friendship, the Order of Honour and the Order of Labour Glory Third Class medal.

Eduard Gorkunov was a Member of Academia NDT International and an Honorary Member of the Israeli National Society for Non-Destructive Testing (ISRANDT). In the last 30 years of his life, Eduard Gorkunov was actively involved in the scientific and public life of the non-destructive testing specialists in Bulgaria. He was an Honorary Member of BGSNDT and an Associate Member of the Institute of Mechanics at the Bulgarian Academy of Sciences (BAS). His contribution to the development of cooperation between the Russian Federation and Bulgaria was recognised when he was awarded Bulgarian citizenship in 2020.

20th WCNDT postponed again due to the global impact of COVID-19

The 20th World Conference on Non-Destructive Testing (20th WCNDT) has been rescheduled again and will now take place from 28 February-4 March 2022 at Songdo Convensia, Incheon, South Korea.

Background of the decision to postpone

The decision was made based on the fact that the chance of some definite improvement in the situation regarding the COVID-19 pandemic before the latter half of 2021 appeared to be very slim. The Organising Committee of the 20th WCNDT has closely monitored the current pandemic situation and tried constantly to explore possible options for the successful hosting of the 20th WCNDT. Sponsors and exhibitors clearly indicated their preference for a physical in-person conference in the survey that was conducted as part of the Organising Committee's efforts. At the same time, the health and safety of everyone participating at the conference must be the top priority. The new dates were determined after careful consideration of any possible conflict with other NDT-related events, including the 13th European Conference on Non-Destructive Testing (ECNDT 2022) and the 16th Asia Pacific Conference for Non-Destructive Testing (APCNDT 2023).

The venue

Located in the Incheon Free Economic Zone (IFEZ), Songdo Convensia is readily accessible from/to the Incheon International

Airport (IATA: ICN) and is less than an hour from Seoul via public transportation. The conference and exhibition facilities were fully renovated in 2018. Attendees can enjoy a stay in world-class accommodation within walking distance of the venue and experience diverse local cultures.

Related logistics issues

All paid registrations, accepted abstracts, contracts for exhibition and sponsorship that have been made to date shall be maintained and rolled over to the rescheduled conference. Updated 'important dates' for the additional submission of abstracts and rescheduled registration deadlines in accordance with the new dates are available on the conference website. Participants are advised to visit the website regularly to check relevant information about the conference.

The Organising Committee is committed to providing a dynamic technical programme and delivering the best outcomes to all delegates and participants. While the postponement has caused much trouble for all stakeholders, the 20th WCNDT will be an exciting place to network, exchange ideas and share experiences with professional colleagues in NDT and related fields from all around the world.

For further information, contact the Conference Secretariat, email: secretariat@wcndt2020.com or tel: +82 2 6257 7568, or visit the website at: www.wcndt2020.com / www.20thwcndt.com

www.20thwcndt.com
www.wcndt2020.com

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 Ministry of Science and ICT

 Incheon Metropolitan City



20th WCNDT

20th World Conference on Non-Destructive Testing

Songdo Convensia, Incheon, Korea
Feb 28 (Mon) ~ Mar 4 (Fri), 2022

IMPORTANT DATES

Abstract Submission	June 30, 2021
Notification of Acceptance of Abstract	August 31, 2021
Submission of Camera-ready Abstract(Mandatory)	September 30, 2021
Submission of Extended Abstract or Paper(Optional)	September 30, 2021
Registration and Payment of Presenting Author	September 30, 2021
Preliminary Program	October 31, 2021

Contact Us

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PAN-AMERICA

News from the American Society for Nondestructive Testing

ASNT conferences and events

ASNT has the following events planned for 2021:

- **22-24 June 2021: NDT of Composites 2021**
Venue: Renton, Washington.
- **27-29 July 2021: Digital Imaging & Ultrasonics for NDT 2021**
Venue: Reno, Nevada.
- **10-12 August 2021: 16th International Symposium on Nondestructive Characterization of Materials (ISNDCM)**
Venue: Baltimore, Maryland.
- **15-18 November 2021: ASNT 2021 – The Annual Conference**
Venue: Phoenix, Arizona.

