

GENERAL INFORMATION

Registration

by **September 9, 2013** please send to
German Society for Non-Destructive Testing (DGZfP e.V.)
Max-Planck-Str. 6, 12489 Berlin, Germany
Phone: +49 30 67807-121/-123; Fax: +49 30 67807-129
E-mail: tagungen@dgzfp.de; Internet: www.nde-reliability.de

Fees

Registration Fee	500.00 €*
Members of Organizing Institutes	450.00 €*
Presenting Authors (only one person per paper)	390.00 €*
Students (without university degree)	75.00 €*
Tutorial: Probability of Detection (POD)	145.00 €
Additional Workshop Dinner	60.00 €

* including all workshop activities (except tutorial), proceedings, workshop dinner, coffee breaks, lunch and ticket for public transport

Cancellation

until August 26, 2013: 50 % of participation fee
from August 27, 2013: no refund possible

Payment

The payment of the participation fees is requested only in EUR and has to be done after receipt of invoice by September 23, 2013 the latest (receipt of payment).

All payments after this date have to be done by credit card (VISA or MasterCard) or cash at the registration desk.

Bank transfer

DGZfP e.V., Berliner Volksbank, Kekuléstr. 2–4,
12489 Berlin, Germany
Acc. No. 5940 040 002, BLZ (code) 100 900 00
For international bank transfer please use our
International Bank Account Number (IBAN)
DE 57 100 90 000 59 400 400 02
SWIFT Code (BIC): BEVODE BB
Please quote invoice number and name of participant.

We thank our sponsors for their kind support.



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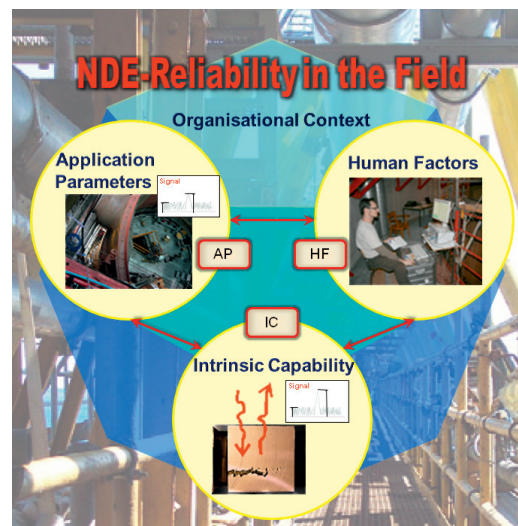
GERMAN
SOCIETY FOR
NON-DESTRUCTIVE
TESTING



EF
NDT
European Federation for
Non-Destructive Testing

INVITATION | PROGRAMME + CALL FOR POSTERS

5th European-American Workshop on Reliability of NDE



October 7-10, 2013, Berlin, Germany
www.nde-reliability.de

Scientific Advisory Committee

Ward D. Rummel	D & W Enterprises, Littleton, USA, Honorary Chairman
Christina Müller	BAM, Berlin, Germany, Scientific Coordinator
Tim Barden	Rolls-Royce, Bristol, United Kingdom
Hans-Uwe Baron	MTU Aero Engines, Munich, Germany
Marija Bertovic	BAM, Berlin, Germany
Christian Boller	Fraunhofer IZFP, Saarbrücken, Germany
Uwe Ewert	BAM, Berlin, Germany
Babette Fahlbruch	TÜV NORD Systems, Berlin, Germany
Jay Fisher	Southwest Research Institute, San Antonio, USA
Heinrich Heidt	BAM, Berlin, Germany
Ralf Holstein	DGZfP Education and Training, Berlin, Germany
Daniel Kanzler	BAM, Berlin, Germany
Jochen Kurz	Fraunhofer IZFP, Saarbrücken, Germany
Etienne Martin	EDF, St. Denis, France
Jorma Pitkänen	Posiva, Eurajoki, Finland
Ulf Ronneteg	SKB, Oskarshamn, Sweden
Lloyd Schaefer	Greene, Tweed, Tempe, USA
Greg Selby	EPRI, Charlotte, USA

Call for Posters

On Wednesday, October 9, 2013, a poster evaluation session will be held.

