

QIRT 2026

The 18th International Conference on
Quantitative InfraRed Thermography

FINAL PROGRAM

University of Naples *Federico II* Conference Centre
29 June – 3 July 2026, Naples, Italy



QIRT2026 website



<https://qirt2026.unina.it>

QIRT2026 Digital Book of Abstracts



<https://qirt2026.unina.it/event/1/contributions/>

Symposium Format

The Quantitative InfraRed Thermography (QIRT) Conference is an international forum that brings together specialists from both industry and academia, sharing a common interest in the latest advances in science, experimental practices, and instrumentation related to infrared thermography. Following previous editions held in Paris (1992), Sorrento (1994), Stuttgart (1996), Lodz (1998), Reims (2000), Dubrovnik (2002), Brussels (2004), Padova (2006), Krakow (2008), Québec City (2010), Naples (2012), Bordeaux (2014), Gdansk (2016), Berlin (2018), Porto (2020), Paris (2022), and Zagreb (2024), the 18th Quantitative Infrared Thermography Conference (QIRT2026) will take place from 29 June to 3 July 2026 at the University of Naples Federico II, Naples, Italy.

Hosting Institution

The University of Naples Federico II was established in 1224 through an Imperial Charter of Frederick II Hohenstaufen, King of Sicily and Holy Roman Emperor. It is the first publicly funded university in Europe. Nowadays, the university offers courses in essentially all academic disciplines, leading to one hundred seventy graduate level degrees. Research facilities provide support to all these courses. Students are given the opportunity to pursue intellectual development as well as the acquisition of professional skills. The current student enrollment is nearly 80,000, and the number of academic personnel is over 2,500. Its School of Engineering is one of the oldest and largest in Italy. The first school of Engineering was set in Naples in 1811 during the Napoleonic occupation of the Kingdom of Naples. Joachim Murat, King of Naples and Napoleon's brother-in-law, decreed the foundation of the "Scuola di Applicazione di Ponti e Strade". In 2011 the Faculty celebrated the 200th anniversary of its foundation.

The aerospace research groups within the Department of Industrial Engineering have a long-standing tradition that dates back to 1926, when General Professor Umberto Nobile, famous designer, airship pilot, and polar explorer, established the Laboratory of Aeronautical Structures. **The year 2026 marks the centenary of the aerospace school's foundation.** The Department of Industrial Engineering (DII) plays a significant role within the European scientific community, consistently contributing to major European-funded research projects.

Venue

QIRT2026 will be convened at the University of Naples Federico II Conference Centre, located on the Naples waterfront, which offers an ideal location with a superb view of the Gulf of Naples. It is a first-class venue offering superb flexibility and versatility, allowing the entire program for the QIRT2026 conference to be comfortably accommodated in one floor and the relative mezzanine level. The Conference Centre is in **Via Partenope 36 - 80121 Naples, Italy.**

Transport

Naples can be reached:

- By plane: International Airport of Capodichino (distance from Conference Centre: 7 km)
- By train: Main train station: Napoli Centrale (distance from Conference Centre: 3 km)

To reach the venue: University of Naples Federico II Conference Centre, Via Partenope 36, Naples Italy:

- **By taxi:** To ensure the best price, please ask the driver for the predetermined ("Tariffa Predeterminata") fare as soon as you get into the taxi. This fixed rate is 17.50 EUR from Napoli Centrale station and 28.50 EUR from the airport, and it is also valid for all hotels located along the waterfront.
- **By bus:** see <https://moovitapp.com/> or <https://maps.google.it/>

Technical Sessions

Artificial Intelligence
Biomedical
Calibration
Fluid Dynamics

Heat Transfer
Image & Data Processing
Industrial Application
Metrology

Non-Destructive Testing
Photothermal
Thermophysics

Student Award

The QIRT2026 organizing committee aims to stimulate young researchers by awarding the best four conference contributions presented by Master and PhD students.