It is hoped that a return to in-person events will soon be possible, but there will be a virtual component to all ASNT events. Visit www.asnt.org/events to see the full event information.

Industry Sector Qualification – Oil & Gas

ASNT continues to provide the industry with the Industry Sector Qualification – Oil & Gas (ISQ – O&G) examinations. ASNT has added to its ISQ examinations with the addition of Shear Wave Pressure Equipment Weld. ASNT currently has two locations offering the ISQ examinations and will be adding more locations to its ASNT Authorized Examination Centers (AECs).

ASNT Central Certification Program

ASNT continues to reshape its Central Certification Program (ACCP) to fully adopt ISO/IEC 9712. This also includes the implementation of a revised AECs process to administer ACCP examinations and the ISQ programme. ASNT has been soliciting new AECs to conduct ACCP examinations and ISQ assessments.

Employer-Based Certification Audit Program

Recently launched, the Employer Based Certification (EBC) Audit Program provides the NDT industry with a registry programme that ensures NDT service providers and inspection agencies meet the minimum compliance with either SNT-TC-1A or CP-189 through the employer's Written Practice. ASNT is currently auditing several companies and has added two companies to the official registry of all companies and locations that hold an accreditation with ASNT for the EBC Accreditation Program.

International Chemical and Petroleum Industry Inspection Technology Conference 2022 (ICPIIT 2022)

16-18 March 2022
Sugar Land, Texas, USA

Contact: ASNT, 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

ASNT Learn

Every month, ASNT hosts three different webinar series: NDT Applications; Management of NDT (co-hosted by the Nondestructive Testing Management Association (NDTMA)); and Innovation in NDT. Through ASNT Learn, users can access select presentations from previous events, explore demos from companies and discover more free resources. ASNT's learning opportunities also offer contact hours, which may be applied towards continuing education units (CEUs) or Level III certification renewal points.

Virtual Section

ASNT now has a Virtual Section, connecting members from around the globe. This allows members to stay current on topics relevant to the NDT industry. The ASNT Virtual Section expands ASNT's global reach by bringing educational programming and networking opportunities to ASNT's highly dispersed members.

Career Center

ASNT has relaunched its new and improved Career Center. Here, visitors have access to content and resources, plus the ability to view and apply for new job postings. Organisations can also post jobs on the site.

ASNT Pulse

ASNT Pulse is the go-to blog for the latest in NDT industry news, career tips, ASNT programme information and more. Bookmark blog.asnt.org now and continue to discover the latest posts throughout the year.

ASIA-PACIFIC

AINDT confirms new dates for 16th APCNDT

The Australian Institute for NDT (AINDT)'s roadmap to hosting the 16th Asia Pacific Conference for Non-Destructive Testing (APCNDT 2021) began back in 2013. A large contingent of AINDT delegates attended the 14th APCNDT in Mumbai, India, and presented a compelling proposal to host the 16th APCNDT in Melbourne, Australia. Thankfully, AINDT was successful in its bid!

The following eight years have been a blur of marketing APCNDT 2021 around the world! AINDT made the strategic decision very early on to form a committee of active AINDT volunteers to assist in promoting the event at non-destructive testing (NDT) and condition monitoring (CM) events around the globe. The readers of this article are probably now very used to seeing the Aussies roll into events around the world, bring some true blue Aussie enthusiasm with them!

Everything was going well and AINDT received the official APCNDT torch from the NDT Society of Singapore (NDTSS), which did a tremendous job hosting the 15th APCNDT. AINDT had started to make some huge advancements in preparation for its event. The venue was locked in, the budget was agreed, technical sessions had begun to be programmed and sponsorship and exhibition space had started to be filled.

In December 2019, the Organising Committee had just completed back-to-back events in the USA and Singapore and returned to Australia looking forward to a nice Christmas break before hitting the road again in 2020. Then, news of a very contagious virus was heard and COVID-19 hit the streets. As we are all fully aware, the outbreak spread quickly and, before we knew it, borders had been

locked down, including the borders between most of the states within Australia. A state of emergency was announced, seeing very strict restrictions being placed upon the nation.