All workshop participants are welcome to contribute posters that are associated with relevant topics on Reliability of NDE. Posters will be displayed during the whole workshop and at the poster evening on October 7, 2013. Selected posters will be presented during the poster evaluation session. A short abstract (max. 2,300 characters) is required for submission.

This abstract or a full manuscript (about 8 pages) will be published in the workshop proceedings as well. For poster submission please see the website www.nde-reliability.de

Deadline for submission of poster abstracts:
September 15, 2013

Workshop Venue

Seminaris CampusHotel Berlin
Takustr. 39, 14195 Berlin, Germany
www.seminaris.de/berlin

Language

All technical papers will be presented in English, simultaneous translation will not be provided.

Proceedings

The proceedings will be published on CD-ROM and will be available after the workshop.
The manuscripts (in English) must be received by DGZfP as an electronic file by October 15, 2013 the latest through online contribution service <http://papers.dgzfp.de>.

Manuscripts

Guidelines for preparing and submitting manuscripts are available at the online contribution service
<http://papers.dgzfp.de>.

Web Page

The www.nde-reliability.de web page has been prepared for the workshop. All news and changes will result in an update of this page.

Conference Secretariat

German Society for Non-Destructive Testing (DGZfP e.V.)
Steffi Schäske, Max-Planck-Str. 6, 12489 Berlin, Germany
Phone: +49 30 67807-120, Fax: +49 30 67807-129
E-mail: tagungen@dgzfp.de

Hotel Reservation:

We have special conditions in the following hotels:

- Seminaris CampusHotel Berlin
- Novum Hotel Ravenna (former Ravenna Hotel)
- Best Western Plus Hotel Steglitz International

For more information please see the workshop web page.
Please bear in mind that the hotel bill must be settled with the hotel.

Social Programme

- Poster Evening: October 7, 2013, 18:30 – 21:00 h
- Workshop Dinner: October 8, 2013, 19:30 h
Maximilians Restaurant

In order to meet the increasing demands for safety & reliability in our daily life and the infrastructure around us, the development of appropriate risk management and life prediction tools is essential. Quantified Non-Destructive Evaluation (NDE) techniques are key enablers, providing substantive information about the integrity of materials, components and systems. The design & life management functions of an organization achieve confidence in reported NDE process reliability through robust validation procedures. The process of developing these procedures, understanding and communicating their effect has been the focus of a group of people concerned with reliability of NDE.

This group, in operation since the late 1990s, has reflected on achievements and key lessons learned in preparation for the 2013 session. One of the lessons learned has been that the examination of NDE process reliability using our core model must often undergo substantial further optimization within a particular industrial application field. For example, nuclear power and aerospace are dealing with much higher demands, or at least different demands, than conventional industries like water tube production. Additionally, the determination of the system reliability in relation to system parameters should be considered as an optimization process rather than as a final finding. This means that our optimized deliverables should take the form of guidelines and mentoring, vs. specification. Our modular reliability model helps to understand the sources and effects of different influencing factors. One of the highest influences arises from human factors, which deserve in its turn a systematic scientific approach from engineering, as well as psychological perspective. A deeper insight into the influences of the human factors can lead to an improved testing procedure, optimized working conditions and working practices for the individuals involved. Furthermore, the already established experience with the model and its embedding in industrial practice might help to find the delta between the reliability in the field and inspection qualification.

