



## Day 1 (Monday, Oct-30)

09:00 - 09:30 **Registration & Coffee**

09:30 - 11:30 **Tutorial I**

Short Course in Infrared Thermography: Part A

11:30 - 13:30 **Tutorial II**

Short Course in Infrared Thermography: Part B

13:30 - 15:00 **Lunch**

15:00 - 17:00 **Tutorial III**

MPP Aero Industrial Solutions

17:00 - 21:00 **Free Time**



## Day 2 (Tuesday, Oct-31)

09:00 - 10:30	<b>Registration &amp; Coffee</b>
10:30 - 11:00	<b>Opening Session</b>
11:00 - 12:00	<b>Keynote by Prof.Dr. Junyan Liu</b>  Photothermal Detection Methods and Their Applications
12:00 - 13:30	<b>Lunch</b>
13:30 - 15:00	<b>Parallel Sessions</b>  THERMOGRAPHY APPLICATIONS <ul style="list-style-type: none"> <li>● <i>Peng Song, Junyan Liu, Fei Wang, Yunji Xie</i> Inspection of thin film resistance strain gauge contact failure using electrical excitation thermal-wave imaging (paper 1)</li> <li>● <i>Xavier Maldaque, Pengfei Zhu, Ziang Wei, Zahra Omidi, Geoffrey Marchais, Thibault Boulanger, Pierre Servais</i> Automated Defect Detection for Epoxy-Carbon Prepreg Laminates in Data Fusion Approach (paper 4)</li> <li>● <i>Murat Muratov, Irina Znamenskaya, Elizaveta Karnozova and Alexander Lutsky</i> Thermographic visualization of non-stationary high speed flow in a channel (paper 14)</li> </ul> IRNDT CRACKS DETECTION <ul style="list-style-type: none"> <li>● <i>David Sagarduy-Marcos, Arantza Mendioroz and Javier Rodriguez-Aseguinolaza</i> Dimensionless numerical sensitivity analysis of narrow cracks by means of infrared lock-in thermography (paper 11)</li> <li>● <i>Aleksei Vshivkov, Anastasia Iziumova, Elena Gachegeva and Oleg Plekhov</i> Temperature evolution at fatigue crack tip area after laser shock peening (paper 13)</li> </ul>
15:00 - 21:00	<b>Conference Dinner and Social Event</b>



## Day 3 (Wednesday, Nov-01)

09:00 - 09:30 **Coffee**

09:30 - 11:00 **Parallel Sessions**

### THEMAL IMAGERY FOR MEDICAL APPLICATIONS 1

- *Nithya Rajagopalan, Nirmala K, Vahini M, Nisha S and Rakshitha S*  
Diagnostic Tool for Diabetic Retinopathy using Thermal Eye Images (paper 18)
- *Masahito Takano, Kent Nagumo and Akio Nozawa*  
Modification Method for Facial Skin Temperature Image Considering Facial Artery Structure (paper 25)

### REMOTE THERMAL IMAGERY

- *Rafik Ghali, Moulay Akhloufi*  
DC-Fire: a Deep Convolutional Neural Network for Wildland Fire Recognition on Aerial Infrared Images (paper 5)
- *Jens-Peter Tuppatsch, Rebecca Rodeck and Gerko Wende*  
A New Concept for Permanent Geometric Reference Points: RFID Tags for Composite Aircraft Components (paper 7)
- *Zijun Wang, Naicheng Jiang, Ruizhe Wen and Bin Sun*  
The Segmentation of Wind Turbine Defect Based on UAV Infrared Image (paper 9)

11:00 - 12:00 **Keynote by Prof.Dr. Xavier Maldague**

Thermographic Drone NDT: Concepts, Case Studies

12:00 - 13:30 **Lunch**

13:30 - 15:00 **Parallel Sessions**

### THERMOGRAPHY IMAGE PROCESSING TECHNIQUES

- *Arantza Mendioroz, David Sagarduy-Marcos, Jon Pérez-Arbulu, Javier Rodriguez-Aseguinolaza, Ricardo Celorio, Jean-Christophe Batsale and Agustín Salazar*  
Sizing the geometrical parameters of semi-infinite delaminations using optically excited lock-in infrared thermography (paper 10)
- *Plinio Antonio Moraes Neto, Henrique Fernandes and Cayo Fontana*  
Using autoencoders to reduce noise from infrared thermal imaging of carbon fiber reinforced polymer plates (paper 20)
- *Hai Zhang, Zhiyang Zhang, Yuxia Duan*  
Microporous Defect Detection in Airship Envelope Materials using Laser Infrared Thermography (paper 35)