Grinzato Award

The award will be assigned to a researcher with 3-7 years of experience since completion of PhD (from the PhD defense date), with a scientific track record showing great promise and excellent research in the field of Infrared thermography.

Important practical Information

- To keep up with the schedule, it is asked that all presenters upload their presentation on the PCs located in the lecture hall where their presentation will take place **before** their session.
- The plenary session is **50 minutes long**, including ten minutes for questions. Your cooperation in keeping to the schedule is appreciated!
- Standard presentation is 20 minutes long, including 3 minutes for questions. Your cooperation in keeping to the schedule is appreciated!
- Posters of maximum size A0 (841mm x 1189mm) are to be displayed in the poster session on Thursday July 2, from 14:30-16:30. Participants can place their materials on the poster board from Tuesday afternoon, 30 June. Velcro tape is available at the registration desk to hang the posters. Posters will be displayed by topics, following the program.
- **Welcome Reception Cocktail** will take place in Royal Continental “Pulcinella Dining Room” just outside the Conference Centre Tuesday, June 30, 2026.
- **Lunches** of Tuesday, Wednesday, Thursday will be served in the Conference Centre.
- **Social dinner** will be held in Cloister of San Giacomo, Santa Maria la Nova Monumental Complex. **Information on bus times will be given during the conference. Please arrive at least 15 minutes before bus departure.**
- **Don't miss the QIRT2026 group photo, in the stairs of Conference Hall, Thursday July 2 at 14:10 (after lunch).**
- **Internet:** Complimentary wireless internet access is available through the Conference Centre; inquire at the registration desk for the password.
- **IMPORTANT: Participants are fully responsible for any possible accidents, illness, etc. QIRT2026 Organizers cannot be held responsible for these situations and do not accept any liability.**

Honorary Steering Committee

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Digital Version

In addition to this printed copy, the program is available online at **qirt2026.unina.it**. You can download the **PDF version** directly from the homepage or explore the interactive digital schedule in the **Timetable section** of the website.



Acknowledgements

This conference was organized with the contribution of the **Università di Napoli Federico II** and the **Department of Industrial Engineering**.



