The 2019 International Conference on Industrial Computed Tomography (iCT 2019) is the ninth edition of the iCT conference series, which represents a key appointment for networking and knowledge exchange in the field of Industrial Computed Tomography. Originally organized in Wels every two years, this event is now organized yearly also outside Austria, hence emphasizing its international character. The last three editions have been held in Belgium (Leuven 2017), Austria (Wels 2018) and Italy (Padova 2019). Year after year, a growing number of researchers and industry professionals are joining this conference from across the globe, confirming its position as key event on Industrial Computed Tomography.

I wish to thank everyone who contributed to the realization of iCT 2019. The organizers of the previous iCT events, and particularly Prof. Johann Kastner and Prof. Wim Dewulf, have continuously provided precious collaboration and friendly advices. The members of the scientific committee, the sessions’ chairs, the speakers and all the authors have done a great work, providing with their contributions the foundations to build up the success of the conference. The numerous sponsors are cordially acknowledged for supporting the event and for sharing their latest innovations in the conference and the accompanying exhibition. A special and warm word of thanks goes to the members of the organizing committee, the organizing secretariat and the helpers, and particularly to Filippo, Elia and Markus, whose care and passion have been fundamental in the many activities carried out from the very beginning to the practical realization of the event.

Finally yet importantly, I express my gratitude to all the attendees: your contributions and participation represent the soul of iCT 2019. I sincerely wish that this conference, with its associated events and its proceedings, may be pleasant and provide inspiration. We will be helped by the unique context offered by the beautiful city of Padova and its prestigious University, blending historical tradition and culture with burgeoning research and business activities.

Welcome to Padova and enjoy the conference!

Prof. Simone Carmignato
iCT 2019 Conference Chair
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- James Hunter (LANL, Los Alamos/US)
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- Robert Schmitt (RWTH Aachen/DE)
- Jan Siijbers (Univ. Antwerp/BE)
- Ian Sinclair (Univ. Southampton/UK)
- Hiromasa Suzuki (Univ. Tokyo/JP)
- Guido Tosello (DTU, Lyngby/DK)
- Toshiyuki Takatsui (NMIJ, Tsukuba/JP)
- Norman Uhlmann (FhG-IS, Fürt/DE)
- Valentina Aloisi (NSI, Minnesota/US)
- Luca Valentini (Univ. Padova/IT)
- Daniel Vavrik (CTU, Prague/CZ)
- Martine Wevers (KU Leuven/BE)
- Jose A. Yagüe-Fabra (Univ. Zaragoza/ES)
- Filippo Zanini (Univ. Padova/IT)

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- Lucia Mancini (Elettra, Trieste/IT)
- Marco Menoncin (Univ. Padova/IT)
- Enrico Savio (Univ. Padova/IT)
- Elia Sbettega (Univ. Padova/IT)
- Marco Sorgato (Univ. Padova/IT)

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**iCT 2019**

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WEDNESDAY, 13 FEBRUARY 2019

08:00 - 08:30 – REGISTRATIONS

08:30 - 08:40 – OPENING

- Opening address
  Simone Carmignato, University of Padova, IT

08:40 - 10:30 – INDUSTRY TALKS (I)

Session chairs: Simone Carmignato (Univ. Padova/IT), Christoph Heinzl (FH OÖ, Wels/AT)

- 360 degrees of testing: tomographic scan of a complete material Lab
  Marco Moscatti, TEC Eurolab

- diondo d2: A versatile Micro-CT solution
  Benjamin Zengerling, diondo

- AgioMetrix group: MULTI-TECH APPROACH for the quality control of industrial processes and components
  Marco Giogoli, Metrix 3D

- High power microfocus CT for inspection of dense, complex parts
  Chris Price, Nikon Metrology

- Accuracy Enhancement of Industrial X-Ray CT Dimensional Measurements
  Valentina Aloisi, North Star Imaging

- Characterization and correction of CT reconstruction artefacts
  Roberto Alberio, RX Solutions

- Smart NDT: the everyday use of phoenix v\textit{tome|x m} – versatile CT scanner for Industrial Computed Tomography
  Luca Tentorio, SMART N.D.T.