### SURFACE AND NOISE CONSIDERATIONS

- *Mario De Cesare, Luigi Savino, Francesca Di Carolo, Antonio Del Vecchio, Umberto Galiotti, Davide Palumbo and Stefania Cantoni*  
Novel infrared methodologies for material emissivity and temperature determination for space atmospheric re-entry (paper 17)
- *Krzysztof Dziarski and Arkadiusz Hulewicz*  
Thermographic temperature measurements of the semiconductor devices made on the basis of SiC (paper 19)
- *Anastasia Iziumova, Aleksei Vshivkov, Rustam Sabirov, Elena Gachegova and Oleg Plekhov*



Infrared thermography investigation of the mechanical and thermal properties of laser-shocked Ti64 (paper 24)

15:00 - 15:30 **break**

15:30 - 17:00 **Parallel Sessions**

## IRNDT FOR COMPOSITES STRUCTURES 1

- *Waldemar Swiderski*

Methods of improving the detection of defects in thermograms on the example of GFRP testing (paper 3)

- *Alisson Figueiredo, Giampaolo D'Alessandro, Stefano Perilli, Stefano Sfarra and Henrique Fernandes*

Numerical and experimental analysis for flaw detection in composite structures of wind turbine blades using active infrared thermography (paper 12)

- *Sreedhar Unnikrishnakurup, Vinod Kumar, Jonathan Zheng, Carlos Manzano and Andrew Ngo*  
Exploring Ambient Influences on Infrared Thermography: A Study on Concrete Delamination Detection and Solar Loading (paper 26)

## THERMOGRAPHY ACQUISITION TECHNIQUES

- *Miguel David Méndez Bohórquez, Jannik Ebert, Lars Sommerlade, Robert Schmoll and Andreas Kroll*

Comparative Assessment of the Size-of-Source Effect in Middle and Long-Wavelength Infrared Cameras (paper 22)

- *Hajera Kouser, Stephane Boubanga Tombet, Joseph Carrock, Vincent Detalle, Thomas Calligaro, Xueshi Bai and Alexandre Semerok*

Pulse Phase Thermography for Panel Paintings Inspection in Mid-wave and Long-wave Infrared Bands (paper 29)

- *Arsenii Chulkov and Vladimir Vavilov*

Combining heating and forced cooling: a new technique in active thermal NDT (paper 31)

17:00 - 21:00 **Free Time**



## Day 4 (Thursday, Nov-02)

09:00 - 09:30 **Coffee**

09:30 - 11:00 **Parallel Sessions**

### THEMAL IMAGERY FOR MEDICAL APPLICATIONS 2

- *Dhanalakshmi M, Deepa Rohini T, Fowziya Begum A and Komatheswari T.*  
QUANTITATIVE ANALYSIS OF PEDAL ULCERATIONS USING THERMOGRAPHIC IMAGES (paper 32)
- *Nithya Rajagopalan, Nirmala K, Sivagami Vishnukumar, Srija Vaidyanathan and Sasi Preethi*  
Analysis of thermal images for detection of diabetic foot (paper 33)

### IRNDT FOR COMPOSITES STRUCTURES 2

- *Franck Brachelet, Didier Defer, Sam Ang Keo, Barbara Szymanik and Claire Le Roy*  
Numerical modelling and experimental approach for defect detection in CFRP by microwave thermography (paper 16)
- *Sreedhar Unnikrishnakurup, Renil Thomas Kidangan, Krishnamurthy Chitti Venkita and Krishnan Balasubramaniam*  
Characterizing Fiber Orientations and Layer Stacking Sequences in CFRP Laminates through Induction Heating Patterns: A Nondestructive Approach (paper 23)

11:00 - 12:00 **Keynote by Prof.Dr. Vladimir Vavilov**

The last decade of IR thermographic NDT research at Tomsk Polytechnic University:  
from software to hardware

12:00 - 13:30 **Closing Reception**

13:30 - 21:00 **Free Time and Cultural Program**