The design of the workshop program is very much supporting this goal. It provides a wealth of sessions of rich technical content. Oral paper presentations will be devoted to industrial applications, new methods in evaluation techniques including advanced modeling and Bayesian approach, human factors, presentation of already implemented integrated solutions by the end users, as well as to a new topic – our “youngest child” – the reliability of Structural Health Monitoring. The special issue of this workshop is to explore

“What is the delta between qualification and our reliability models and the actual reliability of NDE in the field?”. The first evening will be devoted to the poster presentations with more illustrations of application examples. The posters will be evaluated by a chosen committee and the best posters will be presented in the poster evaluation session in short talks. The topics of the main sessions will be further explored in structured break-out-sessions, which will be held on Thursday morning in an “Open Space Technology”-format. Each of these will provide an opportunity for an open discussion on presented and additionally raised topics, which fully support our workshop concept. To assign to each break-out-session a topical profile we ask you to communicate your proposals and questions to the indicated leaders before the workshop or simply let them pop up in time and space!

To provide essential down time from all the sure to be lively discussions, a social evening in a traditional Bavarian restaurant will feature “Octoberfest”-atmosphere.

The workshop is hosted by the Seminaris CampusHotel Berlin belonging to the Free University Campus near BAM (Federal Institute for Materials Research and Testing), which is proud to have a unified department for NDE since 2006, providing an outstanding assembly of modern methods and tools for non-destructive testing together with long term development & application experience. Visits to the different labs are possible after the workshop.

A further highlight of the workshop is the pre-workshop tutorial on “POD Basics” offered by Lloyd Schaefer. For newcomers, basics for POD-applications can be learned where Lloyd Schaefer’s long term experience in NDE applications in industry will make the POD tools feasible for practitioners. Also for the tutorials you are asked to send your choices to the organizers.

We cordially invite NDE practitioners, as well as scientists, from Europe, America and all other continents as well, and especially early career colleagues new in this field, to join us in Berlin from October 7 – 10, 2013 for the 5th European-American Workshop on Reliability of NDE, following the 10th NDE conference to be held in Cannes, France!



Dr. rer. nat.
Christina Müller
BAM Federal Institute for
Materials Research and Testing



Dr.-Ing.
Matthias Purschke
German Society for
Non-Destructive Testing

09:00 – 12:00

POD data collection & analysis – Tools for beginners*Tutor: Lloyd Schaefer, Greene, Tweed, Tempe, USA*

Course provides the NDE specialist with instruction for the collection & analysis of capability data. Students will work with pre-packaged sets of POD data to gain confidence in various data analysis programs and computing platforms, with step by step guidance. Students also encouraged to bring their own data to work on.

- Before the start:
Working with databases of POD capability
- Controlling the POD process in the lab and field
- Collecting calibration and detection data
- Preparing to analyse: quality checking the data
- Practice: Working with Binominal data
- Practice: Working with signal response data
- Choosing a POD output model
- Practice: Inputting the data to various POD programs
- Substantiating and presenting the results
- Look ahead to use of 1823 software and experimental constraints

POD TUTORIAL – Monday, October 7, 2013

OVERVIEW

13:00	Opening
13:30 – 14:50	Keynote Presentations
	<i>U. Ewert, BAM, Berlin, Germany; L. Schaefer, Greene, Tweed, Tempe, USA</i>
15:20 – 16:40	New Methods I
	<i>D. Forsyth, TRI, Austin, USA; J.H. Kurz, Fraunhofer IZFP, Saarbrücken, Germany</i>
17:10 – 18:30	New Methods II
	<i>D. Forsyth, TRI, Austin, USA; J.H. Kurz, Fraunhofer IZFP, Saarbrücken, Germany</i>
18:30	Poster Evening