- Advanced CT Image Data Visualization, Analysis and Model Generation with Simpleware
  Denis Feindt, Synopsys

- Advanced Image Acquisition and Analysis; Combining HeliScan MicroCT and Avizo Software
  Dirk Laeveren & Andreas Staude, Thermo Fisher Scientific

- New developments of WinWerth software for CT
  Fabrizio Rosa, Werth

10:30 - 11:00 – COFFEE BREAK
11:00 - 12:30 – **INDUSTRY TALKS (II)**
Session chairs: Jose Antonio Yagüe-Fabra (Univ. Zaragoza/ES), Filippo Zanini (Univ. Padova/IT)

- **Instrument News from Bruker MicroCT**
  Wesley De Boever, Bruker AXS

- **Verifying the measurement accuracy for X-ray cone-beam CT scans of objects smaller than 5 mm diameter**
  Daniel Weiss & Jens Hansen, Carl Zeiss

- **Reconstruct, Quantify and Control with Digi XCT a Global CT Data Solution**
  François Curnier, Digisens

- **Industrial CT applications with Photon Counting detector technology**
  Eckhard Sperschneider, Direct Conversion

- **Introduction to Excillum and MetalJet technology**
  Emil Espes, Excillum

- **New Core CT Technology Update**
  Michael Ulbricht, GE Inspection Technologies

- **Hamamatsu devices for X-ray computed tomography**
  Marzio De Corato, Hamamatsu Photonics

- **GeoDict advances for object identification and analysis on μCT-scans**
  Christian Wagner, Math2Market

- **Examples of use of scatter correction in GE v|tome|x m CT system**
  Alexej Gamanets, Pontlab

- **IPSDK - a very fast solution for 3D image processing.**
  Laurent Bernard, Reactiv’IP

- **Dynamic 3D X-Ray Imaging in your Laboratory**
  Lars-Oliver Kautschor, Tescan

- **Varex Imaging Chain: Solutions in Sight**
  Tuomas Holma, Varex Imaging

- **Possibilities with VG**
  Julian Gölz, Volume Graphics

- **High power transmission tubes for inline CT**
  Jens Peter Steffen, X-RAY WorX

- **X-Ray and Computed Tomography as a tool for Quality assurance, process optimization and metrology in the field of AM**
  Christian Jeuschede, YXLON International

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12:30 - 13:50 – **LUNCH**
13:50 - 15:50 – NEW METHODS & OPTIMIZATION
Session chairs: Lars Pejrby (Univ. Örebro/SE), Hiromasa Suzuki (Univ. Tokyo/JP)

- Helical XCT measurement for correlative imaging
  Adam Brinek, Central European Institute of Technology Brno University of Technology, CZ

- Spatial Resolution Enhancement Based on Detector Displacement for Computed Tomography
  Kaicong Sun, University of Stuttgart, DE

- Scatter Correction for Industrial Cone-Beam Computed Tomography (CBCT) Using 3D VSHARP, a fast GPU-Based Linear Boltzmann Transport Equation Solver
  Amy Shiroma, Varex Imaging Corporation, US

- Artifact reduction in X-ray computed tomography by multipositional data fusion using local image quality measures
  Gabriel Herl, Fraunhofer Entwicklungszentrum Röntgentechnik, DE

- Flexible solutions for lab-based phase contrast and dark field CT and micro-CT
  Alessandro Olivo, University College London, UK

- Simulated grating-based x-ray phase contrast images of CFRP-like objects
  Jonathan Sanctorum, imec-Vision Lab (University of Antwerp), BE

15:50 - 16:20 – COFFEE BREAK

16:20 - 18:00 – ALGORITHMS & RECONSTRUCTION
Session chairs: Stefan Kasperl (FhG-EZRT, Fürth/DE), Jan Sijbers (Univ. Antwerp/BE)