During 2020, the Australian Institute still held out hope that APCNDT 2021 would go ahead. However, as the year progressed and the worldwide pandemic grew immensely, AINDT unfortunately had to follow the decision made for the 20th World Conference on Non-Destructive Testing (20th WCNDT) and postpone APCNDT 2021.

As with WCNDT, APCNDT is a time where the NDT and CM communities from around the region come together as a united industry. As the international borders remained tightly closed, questions arose around the possibility of a virtual conference. After careful consideration by the Organising Committee of all aspects of a virtual event, it was decided that it was not within the best interests of the global industry or AINDT to proceed virtually.

To that end, AINDT is happy to announce, with the approval of the AINDT Federal Council and its membership base, that the 16th APCNDT will be held as a 'facemask-to-facemask' socially distanced event. The event will be hosted at the Melbourne Conference and Exhibition Centre (MCEC) and will open from Tuesday 28 February to Friday 3 March 2023. This will be a 'fair dinkum' Aussie event and one to be remembered for a long time to come!

AINDT and the APCNDT 2023 Organising Committee look forward to welcoming the global NDT community back to Australia with a bang! Until then, please stay safe.

20th Conference on NDT Technology held in Taiwan

The 20th Conference on NDT Technology, which brings together academics and industrialists every two years to explore the latest developments and applications of non-destructive testing (NDT) in Taiwan, was held from 22-23 October 2020 in Kaohsiung. Co-organised by the Society for Nondestructive Testing & Certification of Taiwan (SNTCT) and China Steel Corporation (CSC), the event attracted more than 400 participants from the major corporations, NDT specialists and academia.

SNTCT opened the conference with two plenary lectures on green energy development and remote NDT techniques. The latter

was presented via the internet by Takahide Sakagami, President of the Japanese Society for Non-Destructive Inspection (JSNDI), who has been working on thermography research and NDT applications.

The 20th Conference focused on standardisations of NDT across qualification and certification for general NDT services and for the aerospace industry. Special sessions on pipeline safety for petrochemical industries were also highlighted. Thanks to the materials provided by Sajeesh K Babu, ICNDT Chair, the panel discussion moderated by Chih-Hung Chiang, President of SNTCT, received significant attention from the audience.

KSNT celebrated 40th anniversary with 2020 Annual Conference

Celebrating its accomplishment of 40 successful years contributing to the development and revitalisation of the non-destructive testing (NDT) industry in Korea, the Korean Society for Nondestructive Testing (KSNT) hosted a very successful Annual Fall Conference from 5-6 November 2020 at the International Conference Hall of the Korean Federation of Science and Technology Societies (KOFST) in Seoul. More than 300 attendees, including domestic experts from industry and academia, participated in the conference, where 128 papers were presented. In addition to the professional programme, the exhibition hall, sponsored by more than ten companies, was kept open and the conference was followed by the 2020 Annual Business Meeting.

Founded in 1980, KSNT is a unique technical society in Korea dedicated to personal certification and the dissemination of advanced NDT technology to industries. By combining the event with its 40th anniversary celebrations, KSNT provided a very special opportunity for members to look back on its history and consider the future direction of the society. A special display, with a series of photos to retrace its records of achievement during the past 40 years, was located between the meeting rooms and the exhibition hall. KSNT also published a 40-year history book to commemorate the

anniversary, which was distributed to all attendees and members. An abridged edition of the book will be available in English for free to all registered delegates and participants of the 20th World Conference on Non-Destructive Testing (20th WCNDT).

Woo Il Lee, KOFST President, joined the ceremony and delivered his congratulations. In addition, video clips of congratulatory messages from Sajeesh K Babu (ICNDT Chair), Norikazu Ooka (APFNDT President), Michael V McGloin (ASNT President), Gongtian Shen (ChSNDT President) and Takahide Sakagami (JSNDI President) were presented.