Monday, October 7, 2013

OVERVIEW

09:00 – 10:20	New Methods III	Tuesday, October 8, 2013
	<i>L.J. Bond, Iowa State University, Ames, USA; M. Carboni, Politecnico di Milano, Italy</i>	
10:50 – 12:10	New Methods IV	
	<i>L.J. Bond, Iowa State University, Ames, USA; M. Carboni, Politecnico di Milano, Italy</i>	
13:00 – 15:00	Human Factors	
	<i>C. Müller, BAM, Berlin, Germany; J. Pitkänen, Posiva, Eurajoki, Finland</i>	Wednesday, October 9, 2013
15:30 – 16:50	Applications in Industry I	
	<i>U. Ronneteg, SKB, Oskarshamn, Sweden; G. Selby, EPRI, Charlotte, USA</i>	
19:30	Workshop Dinner	
09:00 – 10:00	Applications in Industry II	
	<i>M. Lozev, BP America, Naperville, USA; U. Ronneteg, SKB, Oskarshamn, Sweden</i>	Thursday, Oct. 10
10:30 – 12:10	Reliability of SHM	
	<i>L. Schaefer, Greene, Tweed, Tempe, USA; M. Wall, ESR Technology, Abingdon, UK</i>	
13:00 – 14:20	Integrated Solutions I	
	<i>J. Fisher, SwRI, San Antonio, USA; F. Schubert, Fraunhofer IZFP, Dresden, Germany</i>	
14:50 – 16:10	Integrated Solutions II	Thursday, Oct. 10
	<i>J. Fisher, SwRI, San Antonio, USA; F. Schubert, Fraunhofer IZFP, Dresden, Germany</i>	
16:40	Poster Evaluation Session	
09:00 – 12:00	Break-out-Sessions	
	<i>Overall moderation: R. Holstein, DGZfP Education and Training, Berlin, Germany; B. McGrath, AMEC, Warrington, UK</i>	
13:00	Workshop Summary & Closure	Thursday, Oct. 10
	(End ca. 14:00)	

13:00

OPENING**KEYNOTE PRESENTATIONS**

*Chairs: U. Ewert, BAM, Berlin, Germany;
L. Schaefer, Greene, Tweed, Tempe, USA*

13:30

1**A Path Forward for NDE Reliability**

W.D. Rummel, D & W Enterprises, Littleton, USA

14:10

2**A Plenary View on the Vigor of our NDE Reliability Models**

C. Müller, M. Bertovic, D. Kanzler, M. Skender, BAM, Berlin, Germany; R. Holstein, DGZfP Education and Training, Berlin, Germany; J. Pitkänen, Posiva, Eurajoki, Finland; U. Ronneteg, SKB, Oskarshamn, Sweden

14:50

Break**NEW METHODS I**

*Chairs: D. Forsyth, TRI, Austin, USA;
J.H. Kurz, Fraunhofer IZFP, Saarbrücken, Germany*

15:20

3**NDE Reliability Enhancement Using Model Assisted POD**

*L.J. Bond, J.N. Gray, T.A. Gray, W.Q. Meeker, N. Nakagawa, Iowa State University, Ames, USA;
P. Ramuhalli, Pacific Northwest National Lab., Washington, USA*

16:00

4**Evaluation of Radiographic Testing Performance with an Advanced POD Approach**

*D. Kanzler, U. Ewert, C. Müller, BAM, Berlin, Germany;
J. Pitkänen, Posiva, Eurajoki, Finland*

16:20

5**Merging of Experimental and Simulated Data Sets with a Bayesian Technique in the Context of POD Curves Determination**

*F. Jenson, N. Dominguez, CEA LIST, Gif-sur-Yvette, France;
P. Willaume, T. Yalamas, PHIMECA Engineering, Cournon d'Auvergne, France*

16:40

Break



NEW METHODS II

Chairs: D. Forsyth, TRI, Austin, USA;

J.H. Kurz, Fraunhofer IZFP, Saarbrücken, Germany

17:10

6

Simulation-Supported POD for Ultrasonic Testing – Recommendations from the PICASSO Project

F. Schubert, Fraunhofer IZFP, Dresden, Germany;

V. Dorval, C. Gilles-Pascaud, R. Raillon-Picot, CEA LIST, Gif-sur-Yvette, France; H.-U. Baron, J. Menges, MTU Aero Engines, München, Germany; J.-Y. Chatellier, Snecma, Moissy Cramayel, France