- An Interactive Visual Comparison Tool for 3D Volume Datasets represented by Nonlinearly Scaled 1D Line Plots through Space-filling Curves
  Johannes Weissenböck, University of Applied Sciences Upper Austria, Wels Campus, AU

- Virtual CT acquisition and reconstruction of complex and noisy scanning trajectories in aRTist
  Carsten Bellon, Bundesanstalt für Materialforschung und -prüfung, DE

- Strategies in cone beam CT inspection of cylindrical objects
  Wannes Goethals, Ghent University, BE

- Accurate surface extraction on CT volume using analytical gradient of FDK formula
  Yukie Nagai, The University of Tokyo, JP

- Deep-Learning-based Artifact Suppression in High Resolution CT Reconstruction
  Emre Topal, TU Dresden, Dresden Center for Nanoanalysis, DE

18:00 - 20:00 – WELCOME COCKTAIL at the Exhibition Area
08:30 - 09:00 – **KEYNOTE (I)**
- New developments in X-ray CT metrology for Industry 4.0
  Wim Dewulf, KU Leuven, BE

09:00 - 10:20 – **METROLOGY**
Session chairs: Markus Bartscher (PTB, Braunschweig/DE), Toshiyuki Takatsuji (NMIJ, Tsukuba JP)
- Comparison of different measures for the single point uncertainty in industrial X-ray computed tomography
  Andreas Michael Müller, Institute of Manufacturing Metrology, Friedrich-Alexander-University Erlangen-Nuremberg, DE
- Software-based compensation of computed tomography instrument misalignments – experimental study
  Evelina Ametova, Katholieke Universiteit Leuven, BE
- CT geometry determination using individual radiographs of calibrated multi-sphere standards
  Benjamin A. Bircher, Federal Institute of Metrology METAS, CH
- Uncertainty for uncorrected measurement results in X-ray computed tomography
  Herminso Villarraga-Gómez, Nikon Metrology, Inc., US

10:20 - 10:50 – **COFFEE BREAK**

10:50 - 12:30 – **METROLOGY & MANUFACTURING**
Session chairs: Leonardo De Chiffre (DTU, Lyngby/DK), Felix Meli (METAS, Berne-Wabern/CH)
- Investigating of the influence of the workpiece placement on the uncertainty of measurements in industrial computed tomography
  Natalia Grozmani, RWTH Aachen University, DE
- Experimental investigation on the accuracy of XCT measurement of fiber length in fiber reinforced polymers
  Filippo Zanini, University of Padova, IT
- Sinogram interpolation to decrease acquisition time in X-ray computed tomography measurement of surface topography
  Lars Körner, University of Nottingham, UK
- Uncertainty Evaluation of Pore Analysis for Additively Manufactured Parts using Cross Sections
  Leonard Schild, wbk Institute of Production Science, Karlsruhe Institute of Technology (KIT), DE
- Characterization of resolution performance of novel high energy X-CT: eXTRACT
  Makoto Abe, National Metrology Institute of Japan / National Institute of Advanced industrial science and technology, JP
13:50 - 15:50 – SHORT TALKS
Session chairs: Wim Dewulf (KU Leuven/BE), Lucia Mancini (Elettra, Trieste/IT)

**S-01** Generating Meaningful Synthetic Ground Truth for Pore Detection in Cast Aluminum Parts
Patrick Fuchs, Interdisciplinary Center for Scientific Computing (IWR), Heidelberg University, DE

**S-02** Synchrotron based absorption edge tomography for the analysis of 3D printed polymer embedded MOF
Christian Gollwitzer, Bundesanstalt für Materialforschung und -prüfung, DE

**S-03** Analysis of Cone Beam Artefact Influences with Respect to Calibration of Metrology Qualified X Ray Computed Tomography Systems
Dierck Matern, YXLON International GmbH, DE

**S-04** Development of 950 kV X-ray source with small focal spot using a linear accelerator
Norihito Matsunaga, Nikon Corporation, JP