UNIVERSITÀ DEGLI STUDI DI NAPOLI
FEDERICO II



Department of
Industrial Engineering

Monday, June 29, 2026 8:00-17:00 Registration desk open (<i>building entrance</i>) <i>Room A</i> QIRT Short Courses 9:00-10:00 Basic IR Thermography <i>Xavier MALDAGUE</i> <i>Laval University, Canada</i> 10:20-11:20 IR Thermography in NDT: From Fundamentals to Automation <i>Nicolas P. Avdelidis</i> <i>University of Southampton, United Kingdom</i> 11:40-12:40 Infrared thermography for cultural heritage inspection and evaluation <i>Stefano Sfarra</i> <i>Università dell'Aquila, Italy</i> 12:40-14:10 Lunch 14:10-15:10 Biomedical Applications of Infrared Thermography <i>Gunther Steenackers</i> <i>University of Antwerp, Belgium</i> 15:30-16:30 Thermal Problems in Fluid Dynamics <i>Carlo Salvatore Greco,</i> <i>Università di Napoli Federico II, Italy</i>	Tuesday, June 30, 2026 8:00-17:00 Registration desk open (<i>building entrance</i>) <i>Aula Magna</i> 8:45-9:05 Opening QIRT2026 9:05-9:50 Invited Lecture: Tribute to Daniel Balageas and Vladimir Vavilov <i>Xavier Maldague</i> 9:50-10:40 Keynote: Recent advances on unsupervised learning methods in active infrared thermography for defect detection <i>Yi Liu</i> 10:40-11:10 Coffee Break 11:10-12:50 Technical Sessions: Non-Destructive Testing: Part I (<i>Aula Magna</i>) Heat Transfer/Fluid Dynamics: Part I (<i>Room A</i>) Calibration & Metrology: Part I (<i>Room B</i>) 12:50-14:10 Lunch 14:10-15:30 Technical Sessions: Non-Destructive Testing: Part II (<i>Aula Magna</i>) Biomedical: Part I (<i>Room A</i>) Image & Data Processing: Part I (<i>Room B</i>) 15:30-16:00 Coffee Break 16:00-17:20 Technical Sessions: Artificial Intelligence: Part I (<i>Aula Magna</i>) Thermophysics/Photothermal: Part I (<i>Room A</i>) Industrial Application: Part I (<i>Room B</i>) 9:15-17:15 Exhibitions (<i>Coffee Break Area</i>) 19:00 Welcome Reception Royal Continental "Pulcinella Dining Room"	Wednesday, July 1, 2026 8:00-17:00 Registration desk open (<i>building entrance</i>) <i>Aula Magna</i> 8:45-9:35 Keynote: From Lab to Industry: Standardization as the Bridge for Innovative Thermography Applications <i>Mathias Ziegler</i> 9:40-10:40 Technical Sessions: Heat Transfer/Fluid Dynamics: Part II (<i>Aula Magna</i>) Biomedical: Part II (<i>Room A</i>) Artificial Intelligence: Part II (<i>Room B</i>) 10:40-11:10 Coffee Break 11:10-12:50 Technical Sessions: Non-Destructive Testing: Part III (<i>Aula Magna</i>) Biomedical: Part III (<i>Room A</i>) Multidisciplinary/Other (<i>Room B</i>) 12:50-14:10 Lunch 14:10-15:30 Technical Sessions: Non-Destructive Testing: Part IV (<i>Aula Magna</i>) Calibration & Metrology: Part II (<i>Room A</i>) Image & Data Processing: Part II (<i>Room B</i>) 15:30-16:00 Coffee Break 16:00-17:20 Technical Sessions: Heat Transfer/Fluid Dynamics: Part III (<i>Aula Magna</i>) Industrial Application: Part II (<i>Room B</i>) 17:25-18:25 QIRT SC Meeting (<i>Aula Magna</i>) 9:15-17:15 Exhibitions (<i>Coffee Break Area</i>)
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Thursday, July 2, 2026

8:00-17:00

Registration desk open (*building entrance*)

Aula Magna

8:45-9:35 Keynote:

Learning & Physical Thermographic Models for the Evaluation of Thermophysical Properties in Materials-Structures and the Optimal Image Processing

Stefano Sfarra

9:40-10:40 Technical Sessions:

Calibration & Metrology: Part III (*Aula Magna*)

Image & Data Processing: Part III (*Room A*)

Artificial Intelligence: Part III (*Room B*)

10:40-11:10 Coffee Break

11:10-12:50 Technical Sessions:

Non-Destructive Testing: Part V (*Aula Magna*)

Heat Transfer/Fluid Dynamics: Part IV (*Room A*)

Industrial Application: Part III (*Room B*)

12:50-14:10 Lunch

14:10-14:30 **QIRT 2026 Group Photo**

14:30-16:30 **Poster Session** (*Room A1*)

16:30-17:15 **QIRT Journal Committee Meeting**
(*hybrid mode*) (*Room A*)

17.30-18.00

Bus departing for the Monumental Complex of Santa Maria la Nova (Further info provided at the conference).

19:00

Social Dinner at the Cloister of San Giacomo, Santa Maria La Nova Monumental Complex

9:15-17:15

Exhibitions (*Coffee Break Area*)

Friday, July 3, 2026

8:00-17:00

Registration desk open (*building entrance*)

Aula Magna

9:00-9:50 Keynote:

From Process Control to Material Characterization: The Versatility of Thermal Methods in Additive Manufacturing

Ester D'Accardi

10:00-11:00 Technical Sessions:

Non-Destructive Testing: Part VI (*Aula Magna*)

Calibration & Metrology: Part IV (*Room A*).