17:30

7

Quantifying NDE Reliability from ENIQ Qualification Information

I. Virkkunen, M. Kemppainen, K. Miettinen, Trueflaw, Espoo, Finland

17:50

8

Simulation Assisted POD in the Aeronautical Context

N. Dominguez, F. Jenson, S. Mahaut, CEA LIST,

Gif-sur-Yvette, France; F. Reverdy, CEA EADS IW, Toulouse, France

18:10

9

Estimating Probability of Detection Curves Related to Eddy Current Sender – Receiver Probes

A. Rosell, GKN Aerospace, Trollhättan, Sweden;

G. Persson, H. Wirdelius, Chalmers University of Technology, Göteborg, Sweden

18:30

Poster Evening



NEW METHODS III

*Chairs: L.J. Bond, Iowa State University, Ames, USA;
M. Carboni, Politecnico di Milano, Italy*

09:00 10

A Review of POD Estimation from Multiple Sources of Data

D. Forsyth, TRI, Austin, USA

09:40 11

The Potential in Simulations and Meta-Modeling for Understanding and Development of NDE

P. Hammersberg, G. Persson, H. Wirdelius, Chalmers University of Technology, Göteborg, Sweden

10:00 12

Simulation Based POD Estimation for Radiographic Testing of Turbine Blades

H.-U. Baron, B. Henkel, MTU Aero Engines, München, Germany; C. Bellon, A. Deresch, BAM, Berlin, Germany

10:20 Break



NEW METHODS IV

*Chairs: L.J. Bond, Iowa State University, Ames, USA;
M. Carboni, Politecnico di Milano, Italy*

10:50 13

The Reliability of Model-Based NDT in Civil Engineering Using Vibration-Based Inspection Method Including Models Coupling Quality

M. Deeb, V. Zabel, Bauhaus-Universität Weimar, Germany

11:10 14

A MAPOD Approach to the Rotating UT Probe for Freight Solid Axles

M. Carboni, Politecnico di Milano, Italy; S. Cantini, Lucchini RS, Lovere, Italy

11:30 15

Methods to Assess the Quality of Non-Destructive Testing in Civil Engineering Using POD and GUM for Static Calculations of Existing Structures

S. Feistkorn, SVTI, Wallisellen, Switzerland; A. Taffe, BAM, Berlin, Germany

11:50 16

Reliability Considerations of NDT by Probability of Detection (POD) Determination Using Ultrasound Phased Array – Results from a Project in Frame of the German Nuclear Safety Research Program

*J.H. Kurz, Fraunhofer IZFP, Saarbrücken, Germany;
S. Dugan, A. Jüngert, MPA Universität Stuttgart, Germany*

12:10 Lunch



HUMAN FACTORS

*Chairs: C. Müller, BAM, Berlin, Germany;
J. Pitkänen, Posiva, Eurajoki, Finland*

13:00 17

Safety and Reliability – Resilience Engineering Prevents Systems from Failing

B. Fahlbruch, TÜV NORD Systems, Berlin, Germany

13:40 18

Improving Inspection Reliability Through Operator Selection & Training

B. McGrath, L. Carter, AMEC, Warrington, United Kingdom

14:00 19

We Know How to Improve Inspection Reliability – Why don't We do it?

L. Carter, B. McGrath, AMEC, Warrington, United Kingdom

14:20 20

Holistic Risk Assessment and Risk Prevention Approach to the Mechanized NDT and the Inspection Procedure

*M. Bertovic, C. Müller, BAM, Berlin, Germany;
J. Pitkänen, Posiva, Eurajoki, Finland; U. Ronneteg, SKB, Oskarshamn, Sweden; B. Fahlbruch, TÜV NORD Systems, Berlin, Germany*

15:00 Break



APPLICATIONS IN INDUSTRY I

*Chairs: U. Ronneteg, SKB, Oskarshamn, Sweden;
G. Selby, EPRI, Charlotte, USA*

15:30 21

How are We Still Flying? Contributions of NDE Reliability within Overall Risk Management for Airframes