**S-05** Realistic Image Synthesis of Imperfect Specimens using Generative Networks
Deniz Neufeld, Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, DE

**S-06** Simulation-based sensitivity analysis of geometrical misalignments in X-ray computed tomography systems for dimensional metrology – detector angular misalignments
Elia Sbettega, University of Padova, IT

**S-07** Tools for the Analysis of Datasets from X-Ray Computed Tomography based on Talbot-Lau Grating Interferometry
Bernhard Fröhler, University of Applied Sciences Upper Austria, Wels Campus, AU

**S-08** Effect of iterative sparse-view CT reconstruction with task-specific projection angles on dimensional measurements
Lorenz Butzhammer, Institute of Manufacturing Metrology, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), DE

**S-09** A low-cost and easy-to-use phantom for cone-beam geometry calibration of a tomographic X-ray System
Van Nguyen, imec - Vision Lab, Department of Physics, University of Antwerp, BE

**S-10** CT Measurement Realization Process: The Need for Advanced Correction Methods
Christian Baldo, Federal University of ABC, BR

**S-11** Optimisation of surface determination to improve the accuracy of detecting unfused powder in AM aluminium component
Ahmed Tawfik, Huddersfield University, UK

**S-12** Analysis of bone microdamage with X-ray microtomography towards fatigue fracture prevention
Ivana Kumpová, Institute of Theoretical and Applied Mechanics, Centre of Excellence Telč, Academy of Sciences of the Czech Republic, CZ
S-13 On nominal-actual comparisons for additive manufacturing applications
Fabien Léonard, Bundesanstalt für Materialforschung und -prüfung, DE

S-14 An experimental study on segmentation in X-Ray Computed Tomography
Stefano Petrô, Politecnico di Milano, IT

S-15 Custom-made software tool for the automatic implementation of surface extraction methods based on gradient operators
Jose-Antonio Yagüe-Fabra, I3A, Universidad de Zaragoza, ES

S-16 Comparison of different voxel size calibration strategies
Marko Katic, FSB, HR

S-17 Back-projection Filtration Image Reconstruction Approach for Reducing Out-of-plane Artifacts in Laminography
Jeongtae So, Korea Advanced Institute of Science and Technology, KR

S-18 Possibilities and Limitations of Automatic Feature Extraction shown by the Example of Crack Detection in 3D-CT Images of Concrete Specimen
Olaf Paetsch, Zuse Institut Berlin (ZIB), DE

Theobald Fuchs, Fraunhofer Institute Integrated Circuits, Department for X-ray Technology, DE

S-20 A method and data pipeline for real-time tomographic cross-sections visualization and analysis
Eusebio Solórzano, Novadep Scientific SL, ES

15:50 - 16:00 – COFFEE BREAK

16:00 - 18:00 – POSTER EXHIBITION

P-21 Exploratory research into reduction of scatter and beam hardening in industrial computed tomography using convolutional neural networks
Ruben Pauwels, Katholieke Universiteit Leuven, BE

P-22 Investigation of positioning accuracy of industrial robots for robotic-based X-ray computed tomography
Peter Landstorfer, Fraunhofer, DE

P-23 New training concept on industrial computed tomography for dimensional metrology
Marco Menoncin, University of Padova, IT

P-24 Characterization and calibration of high resolution lab-based CT system with small field of view
Pavel Blažek, Central European Institute of Technology, CZ
P-25 Suppression of residual gradients in the flat-field corrected images
Michal Vopalensky, Institute of Theoretical and Applied Mechanics, Centre of Excellence Telc, Czech Academy of Sciences, CZ

P-26 CAD-based defect inspection with optimal view angle selection based on polychromatic X-ray projection images
Alice Presenti, University of Antwerp, BE

P-27 Report of the Progress on a Laboratory X-Ray Source Based Computed Tomographic System for Full Field Microscopy at 9.25 keV
Dominik Müller, University of Würzburg, DE