KSNT had initially planned to commemorate its 40th anniversary from 8-12 June 2020, the original dates of the 20th WCNDT, but this has been postponed twice. Nevertheless, KSNT was lucky enough to be able to successfully hold this special event in November 2020 as a face-to-face meeting while strictly observing the social distancing guidelines of the COVID-19 pandemic. It was the only possible time from October to mid-November that the national guidelines allowed any event of less than 500 people attending, as the number of new cases of COVID-19 in Korea was relatively low in that period. However, KSNT was unable to arrange the planned 40th Anniversary Celebration Dinner Party.

EUROPE

Burns Supper with a whisky flavour

The 2021 British Institute of Non-Destructive Testing (BINDT) Scottish Branch event was different from normal in two ways. Firstly, as is the new normal, it had to be online and, secondly, it combined the traditions of a Burns Supper with the opportunity to taste five different whiskies, one for each of five toasts during the event.

Around a hundred people logged into Zoom on 29 January 2021 to celebrate the anniversary of the birth of Robert Burns, Scotland's favourite poet. The Burns Supper has been held annually since the early 1970s, when Ken Geddes and Bob Service, among others, started the tradition. This year, the event was organised with the cooperation of Rachel and Jen of The Grail, a boutique whisky shop in Doune, near Stirling. Each person registered for the event by Karen Cambridge, BINDT, was sent a pack of five whisky miniatures and instructions on how to prepare for the serious business of tasting.

Mike Farley welcomed the guests, including Iain Baillie, attending his first social occasion in the role of BINDT President, Sajeesh K Babu (ICNDT Chair) in Singapore, Gerard Aufrecht (ICNDT Treasurer) in Vienna, Caroline Bull, John Hanson, John Whittle and Tony Wooldridge (all Past Presidents of BINDT), Tony Gachagan and Mark Perston (Co-Chairs of the Scottish Branch) and David Gilbert (BINDT CEO).

After the traditional Selkirk Grace, recited by Fraser Hardie, Rachel, with the benefit of some excellently designed slides, explained how best to taste whiskies (chosen to link to our Burns theme) and maximise the flavours. She then introduced Peter McAlister who sang 'There was a lad born in Kyle'.

The Address to the Haggis was given in fine style by Hugh Kerr, a friend of Mike, who toasted the haggis with a glass of Timorous Beastie, a very pleasant blend of Highland malts. For clarification for the uninitiated, the Timorous Beastie refers to a mouse, in Burns' poem of that title, not to the haggis, which is a much more fearsome beast!

Charles Macleod, a member of the Scottish Branch committee, proposed the Immortal Memory of Robert Burns, explaining the life of Burns and quoting some of his works, and toasting the bard with Deanston 12-year-old, a single malt distilled just outside Doune, close to Doune Castle (a tourist hotspot since it was used for filming *Outlander* and *Game of Thrones*). It is a beautiful golden colour, which comes from the bourbon barrels in which it is stored.

Peter McAlister sang 'Duncan Gray' and the programme moved on to the Toast to the Lassies, (brilliantly) proposed by Mike Farley

using a Glendronach eight-year-old malt from, appropriately, the first distillery in Scotland to have a female Master Blender. Glendronach is known as the 'sherried dram' because it is matured in former sherry casks.

David Gilbert, in his solo debut at the Burns Supper sang 'Ae fond kiss', probably Burns' most famous love song. Well done David – you're sure to be asked back!

The next item on the programme was another first and, for many, the highlight of the night. Hugh Kerr presented an audio-visual version of Burns' epic tale of Tam O'Shanter. This brilliant presentation, prepared by Hugh, brought the poem to life and many people said afterwards that there were parts that they understood for the first time!

The fourth toast, to BINDT (and the Scottish Branch), was proposed by President Iain Baillie, wearing his Highland dress. Iain hails from Burns country (Ayrshire) and raised a glass of North British. The North British distillery is in Edinburgh, where Burns headed in 1786. The whisky was a single cask grain Scotch, aged 26 years and 52% ABV, and the most expensive tasted at around £110 a bottle! Only 148 bottles were made. It was very popular too among the tasters.

Staying on message, 'Scotch drink' was the next recitation, excellently presented by Peter McAlister. A bottle of Timorous Beastie supplied by The Grail was raffled and won by Teti Stratoudaki.