Thermophysics/Photothermal: Part II (*Room B*)

11:00-11:30 Coffee Break

11:30-12:30 Technical Sessions:

Artificial Intelligence: Part IV (*Aula Magna*)

Heat Transfer/Fluid Dynamics: Part V (*Room A*)

Biomedical: Part IV (*Room B*)

Aula Magna

12:40-13:00 **Closing Ceremony**

9:15-12:00

Exhibitions (*Coffee Break Area*)

Useful Information

The registration desk is located at the building entrance.

Aula Magna is on the 1st Floor.

Rooms A and B are on the mezzanine level.

Room A1 is on the 1st Floor.

Plenary duration: 50 min. (including 10 min. for Q&A).

Paper duration: 20 min. (including 3 min. for Q&A).

Please respect these time limits to ensure the conference remains on schedule.

Posters: Maximum size A0 (841mm x 1189mm). The poster session is on Thursday, July 2, 2026. Setup is available starting Tuesday, June 30

Exhibitors:

FLIR

Wilsonville, OR

FLIR Systems, Inc.

27700 SW Parkway Ave.

Wilsonville, OR 97070, U.S.A.

<https://www.flir.com/>

InfraTec GmbH Infrarotsensorik und Messtechnik

Gostritzer Straße 61 – 63

D- 01217 Dresden, Germany

<https://www.infraTec.de>

Telops/Exosens

100-2600 Ave Saint-Jean-Baptiste

Quebec/Quebec/G2E 6J5

Canada

<https://www.exosens.com/brands/telops>

Tuesday 30 June

08:45
09:05
09:05

09:50
09:50

10:40
10:40
11:10
11:10

Opening QIRT2026 Session Location: Aula Magna Chair: Gennaro Cardone	
Tribute to Daniel Balageas and Vladimir Vavilov Session Location: Aula Magna	
09:05-09:50	Tribute to Daniel Balageas and Vladimir Vavilov Speaker Xavier Maldague
Keynote: prof. Yi Liu, Zhejiang University of Technology, China Session Location: Aula Magna Chair: Xavier Maldague	
09:50-10:40	Recent advances on unsupervised learning methods in active infrared thermography for defect detection Speaker Yi Liu
Coffee Break Break Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy	
Calibration & Metrology: Part I Session Location: Room B Chair: Anton Averin	
11:10-11:30	Measurement of the normal spectral absorptivity of liquid metal at the wavelength of the heating laser through infrared pyrometry Speaker Thomas PIERRE
11:30-11:50	Study and comparison of uncooled IRFPA cameras dynamic performances using a newly designed rotating-aperture thermal target test bench Speaker BOUALEM MERAINANI
11:50-12:10	Spectrally selective IR thermography for quantitative temperature measurement on ultra-thin rPET films Speaker Rémi Gilblas
12:10-12:30	Optical characterization of redox materials at high temperatures in reactors for solar-thermochemical hydrogen production

Speaker
Hanna Lina Pleteit

Tuesday 30 June

12:50
11:10

12:30-12:50	Non-uniformity Correction DRM - Towards Traceable Thermal Imaging with Uncertainty Budgets for Non-Uniformity Corrected Thermal Imagers Speaker Ingmar Mueller
Heat Transfer/Fluid Dynamics: Part I Session Location: Room A Chair: Jean Dumoulin	
11:10-11:30	Infrared Thermography and PIV Investigation of a Low Reynolds Number High Lift Airfoil Optimized via Deep Reinforcement Learning Speaker Gerardo Paolillo
11:30-11:50	Eliminating Biases in Quantitative Infrared Thermography: Stray Light and Readout Corrections for Accurate Heat-Flux Measurements in Hypersonic Flows Speaker Jens Lunte
11:50-12:10	Enhancing Infrared Thermography for Transonic Rotating Turbine Blade Measurements in the Oxford Turbine Research Facility: Calibration Corrections and Motion Blur Reduction Speaker Adam Hu
12:10-12:30	Investigation of boundary layer behaviour on aerodynamic surfaces at low Reynolds number through Infrared thermography Speaker Antonio D'Onofrio
12:30-12:50	Quantitative Infrared Thermography of Flowing Liquid Films: Radiometric Challenges and Modelling Speaker Karel Mařík
Non-Destructive Testing: Part I Session Location: Aula Magna Chair: Nicolas Avdelidis	
11:10-11:30	A Comparative Study of Active Thermography Techniques Speaker Christopher Sutcu
11:30-11:50	Assessing the Influence of Crack Geometry on Inductive Thermography Response in Ferromagnetic Steel