P-28 Verifying the measurement accuracy for X-ray cone-beam CT scans of objects smaller than 5 mm Diameter
Daniel Weiss, Carl Zeiss IMT GmbH, DE

P-29 Combined use of HeliScan µCT, ELITE and FIB-SEM systems for multi-modal and multi-resolution manufacturing quality control
Grzegorz Pyka, Thermo Fisher Scientific, CZ

P-30 Porosity determination in additively manufactured Ti parts using X-ray tomography
Jonathan Glinz, University of Applied Sciences Upper Austria, AU

P-31 Characterization of the effects of detector angular misalignments and accuracy enhancement of X-ray CT dimensional measurements
Valentina Aloisi, North Star Imaging, US

P-32 Utilization of single point uncertainties for geometry element regression analysis in dimensional X-ray computed tomography
Andreas Michael Müller, Institute of Manufacturing Metrology, Friedrich-Alexander-Universität Erlangen-Nürnberg, DE

P-33 A Curvelet based Sinogram Correction Method for Metal Artifact Reduction
Kiwan Jeon, National Institute for Mathematical Sciences, KR

P-34 Tomographic investigation of the gothic sculpture
Daniel Vavrik, Institute of Theoretical and Applied Mechanics, CZ

P-35 Influencing factors in x-ray spectral estimation of industrial CT using transmission measurements
Wenchao Cao, Katholieke Universiteit Leuven, BE

P-36 X-ray sources for high throughput and extreme resolutions
Emil Espes, Excillum AB, SE

P-37 Validation of a Method for the Optimization of Scan Parameters for Measuring with Computed Tomography
Raoul Christoph, TU Dresden, Werth Messtechnik GmbH, Deutsches Krebsforschungszentrum, DE

P-38 Optimization of multi-axis control for metal artifact reduction in X-ray computed tomography
Toru Kano, Tokyo University of Technology, Shinshu University, JP
P-39 Roughness Investigation of SLM Manufactured Conformal Cooling Channels Using X-ray Computed Tomography
Christopher Klinga, Technical University of Denmark, DE

P-40 An attempt to detect anomalies in car body parts using machine learning algorithms
Thomas Schromm, BMW AG, DE

P-41 CCD and scientific-CMOS detectors for submicron laboratory based X-ray Computed tomography
Jakub Salplachta, Central European Institute of Technology, Brno University of Technology, CZ

P-42 Effect of gravity on porosity and surface roughness of SLM IN-625 parts
Tobias Thiede, Bundesanstalt für Materialforschung und -prüfung, DE

P-43 Spot size and detector unsharpness determination for numerical measurement uncertainty Determination
Florian Wohlgemuth, Institute of Manufacturing Metrology, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), DE

P-44 Self-calibrating helical micro-CT and computed tomography dimensional measurements
Trond Varslot, Thermo Fisher Scientific, CZ

P-45 Morphological study of defects in laminated joints of composite materials using microCT
Cintia Guimarães Ferreira, Nuclear Engineering Program, Nuclear Instrumentation Laboratory, COPPE/UFRJ, BR

P-46 Using CT to Image and Investigate the Effect of Low-Velocity Impact Damages on the Structure of Fiber Reinforced Polymer Samples
Christian Baldo, Federal University of ABC, BR

P-47 Error Investigations for a CT and Additive Manufacturing based Reverse Engineering Workflow
Fabian Bauer, Siemens Corporate Technology, DE

P-48 300kV Open Type Microfocus X-ray source for Industrial X-ray CT
Masayuki Hirano, Hamamatsu Photonics K.K., JP

P-49 Synthesis and characterization of metal-ceramic composite 316l/sycro
Haimon Alves, State University of Rio de Janeiro, BR

P-50 Shape analysis for grains and pores on 3d digital images
Andreas Grießer, Math2Market GmbH, DE

P-51 Study of keyhole-porosities in selective laser melting using X-ray computed tomography
Aditi Thanki, Katholieke Universiteit Leuven, BE