Scottish Branch Co-Chair Tony Gachagan toasted the guests and artists, thanking all concerned for their performances, Rachel for expertly talking through the whiskies and for her excellent slides, and Mike Farley and Karen Cambridge for organising the event. His whisky was a very pleasant Arran ten-year-old malt.

The evening was completed with a short whisky quiz, a poll of people's preferences (the North British was the favourite) and the singing of 'Auld lang syne', led by Peter McAlister.

Afternotes

- While we would hope that the 2022 event will be back to normal, if it needs to be held online then we have a suitable formula for a very enjoyable event!
- The Grail has remained open for online sales during lockdown and it would be good to support the business. Visit the website at: www.thegrail.scot

RELACRE officially hosts CANEND

The Associação de Laboratórios Acreditados de Portugal (RELACRE) now officially hosts the National Aerospace Committee for Non-Destructive Testing (CANEND), after the signature of the cooperation protocol during the General Assembly held on 15 December 2020.

CANEND supports the industry and regulatory bodies in the aerospace sector with regards to the implementation and supervision of EN 4179 for the qualification and approval of personnel for non-destructive testing (NDT). This joint committee is an important milestone in RELACRE's history, which will allow a new branch of activity, especially for the safety and reliability of the aerospace sector to be developed.

The European Aviation Safety Agency (EASA) and the national aviation authorities recognise the role that these committees have, namely, providing the capacity building and training recognition carried out through qualification examinations of personnel working within the scope of NDT. CANEND is the Portuguese representative at the European aerospace sector forum of the European Federation for Non-Destructive Testing (EFNDT).



Sérgio Nascimento (left), President, CANEND, and Álvaro Ribeiro, President, RELACRE

SAVE
THE
DATE



13th ECNDT
6-10 JUNE 2022 | LISBON

EUROPEAN CONFERENCE ON NON-DESTRUCTIVE TESTING

WWW.ECNDT2022.ORG

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News from the French Confederation for Non-Destructive Testing

New Civil Engineering Sectoral Committee of COFREND

The new Civil Engineering Sectoral Committee created in 2020 by the French Confederation for Non-Destructive Testing (COFREND) covers the construction of buildings and engineering structures in reinforced concrete (RC) and/or pre-stressed concrete (PC).

The use of non-destructive testing (NDT) methods within maintenance operations, whether inspections, diagnoses or analyses, is becoming more widespread, supplementing the laboratory tests and analyses traditionally carried out on samples. The scope of application of these NDT methods generally concerns the following missions:

- Inspections: quality control of construction, positioning and the reconstruction of the reinforcement plan of the structural parts or elements made of RC or PC on existing structures;
- Diagnosis: measurements for pathological diagnoses (reinforcement coating thickness, corrosion levels, moisture measurements, surface resistance, etc); and
- Analyses: searching for defects, construction anomalies, pathological cracks, etc.

The Civil Engineering Sectoral Committee will initially (2021-2022) certify operators involved in inspections of the positioning and reconstruction of the reinforcement plan of structural parts or elements made of RC or PC, using the most common NDT methods, from the simplest to the most complex:

- Pachometers, and the like, using eddy currents; and
- Ground-penetrating radar.

These methods represent an important part of the activities carried out on-site during the construction or maintenance of civil engineering buildings and structures, for which a guarantee of the quality of the measurements (validation of the execution of work phases, verification recalculations, pathological diagnostics, analyses, etc) is necessary in view of the stakes.

In the second stage (2022-2023), certification will be extended to other methods used in diagnostics and analyses. This will cover electrochemical corrosion measurements, capacity measurements, sclerometric methods, ultrasound methods, etc.

These applications as a whole require a high level of expertise, and a single form of certification with three levels is being studied. The training and examinations for this certification must ensure that the agents concerned have the necessary qualifications to intervene in the sector of the products concerned, with all the required quality guarantees. In parallel, the establishment of a network of accredited qualification bodies and examination centres, and the certification of examiners, will take place.