12:50
11:10

	Speaker Ester D'Accardi Tuesday 30 June
	11:50-12:10 Infrared Thermographic Evaluation of Cold Sprayed 316L Coatings with Different Heat Treatments Speaker Alexey Moskovchenko
	12:10-12:30 Pseudo-noise pulsed thermography with DC-offset auto-compensation Speaker Julien Lecompaon
	12:30-12:50 Destructive verification of defect detection results in composite helmets using ultrasonic thermography Speaker Waldemar Swiderski
12:50	
12:50	
14:10	Lunch Break Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy
14:10	
14:10	Biomedical: Part I Session Location: Room A Chair: Lilach Gavish
	14:10-14:30 A new proposal for thermal symmetry approach on regions of interest at infrared thermal images Speaker Ricardo Vardasca
	14:30-14:50 Simulating tissue heating during closed-loop thermography-controlled diode-laser stimulation Speakers Ken Steffen Frahm, Lars Arendt-Nielsen
	14:50-15:10 Feasibility of Thermal Tomography for Medical Applications: Experimental Considerations Speaker Anna Frixou
	15:10-15:30 Automated Phenotyping of Palm-to-Finger Thermal Gradients Speaker Oshrit Hoffer
15:30	

14:10	Image & Data Processing: Part I Session Location: Room B Chair: Ester D'Accardi Tuesday 30 June
	14:10-14:30 Three-dimensional temperature imaging in semi-transparent media using infrared thermotransmittance laminography Speaker Stéphane Chevalier
	14:30-14:50 Thermal characterisation by Scanning Photothermal Radiometry using a random undersampled measurement scheme Speaker Florian Crouau
	14:50-15:10 Generic open-source frameworks to integrate and control infrared sensors : from laboratory standard experiments to real field measurements Speaker Thibaud Toullier
	15:10-15:30 Global Infrared Satellite Pyrometry at Night Speaker Christopher Elvidge
15:30	
14:10	Non-Destructive Testing: Part II Session Location: Aula Magna Chair: Stefano Sfarra
	14:10-14:30 Robotized Line-Scan Infrared Thermography for Non-Destructive Evaluation of Additively Manufactured Ceramic Materials. Speakers Bata Hena, Pierre Servais
	14:30-14:50 Validation of Coupled Eddy Current-Thermal Simulations for Induction Infrared Thermography in Non-Destructive Testing Speaker Rutger A. Biezemans
	14:50-15:10 Characterizing delaminations of varying depth, length and thickness using lock-in thermography Speaker Jon Pérez-Arbulu
	15:10-15:30 Optimizing Defect Detection in Mild Steel Using Colour Temperature Control in Infrared Thermography Speaker Suresh Bhambhu
15:30	