P-52 3-in-1 X-ray Computed Tomography
Nathanael Turner, The Manufacturing Technology Centre, UK

P-53 On the impact of probing errors on form measurement in Computed Tomography
Jan Andreasen, Novo Nordisk A/S, DK
P-54 X-ray and FTIR μ-CTs for morphological and chemical characterization of eco-sustainable insulating foams
Nicola Cefarin, Elettra Sincrotrone Trieste, INFN Trieste, IT

P-55 CT machine geometry changes under thermal load
Benjamin A. Bircher, METAS, CH

P-56 Synchronous dual energy tomography system
Pablo Pérez, University of Valladolid, ES

P-57 Lab-based Diffraction Contrast Tomography (LabDCT) for Materials Microstructure Characterization in Industry Applications
Christian Holzner, Xnovo Technology ApS, DE

P-58 A versatile and compact laminography/tomography system
Pablo Pérez, University of Valladolid, ES

P-59 Microstructural analysis of cement materials by lab and beamline techniques
Luca Valentini, University of Padova, IT

P-60 Automated ROI Localization On Tomographic Projections
Dmitry Ivanov, Moscow Institute of Physics and Technology, RU

P-61 Optimization of Resistance Spot Welding in Al Alloys for Light Weight Vehicular Structures based on comparative study of CT
Asif Butt, CASE, PK

P-62 Safety first: Applications of computed tomography and X-ray refraction techniques to additively manufactured materials at BAM
Giovanni Bruno, Bundesanstalt für Materialforschung und –prüfung, DE

P-63 3D Characterization of Class G Cement Paste Submitted to Heat Treatments
Sidney Paciornik, Bundesanstalt für Materialforschung und –prüfung (BAM) and PUC-Rio, DE

P-64 Inspection of luggages with a spectral x-ray test bench
Clarisse Fournier, CEA, FR

P-65 Virtual material characterization of composite materials in Simcenter 3D: micro-CT-based voxel approach for stiffness homogenization
Oxana Shishkina, Siemens Industry Software NV, BE

P-66 Initial result on the use of tetrahedra-based imaging for limited angle tomography
Ander Biguri, University of Southampton, UK

P-67 Laser driven sources for a new generation of high resolution hard x-ray CT machines
Christopher Thornton, Central Laser Facility (STFC), UK

P-68 An example of nano-CT application at unconventional reservoir characterization
Jae Hwa Jin, Korea Institute of Geoscience and Mineral Resources, KR

P-69 Evaluation of the sinogram-based iterative reconstruction algorithm in region-of-interest Tomography
Dragos Trinca, Universitatea de Vest din Timisoara, RO
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<td>Fernando Ferreira, CATIM - Technological Center for the Metal Working Industry, PT</td>
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19:00 - 22:30 – CONFERENCE DINNER at Caffè Pedrocchi
FRIDAY, 15 FEBRUARY 2019

08:30 - 09:00 – KEYNOTE (II)
- New applications of X-ray CT to characterisation and failure analysis in composite materials
  Ian Sinclair, University of Southampton, UK

09:00 - 10:20 – NON-DESTRUCTIVE TESTING
Session chairs: Johann Kastner (FH OÖ, Wels/AT), Chang-Ock Lee (KAIST, Daejeon/KR)
- Fast detection of cracks in ultrasonically welded parts by inline X-ray inspection
  Eline Janssens, imec - Vision Lab, BE
- Comparison of X-ray computed tomography and immersion ultrasonic non-destructive testing techniques in the case of qualitative and quantitative assessment of brazing quality level
  Mariusz Jedrychowski, CERN, CH
- A Novel Approach for Immediate, Interactive CT Data Visualization and Evaluation using GPU-based Segmentation and Visual Analysis
  Harald Steinlechner, VRVis Research Center, AU
- Virtual qualification of novel heat exchanger components with the image-based finite element method
  Llion Evans, Swansea University, UK