For more information, email: pole.certification@cofrend.com

2020 SHM@COFREND webconference scores a great success

Despite the precarious situation regarding face-to-face events, the members of the structural health monitoring (SHM) branch of COFREND maintained the community's flagship event by remotely organising the third annual SHM@COFREND Day on 10 December 2020. With nearly 100 online participants, the turnout was a real success and demonstrated the strong interest around the initiative to structure the SHM sector in France.

Indeed, launched three years ago by COFREND, this is a joint reflection initiated, in parallel with the annual events, in working groups, the work of which reveals the significant rise in SHM in many industrial sectors expected in coming years. It is part of

a logical approach, as highlighted by Etienne Martin, President of COFREND, in his opening speech: "What could be more natural than developing, within COFREND, an SHM structure for customers, academics and instrumentation providers, so that they can find answers, and promoting and federating technical expertise, an area in which COFREND fully plays its role of sharing knowledge and disseminating scientific and technological progress?"



Nearly 100 participants joined the online SHM@COFREND Day in December 2020

The programme, divided into three sessions, began by presenting the discussions and thoughts of the three working groups (Aeronautics, Civil Engineering and Energy, and Industrial Equipment, including pressure vessels). This work will now move on to the formalisation and prospective phase, through the drafting of a white paper on the subject.

Each session welcomed a guest speaker. This first session was concluded with a presentation by Vincent Perceped, an expert in the management of engineering structures. He shared his feedback on the practices implemented today by local authorities and his vision for the future, including the challenges associated with a changing culture and the notion of connected engineering structures. The second guest speaker, Aurélien Rautureau, SHM Specialist at Airbus Operations in Toulouse, who, in particular, is responsible for the qualification of SHM technologies for aircraft, presented a project involving the development of an SHM system that is currently underway at Airbus. The third guest presentation was made by Jean-Louis Dabert, a technical adviser on road infrastructures at APRR, who talked about practices and expectations in the monitoring of motorway infrastructure.

Through the technical programme, other case studies and presentations on SHM were given by several speakers covering various topics around SHM, such as the monitoring of the structural behaviour of the Villa Méditerranée, monitoring and inspection of forced pipes, practical cases involving data restitution, examples of systems used for corrosion monitoring on reinforced concrete structures, the design and deployment of wireless sensors and instrumentation and *in-situ* sensors to monitor the structural health of rails.

The next national SHM@COFREND event is scheduled for the autumn of 2021, with the hope that conditions will allow for a meeting in person. For further information, please contact the members of the steering committee, Bastien Chapuis (CEA List), Vincent Le Cam (Gustave-Eiffel University) or Pierre Calmon (CEA List and President of the COFREND Scientific Centre), by sending your requests via email to: shm@cofrend.com



LES JOURNÉES COFREND

**LES END, Voir et Prévoir
NDT, see to foresee**

COFREND DAYS

DU 6 AU 8 JUN 2023 - JUNE 6TH TO 8TH

MARSEILLE - PALAIS CHANOT

Sponsors



3 DAYS OF EXHIBITION AND CONFERENCE:

An unique program of highlights, to effectively link exhibitors, researchers, scientists and visitors around non destructive testing.

COFREND Days will be held in Marseille from 12 to 14 May 2020. Under the theme of "NDT, See to Foresee", pledge of Quality and Safety, 2,500 French and foreign participants are expected to attend the 10th edition. Organized every 3 years, COFREND

days are the Rendez-vous of the whole profession; industrials, major contractors, Small and medium companies, involved in non-destructive testing (NDT) and whose scope covers all industrial sectors and advanced technology: aeronautics, railways, civil engineering, nuclear power, petrochemicals, iron and steel industry.

Contact: pole.communication@cofrend.com

The Annual British Conference on Non-Destructive Testing (NDT) is a prestigious event where experts in NDT and related technologies meet to share experiences, ideas and the very latest developments that will help shape the future of NDT.

There will be three parallel technical sessions covering a broad range of NDT technologies and applications, including:

- Rail and axle testing • Aerospace • Power generation • NDT of food
- NDT in forensic science • Automated and robotic NDT
- Theoretical modelling • Inspection qualification • Composites
- Electromagnetics • Adhesives and bonding • Thermography
- Ultrasonics • Radiography • Digital radiography • Novel techniques
- Digital signal processing and imaging • Monitoring
- Research • Time-of-flight diffraction • Nuclear
- Technology transfer in NDT • Medical and related NDT
- Phased arrays • The needs of NDT end-users.