15:30
16:00
16:00

17:20
16:00

Coffee Break Break		Tuesday 30 June
Artificial Intelligence: Part I		
Session	Location: Aula Magna	Chair: Ricardo Vardasca
16:00-16:20	Use of the RetinaNet Neural Network for Automatic Classification of Diode Package Thermograms	
Speaker	Krzysztof Dziarski	
16:20-16:40	Spatio-Temporal Defect Segmentation in PVC via Infrared Thermography: A Transformer Network Approach with Bayesian Optimization	
Speaker	Henrique Fernandes	
16:40-17:00	Unsupervised Advanced Thresholding of an Infrared Image of a Lightning-Struck Composite	
Speaker	LUDOVIC GAVERINA	
17:00-17:20	Automated Infrared Thermographic Inspection of Low- and Medium-Level Radioactive Waste Drums	
Speaker	Anton Averin	
Industrial Application: Part I		
Session	Location: Room B	Chair: Phalguni Mukhopadhyaya
16:00-16:20	On the use of TeraHertz for local water content measurement applied for food product	
Speaker	Alain Sommier	
16:20-16:40	Smart Predictive Monitoring of Aeronautical Thermal Systems through Infrared Thermography	
Speaker	Pablo Venegas	
16:40-17:00	Infrared Thermography for Zero-Defect Manufacturing: Implementation and Lessons Learned from the Horizon Europe openZDM Project	
Speaker	Vittoria Medici	

17:20
16:00

17:00
19:00
20:30

17:00-17:20

Multi Harmonic Infrared Thermal Tomography for Semiconductor Packaging Failure Analysis based on Electro-Thermal Feedback

Speakers

Feng Yang, Junyan Liu

Thermophysics/Photothermal: Part I

Session | Location: Room A | Chair: Beate Oswald-Tranta

16:00-16:20

Bayesian inference for the simultaneous estimation of thermal properties of orthotropic materials

Speaker

Thomas PIERRE

16:20-16:40

Three-Dimensional (3d) Tensor-Based Methodology For Characterizing 3D Anisotropic Thermal Conductivity Tensor

Speaker

Heng Ban

16:40-17:00

Thermal effusivity as a proxy for porosity in L-PBF AlSi10Mg: a preliminary bi-layer pulsed laser thermography study

Speaker

Giuseppe Dell'Avvocato

Welcome Reception Cocktail

Break | Location: Royal Continental "Pulcinella Dining Room"

Wednesday 1 July

08:45

09:35

09:40

10:40

09:40

Keynote: Dr Mathias Ziegler, BAM, Germany

Session | Chair: Paolo Bison

08:45-09:35

From Lab to Industry: Standardization as the Bridge for Innovative Thermography Applications

Speaker
Mathias Ziegler

Artificial Intelligence: Part II

Session | Location: Room B | Chair: Fumin Wang

09:40-10:00

Automated Defect Recognition in Aeronautical Composite Structures Using Active Infrared Thermography and Deep Learning

Speaker
Henrique Fernandes

10:00-10:20

Multi-Layer Thermal Feature Analysis for Defect Detection and Characterization in AISi10Mg Parts Produced by Laser Powder Bed Fusion

Speaker
Umberto Galietti

10:20-10:40

Enhancing Low-Energy Impact Damage Detection in Carbon Composites Using Sweep-Excited Vibrothermography and Machine Learning

Speaker
Sreedhar Unnikrishnakurup

Biomedical: Part II Session

Session | Location: Room A | Chair: Arcangelo Merla

09:40-10:00 Skin pathology characterization by infrared thermography

Speaker
Gunther Steenackers

10:00-10:20

Assessment of Abductor Pollicis Brevis Muscle Responses to Cold Stress using IR Thermography and Myotonometry

Speaker
Abduselam Endris Hassen

10:20-10:40

Infrared thermography in perforator monitoring during FLAP breast reconstruction procedures

10:40

09:40

10:40

10:40

11:10

11:10

Speaker
Mariusz Kaczmarek

Wednesday 1 July

Heat Transfer/Fluid Dynamics: Part II

Session | Location: Aula Magna | Chair: Delphine Laboureur

09:40-10:00

Indirect assessment of local surface disturbance features by evaluating wake flow responses with infrared thermography

Speaker
Fandi Meng

10:00-10:20

Infrared thermography for heat transfer measurements of high-speed turbine blades: uncertainty analysis at different camera integration times