10:20 - 10:50 – COFFEE BREAK

10:50 - 12:30 – MATERIALS CHARACTERIZATION
Session chairs: Giovanni Bruno (BAM, Berlin/DE), Ian Sinclair (Univ. Southampton/UK)
- MultiScale and MultiTime Image-Based Control and Characterization of Lithium-Ion Batteries and Materials
  Remi Blanc, Thermo Fisher Scientific, FR
- In-situ computed tomography investigation of the compression behaviour of strut, and periodic surface lattices
  Anton Jansson, Örebro University, SE
- X-ray microtomography study of pellet/powder bentonite mixture upon wetting
  Patrick Almedieu, Ecole des Ponts ParisTech, CNRS, IFSTTAR, Laboratoire Navier/CERMES, FR
- Use of the industrial X-ray computed microtomography to address scientific questions in developmental biology
  Jozef Kaiser, Central European Institute of Technology, Brno University of Technology, CEITEC BUT CZ
Quantitative pore network analysis and permeability evaluation of porous carbonate reservoir rocks using X-ray computed microtomography images
Lucia Mancini, Elettra-Sincrotrone Trieste, IT

12:30 - 13:50 – LUNCH

13:50 - 15:30 – NDT, MATERIALS & MANUFACTURING
Session chairs: Tino Hausotte (FAU, Erlangen/DE), Herminso Villarraga-Gómez (Nikon, Brighton/US)

- **Characterisation of fiber lay-up and defects in CFRP using Talbot-Lau grating interferometry**
  Sascha Senck, University of Applied Sciences Upper Austria, AU

- **Combining a Computed Laminography Approach with Tomographic Analysis for a Study of Weld Joints**
  Marius Costin, CEA, LIST (French Alternative Energies and Atomic Energy Commission), FR

- **Defect detection in 3D printed carbon fibre composites using X-ray Computed Tomography**
  Jeroen Soete, Katholieke Universiteit Leuven, BE

- **Process characterization for molding of paper bottles using computed tomography and structure tensor analysis**
  Prateek Saxena, Technical University of Denmark, DK

- **Thickness Measurement of Metal Plate Using CT Projection Images and Nominal Shape**
  Tasuku Ito, The University of Tokyo, JP

15:30 - 16:00 – CONFERENCE CLOSURE
- **TRAM**
  Ponti Romani stop

- **BUS**
  3 – 8 – 16 – 18 – 22 – 24 (Riviera Ponti Romani stop)
  10 (Piazza Garibaldi stop)
SOCIAL PROGRAMME

- **WELCOME COCKTAIL**
  will be held at the conference venue on **Wednesday 13 February, 2019 at 18:00**

  Address: Cultural Centre Altinate San Gaetano at the exhibition area  
  Via Altinate, 71 - Padova

  Rate: included in the conference participant fee

- **CONFERENCE DINNER**
  will be held at Caffè Pedrocchi on **Thursday 14 February, 2019 at 19:00**

  Address: Caffè Pedrocchi (in the city center - 45°24′28.6″N 11°52′37.5″E)  
  Via VIII Febbraio, 15 - Padova

  Rate: included in the conference participant fee
GETTING AROUND PADOVA

■ BY TAXI
Taxis can be found in front of the Railway Station or call +39 049 651333
www.taxipadova.it/home-eng/

■ BY TRAM OR BUS - Public transport
The tickets for the buses (local buses) and tram are available at the ticket office
outside the railway station, at the ticket machine outside the railway station and at
most tobacconist shops in town.
For any further information please check www.fsbusitaliaveneto.it

■ BY CAR
Drivers should pay attention to posted signs and be careful not to enter areas of limited
traffic, which are marked by signs “ZTL”, in Padova these zones are controlled by
video cameras. If your hotel is located in the “ZTL”, make sure about the regulations
with the hotel directly.