L. Schaefer, Greene, Tweed, Tempe, USA

16:10 22

Novel Approach for Improving Reliability of Phased Array Ultrasonic Testing and Monitoring of Pressure Swing Adsorber Vessels Integrity against Fatigue Cracking

*M. Lozev, R. Brodzinski, BP America, Naperville, USA;
M. den Ouden, Applus RTD, Rotterdam, The Netherlands;
K.-H. Dust, BP Europe, Lingen, Germany; R. Spencer, E. Todorov, EWI, Columbus, USA; L. Le Ber, M2M, Les Ulis, France; M. Czubanowski, TÜV NORD SysTec, Hamburg, Germany*

16:30 23

Numerical Evaluation of ROC of Potential Mapping

S. Keßler, C. Gehlen, TU München, Germany

19:30 Workshop Dinner



APPLICATIONS IN INDUSTRY II

*Chairs: M. Lozev, BP America, Naperville, USA;
U. Ronneteg, SKB, Oskarshamn, Sweden*

09:00 24

Inputs for the Performance of an Industry Round Robin to Determine the Reliability of Remote Visual Examination

G. Selby, J. Lindberg, EPRI, Charlotte, USA; M.T. Anderson, P. Ramuhalli, Pacific Northwest National Lab., Washington, USA

09:20 25

The Benefits of Structured Inspection Qualification Programs

G. Selby, T. Seuaciuc-Osorio, EPRI, Charlotte, USA

09:40 26

Advantages of AREVA GmbH Qualified Visual Inspections in Accordance with ENIQ

E. Tsvetkov, AREVA, Erlangen, Germany

10:00 Break



RELIABILITY OF SHM

*Chairs: L. Schaefer, Greene, Tweed, Tempe, USA;
M. Wall, ESR Technology, Abingdon, UK*

10:30 27

Time Dependent Probability of Detection for Ultrasonic Structural Health Monitoring

J. Fisher, SwRI, San Antonio, USA

11:10 28

Characterizing the Performance of Lamb Wave Based SHM Systems – A Two-Step Approach Based on Simulation-Supported POD and Reliability Aspects

F. Schubert, B. Frankenstein, M. Röllig, L. Schubert, Fraunhofer IZFP, Dresden, Germany

11:30 29

Influences on Reliability and Performance of AU Based SHM Systems, Requirements and Approach for Detection Performance Assessment

C. Stolz, A. Haberl, C. Meisner, EADS Cassidian, Manching, Germany

11:50 30

Manual UT vs Permanently Installed Sensors

F. Cegla, Imperial College, London, United Kingdom

12:10 Lunch



INTEGRATED SOLUTIONS I

Chairs: J. Fisher, SwRI, San Antonio, USA;

F. Schubert, Fraunhofer IZFP, Dresden, Germany

13:00 31

NDE Reliability: Current Challenges and Actions in the USA

G. Selby, EPRI, Charlotte, USA

13:40 32

NDT Reliability in the Organizational Context of Service Inspection Companies

R. Holstein, DGZfP Education and Training, Berlin, Germany; M. Bertovic, D. Kanzler, C. Müller, BAM, Berlin, Germany

14:00 33

Evaluating POD in Real Situations and the 'Delta' Factor

M. Wall, ESR Technology, Abingdon, United Kingdom

14:20 Break



INTEGRATED SOLUTIONS II

Chairs: J. Fisher, SwRI, San Antonio, USA;

F. Schubert, Fraunhofer IZFP, Dresden, Germany

14:50 34

Practical Estimation of Probability of Detection in Modern Industrial Nondestructive Testing Systems

D. Forsyth, TRI, Austin, USA

15:10 35

Reliability Studies, a Tool in the Development of Techniques for NDT of the Canister for the Swedish Spent Nuclear Fuel