Speaker
Manuela Sisti

10:20-10:40

Experimental investigation of the flow field around a propeller at low Reynolds number and the impact of leading-edge modification

Speaker
Gabriele Salomone

Coffee Break

Break | Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy

Biomedical: Part III

Session | Location: Room A | Chair: Mariusz Kaczmarek

11:10-11:30

Detecting asymmetries, discomfort and injuries with infrared thermography

Speaker
Gunther Steenackers

11:30-11:50

Transfer Learning-Based Classification of Alzheimer's Disease Using Thermal Imaging Spectrograms and EfficientNet-B0

Speaker
Arcangelo Merla

11:50-12:10

Predicting deep body temperature with QIRT: HELIA study

Speaker
Riccardo G. Sorrentino

12:10-12:30

The usage of Infrared Thermal Imaging along with other medical imaging methods on breast cancer patients

Speaker
Ricardo Vardasca

12:50

11:10

12:50

11:10

12:30-12:50

Assessing Vascular Changes in Experimental Itch using IR-thermography, OCTA, and FLPI

Speaker

Lars Arendt-Nielsen

Multidisciplinary/Other

Session | **Location:** Room B | **Chair:** Sandra Pozzer

11:10-11:30

Monitoring Brazilian Native Species Using Hyperspectral Infrared Radiometric Measurements

Speaker

Matheus Porto

11:30-11:50

Innovative Shape Memory Polymer investigated by IRT and DIC during loading process

Speaker

Elzbieta Pieczynska

11:50-12:10

Quantification of RPAS (Drone) Thermography for Heat Loss Analysis of Large District Heating Systems

Speaker

George Leblanc

Non-Destructive Testing: Part III

Session | **Location:** Aula Magna | **Chair:** Yi Liu

11:10-11:30

Numerical Simulation-Based Framework for Test Planning in Laser Spot Thermography

Speaker

Michał Sobczak

11:30-11:50

Laser-Based Spatially Modulated Chirped-Pulse Thermal-Wave Radar Thermography for Large-Scale Cast Sample Inspection

Speaker

Pengfei Zhu

11:50-12:10

Analysis of charred Herculaneum papyri through pulsed thermography

Speaker

Sofia Ceccarelli

12:10-12:30

Flying Spot Thermography for Surface Crack Detection: A Multi-Scale Investigation

Speaker

LUDOVIC GAVERINA

Wednesday 1 July

12:30-12:50

Infrared thermography for non-destructive detection of carbonation in concrete

Speaker

Sandra Pozzer

Lunch

Break | **Location:** University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy

Calibration & Metrology: Part II

Session | **Location:** Room A | **Chair:** Mathias Ziegler

14:10-14:30

Modeling the Size-of-Source Effect in Thermography Using a Measured MTF Extended by a Parametric Scattering Model

Speaker

Jannik Ebert

14:30-14:50

Micro-thermoreflectometry applied to in-situ monitoring of changes in the thermo-optical properties of high-performance alloys during high-temperature oxidation

Speaker

Joan Delpech

14:50-15:10

Entropy-based assessment of fatigue damage in metallic components

Speaker

Ryohei Fujita

15:10-15:30

Beyond classical Blackbodies: VIS-NIR Thermal Calibration for PBF-LB/M

Speaker

Tina Walter

Image & Data Processing: Part II

Session | **Location:** Room B | **Chair:** Thibaud Toulhier

14:10-14:30

A Portable System for Real-Time Short-Range 3D Thermal Digitization of Objects

Speaker

Alvaro A. Mora

14:30-14:50

Quantifying evaporation rates of volatile pollutants in seawater using a high-frequency infrared multispectral camera.