The closest car parks are: Garage Patavium (Via S. Gaetano, 8), Padova Centro Park
(Via Trieste 50, Padova) and Park Piazzale Boschetti (Piazzale Boschetti, Padova)

■ VISIT PADOVA
Please visit www.padovaincoming.it/en/ for any tourist tip about Padova
Venice International Airport is at 40 Km from the Conference Venue
GENERAL INFORMATION

■ REGISTRATION DESK
The Registration Desk will be open during conference hours:

- Wednesday 13 February 08:00 - 18:00
- Thursday 14 February 08:00 - 18:00
- Friday 15 February 08:00 - 16:00

On the first day it will be located in front of the Exhibition Area.

■ OFFICIAL LANGUAGE
The official language of the conference is English.

■ INTERNET/WIFI
WiFi connection will be available at the Conference Venue. A free WiFi (PadovaWeb) is available in some areas of the city centre.

■ BADGES
Badges must be visibly worn at all times, also during coffee breaks, lunches and conference dinner.

■ COFFEE BREAKS AND LUNCHES
Coffee breaks and lunches will be served to registered participants wearing their badges. Please note that vegetarian dishes will be on the daily menu; for other special needs, we aim to provide a variety of foods including alternatives in case of special diet restriction.

■ CERTIFICATE OF ATTENDANCE
Certificates will be sent by email upon request to info@ict2019.org after the Conference.

■ PERSONS WITH SPECIAL NEEDS
Every effort has been made to ensure that people with special needs are catered for during the conference. Should you require any specific assistance, please let us know in advance to enable to assist in making your stay at the conference as pleasant and comfortable one.
For any requirement please send an email to the Organizing Secretariat (info@ict2019.org).

■ LIABILITY
In registering for the iCT 2019, participants agree that neither the Organizing/International Scientific Committees nor the Organizing Secretariat assume any liability.
GENERAL INFORMATION

- **CURRENCY**
  The local currency is € (Euro). Automatic teller machines (ATM) are available in Padova city centre. Most hotels, restaurants and shops accept major credit cards but please always check first!

- **TIPPING**
  Tipping up to 10% for outstanding service is of course appreciated, but not necessarily expected in Italian restaurants, hotels and taxis.

- **ELECTRICITY**
  Electricity in Italy is 220 volts, 50 cycles alternating current (AC).

- **EMERGENCY NUMBERS**
  Italy Country Code is +39 and Padova City Code is 049. Emergency number: 112.

- **PHARMACIES**
  Pharmacies can provide medicaments for most common ailments.
  The closest pharmacy to the Conference Venue is Farmacia S. Sofia - Via Altinate 129, 35121 Padova Ph. +39 049 8760303
  Opening hours: Mo - Fr: 8:30 - 13.00, 15:30 – 19:30  Sa 8:30- 13:00.

- **SHOPPING**
  Shops in the city centre are open from Monday to Saturday 10.00 - 19.30. Some shops may be closed on Monday morning.

- **SMOKING**
  Smoking is not allowed in public places.

- **CLIMATE**
  Padova enjoys a humid subtropical climate characteristic for the Po plain. In the winter time records indicate temperatures by day reach 7°C (44.6°F) on average falling to 0°C (32°F) overnight. February is the driest month but usually the coolest one. Click here for Live weather forecast for Padova.
CONTACT US

- ORGANIZING COMMITTEE CHAIR - iCT 2019
  Simone Carmignato (Univ. Padova/IT)

- ORGANIZING SECRETARIAT - iCT 2019
  Sistema Congressi s.r.l.
  Via Trieste 26, 35121 Padova, Italy | +39 049 651699 | info@ict2019.org
  www.sistemacongressi.com

PROCEEDINGS iCT 2019

The iCT2019 papers are published in the eJournal of Nondestructive Testing, ISSN: 1435-4934, and available as on-line proceedings on www.ndt.net/iCT2019.

The extended abstracts are printed in the Book of abstracts, distributed at the conference.
The 10th Conference on Industrial Computed Tomography (iCT2020) will be organized by FH Upper Austria, Wels, on 4-7 February 2020.