U. Ronneteg, SKB, Oskarshamn, Sweden; M. Bertovic, BAM, Berlin, Germany

15:30 36

The Time Evolution of Actual Condition and Apparent Condition for an Inspected System

D. Horn, AECL, Chalk River, Canada

15:50 37

Reliable Evaluation of the Acceptability of the Weld for Final Disposal Based on the Canister Copper Weld Inspection Using Different NDT Methods

J. Pitkänen, Posiva, Eurajoki, Finland; M. Bertovic, D. Brackrock, G. Brekow, U. Ewert, D. Kanzler, C. Müller, BAM, Berlin, Germany

16:10 Break

16:40 Poster Evaluation Session



BREAK-OUT-SESSIONS

Overall moderation:

R. Holstein, DGZfP Education and Training, Berlin, Germany; B. McGrath, AMEC, Warrington, UK

09:00 Introduction

09:30 Working Groups



GROUP 1

New Reliability Methods: MultiparameterPOD, MAPOD, Bayesian

D. Forsyth, TRI, Austin, USA;

F. Jenson, CEA LIST, Gif-sur-Yvette, France



GROUP 2

Reliability of SHM

J. Fisher, SwRI, San Antonio, USA;

F. Schubert, Fraunhofer IZFP, Dresden, Germany



GROUP 3

Human Factors

M. Bertovic, BAM, Berlin, Germany;

B. Fahlbruch, TÜV NORD Systems, Berlin, Germany



GROUP 4

Applications in Industry

U. Ronneteg, SKB, Oskarshamn, Sweden

W.D. Rummel, D & W Enterprises, Littleton, USA



GROUP 5

Integrated Solutions and the “Delta”

G. Selby, EPRI, Charlotte, USA;

L. Carter, AMEC, Warrington, United Kingdom

12:00 Lunch

13:00 Workshop Summary & Closure

ca.

14:00 End of Workshop

- P1** **POD Evaluation of Automated Ultrasonic Detection of Hard Alpha Inclusions in Titanium Alloys**
D.S. Lozhkova, S.I. Trifonova, FSUE, Moscow, Russia
- P2** **MPT Inspection of Helicopters' Driving Roller Chains Parts**
V.S. Bondareva, T.D. Pavlova, A.V. Stepanov, FSUE, Moscow, Russia
- P3** **Types of Production and Operational Defects of the Multilayer Glued Constructions and Polymer Composite Materials Products and Methods to Detect Them**
V.V. Murashov, FSUE, Moscow, Russia
- P4** **Inspection Options for Detecting Various Types of Impact Damage in Composite Structures**
D. Roach, R. Duvall, S. Neidigk, T. Rice, Sandia National Laboratories, Albuquerque, USA
- P5** **Estimation of Probability of Detection Curves Based on Theoretical Simulation of the Inspection Process**
L. Zhao, C. Carpentier, R.M. Sanderson, C.R.A. Schneider, TWI, Cambridge, United Kingdom
- P6** **Improving the Reliability of Automated Non-Destructive Inspection**
N. Brierley, P. Cawley, T. Tippetts, Imperial College, London, United Kingdom
- P7** **Systematic Evaluation of CT Scanners**
S. Amrhein, M. Kaloudis, M. Rauer, Hochschule Aschaffenburg, Germany
- P8** **3D Ultrasonic NDE of the Spot Welds in Automotive Industry**
E. Jasiuniene, L. Mazeika, V. Samaitis, Kaunas University of Technology, Kaunas, Lithuania; R.M. Sanderson, TWI, Cambridge, United Kingdom
- P9** **Reliability Considerations for Emerging Digital Radiography Standards & Practices**
L. Schaefer, Greene, Tweed, Tempe, USA