Abstracts (of no more than 200 words) must be submitted online at: <https://mc.manuscriptcentral.com/ndt2021> or via the link on www.bindt.org by 7 May 2021*.

Full written papers that are submitted may be refereed with a view to publication in *Insight*.

Conference proceedings will be published in the form of extended abstracts (maximum 12 pages of A4 text) and one copy will be provided for each delegate.

*Abstracts submitted after this date may still be accepted (subject to availability)



#NDT2021

Call for Papers

NDT2021

59th Annual Conference

7-9 September 2021

The International Centre, Telford, UK

The 2021 Materials Testing Exhibition (#MT2021) will run alongside the NDT conference, with over 70 companies expected to exhibit.

For further information, contact: Conferences and Events Department, BINDT, Midsummer House, Riverside Way, Bedford Road, Northampton NN1 5NX, UK.
Tel: +44 (0)1604 438300; Fax: +44 (0)1604 438301;
Email: conf@bindt.org; Web: www.bindt.org

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INDUSTRIAL FORUM

NON-DESTRUCTIVE TESTING
TESTS • DIAGNOSTICS



18-21 OCTOBER 2021
MOSCOW • EXPOCENTRE

THE LARGEST PROFESSIONAL PLATFORM ON NDT
AND TD IN RUSSIA AND EASTERN EUROPE



18+
DISCUSSIONS WITH
EXPERTS



3 000+
DIRECTORS, MANAGERS
AND SPECIALISTS



60+
LEADING COMPANIES IN
THE FIELD OF NDT AND TD

THE LATEST TECHNOLOGIES AND EQUIPMENT • INNOVATIONS
HEADS OF COMPANIES • MAIN CUSTOMERS
GOVERNMENT • INDUSTRY MEDIA

NON-DESTRUCTIVE TESTING • DEFECTOMETRY
CONDITION MONITORING • TESTING • DIAGNOSTICS
RISK ASSESSMENT • RESOURCE PREDICTION

RUSSIAN INDUSTRIAL WEEK



28 000 +
m² EXHIBITION



500 +
PARTICIPATING COMPANIES



29 000 +
VISITORS



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ORGANIZER
RUSSIAN SOCIETY FOR NON-DESTRUCTIVE TESTING
AND TECHNICAL DIAGNOSTICS (RSNTTD)
ROKTD.RU

CALENDAR OF NDT EVENTS

Month	Date	Venue	Event	Contact
May 2021	20-22	Online	10th International Conference on Tribology (BALKANTRIB '20)	balkantrib@mas.bg.ac.rs http://balkantrib.mas.bg.ac.rs
June 2021	14-18	Online	17th International Conference on Condition Monitoring and Asset Management (CM 2021)	conf@bindt.org www.bindt.org
	30-2 July	Online	10th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-10)	acunha@fe.up.pt https://web.fe.up.pt/~shmii10
July 2021	7-21	Online	74th IIW Annual Assembly and International Conference	iiw@iiwelding.net https://iiw2021.com
September 2021	5-8	Manama Kingdom of Bahrain	8th Middle East NDT Conference and Exhibition	conference.officer@bse.bh www.mendt.co
	7-9	Telford UK	59th Annual British Conference on NDT and Materials Testing Exhibition	conf@bindt.org www.bindt.org
	7-9	Online	15th International Conference on Advances in Experimental Mechanics	info@bssm.org www.bssm.org/events/ conference-2021
October 2021	4-6	Florence Italy	3rd International Workshop: 'Analysing Art: New Technologies – New Applications'	maev@uwindsor.ca www.uwindsor.ca/idir
	4-8	Prague Czech Republic	2nd European NDT & CM Days 2021	endtcm21@guarant.cz www.endtcm21.com / www.guarant.com
	12-15	Beijing China	3rd World Congress on Condition Monitoring (WCCM 2021)	wccm2021@csei.org.cn www.wccm2021.com