- P10** **Decomposition of Residual Joint Line Conditions in Solid State Welding for PAUT Reliability Measurement**
L. Schaefer, Greene, Tweed, Tempe, USA
- P11** **Review of ASTM E2862, Practice for Probability of Detection Analysis for Hit/Miss Data for Proto EC Exams of Weldments**
L. Schaefer, Greene, Tweed, Tempe, USA
- P12** **Implementing NDE Technology and Effective Integration to a US Highway Agency Bridge Management Program**
H. Aktan, U. Attanayake, Western Michigan University, Kalamazoo, USA; H. Wiggerhauser, BAM, Berlin, Germany
- P13** **Pipeline Girth Welds Inspection Using Automated Ultrasonic Testing (AUT) with Zonal Discrimination – Simulation of POD Curves Using CIVA Software**
B. Chapuis, F. Jenson, CEA LIST, Gif-sur-Yvette, France; L. Pomié, Technip France, Paris La Défense, France; G. Di Crisci, J. Hamilton, Technip UK, Westhill, United Kingdom
- P14** **Qualification Status of NDT Technologies for Main Primary Component PSI in the Olkiluoto 3 New EPR Power Plant**
J. Laube, G. Guse, intelligeNDT Systems & Services, Erlangen, Germany
- P15** **Precise Inspection Results are Leading to Longer Inspection Intervals Due to the Use of Phased Array and Analysis Techniques (e.g. SAFT) Using the Example of Hollow-Bored Axles and Shafts**
N. Schmarje, D. Bröckl, G. Engl, F. Wolfsgruber, E. Zaus, intelligeNDT Systems & Services, Erlangen, Germany
- P16** **An Effective Experimental Set-Up for Determining the POD Curve of Boreprobes Applied to Hollow Railway Axles**
M. Carboni, S. Beretta, Politecnico di Milano, Italy; C. Gilardoni, Gilardoni, Mandello del Lario, Italy; S. Cantini, Lucchini RS, Lovere, Italy

- P17** **Evaluation of the Reliability of Ultrasonic Testing Russian Railway Transport**
V. Konshina, G. Dymkin, A. Shevelev, University of a Railway Transportation, St. Petersburg, Russia
- P18** **Observer POD for Radiographic Testing**
D. Kanzler, U. Ewert, C. Müller, BAM, Berlin, Germany; J. Pitkänen, Posiva, Eurajoki, Finland
- P19** **Economic Assessment and Modelling of Inspection Using the Inspection Value Method (IVM) – How POD Adds Value and Reduces Risk**
M. Wall, ESR Technology, Abingdon, United Kingdom
- P20** **Damage Localization via Transmissibility Power Mode Shape**
Y.L. Zhou, R. Perera, Technical University of Madrid, Spain
- P21** **Multilevel Probabilistic Approach to Evaluate Manufacturing Defects in Composite Aircraft Structures**
P. Caracciolo, Airbus Operations, Hamburg, Germany
- P22** **What are the Influencing Factors on Inspection Performance of UT Testing on the Wheel Set Hollow Axle in the Context of Education and Brush Up Examination?**
T. Heckel, M. Bertovic, T. Dobberphul, D. Kanzler, C. Müller, M. Rosenthal, BAM, Berlin, Germany; R. Holstein, DGZfP Education and Training, Berlin, Germany; F. Sondermann, DGZfP Education and Training, Wittenberge, Germany
- P23** **Investigation of the Influences of the Ultrasound Frequency, Ultrasonic Depth and Manufactured Defect Sizes on the POD**
C. Müller, R. Boehm, M. Skender, BAM, Berlin, Germany; J. Pitkänen, Posiva, Eurajoki, Finland; U. Ronneteg, SKB, Oskarshamn, Sweden
- P24** **Crediting a Corrosion Protective Lining in Inspection Planning for Pressure Vessels**
S. Bierman, S. Terpstra, Shell Global Solutions, Amsterdam, The Netherlands; S. Kuniewski, Delft University of Technology, Delft, The Netherlands

5th European-American Workshop on Reliability of NDE

October 7 – 10, 2013 | Berlin, Germany

Please send back to DGZfP e.V. by September 9, 2013.

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