Speaker

Julie Dumas

14:50-15:10

UAV-based thermal and multispectral data for maize bioindication in agronomic and contaminated scenarios

Speaker

Massimiliano Gargiulo

12:50

12:50

14:10

14:10

15:30

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15:30

14:10

15:30

15:30

16:00

16:00

15:10-15:30

Thermal Imaging Reimagined: Integrating Transient Dynamics and Measurement Uncertainty into Thermograms

Speaker

Valentina Stanić

Wednesday 1 July

Non-Destructive Testing: Part IV

Session | **Location:** Aula Magna | **Chair:** Julien Lecompagnon

14:10-14:30

Thermal Signal Spatial Quasi-Static Reconstruction: A Novel Feature Enhancement Algorithm for Microcrack Detection in Thermography

Speaker

Junyan Liu

14:30-14:50

Assessment of Defect Detectability and Depth Estimation in Front-Side Subsurface Corrosion Inspection Using Active Infrared Thermography

Speaker

Emma Hernández Suárez

14:50-15:10

Numerical and Experimental Investigations of Laser Active Thermography for Microporosities Detection in Cast Superalloy Blades

Speaker

Stéphane Amiel

15:10-15:30

A thermography-based methodology for assessing the key parameters of rising damp in porous materials

Speaker

Paolo Bison

Coffee Break

Break | **Location:** University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy

Heat Transfer/Fluid Dynamics: Part III

Session | **Location:** Aula Magna | **Chair:** Carlo Salvatore Greco

16:00-16:20

Comparison of Infrared Thermography and Air-Side Temperature Mapping

Speaker

Aude Lecardonnel

16:20-16:40

Thermography in a climate chamber - a challenge for correct thermal simulations

Speaker

Rainer Krankenhagen

16:40-17:00

Robust Leak Detection at Building Envelopes with Lock-In Thermography

Speaker

Johannes Pernpeintner

Wednesday 1 July

17:00-17:20

Heat transfer of impinging air amplifiers

Speaker

Iole Paolillo

17:20

16:00

Industrial Application: Part II

Session | **Location:** Room B | **Chair:** Jean-Christophe Batsale

16:00-16:20

High speed infrared microscopy for semiconductor wafer probe heads

Speaker

Beate Oswald-Tranta

16:20-16:40

Electrothermal Modelling of Totem-Pole PFC Converter

Speaker

Rafał Kasikowski

16:40-17:00

Efficiency of Power Conversion and Power Loss Estimation of Totem-Pole PFC Converter Based on IR Thermography

Speaker

Rafał Kasikowski

17:00-17:20

Experimental and numerical strategies for damage detection of aeronautical composite parts by robotised line-scan thermography

Speaker

Georges Giakoumakis

17:20

17:25

18:25

QIRT SC meeting

Contribution | **Location:** Aula Magna

Thursday 2 July

08:45
09:35
09:40
10:40
09:40
10:40

Keynote: Prof. Stefano Sfarra, University of L'Aquila, Italy
Session | Location: Aula Magna | Chair: Gennaro Cardone

08:45-09:35
Learning & Physical Thermographic Models for the Evaluation of Thermophysical Properties in Materials-Structures and the Optimal Image Processing

Speaker
Stefano Sfarra

Artificial Intelligence: Part III
Session | Location: Room B | Chair: Giovanni Ferrarini

09:40-10:00
Deep Point Matching for Thermal Images: A Comparative Study Between CNN and ViT Architectures

Speaker
Ahmed M. Abdelbaset

10:00-10:20
Generalist Optimized Models for Failure Detection and Identification Using Thermal Images

Speaker
Henrique Fernandes

Calibration & Metrology: Part III
Session | Location: Aula Magna | Chair: Rainer Krankenhagen

09:40-10:00
Multi-spectral infrared and emissivity measurements on two tiny cities scale one mock-up in controlled climatic conditions and uncontrolled natural environment

Speaker
Jean Dumoulin

10:00-10:20
Thermal Eyes in the Sky: UAV-Based Energy Audits of Building Envelopes

Speaker
Phalguni Mukhopadhyaya

10:20-10:40
Assessment of Emissivity and Temperature Determination for Space Materials Re-entry Qualification Using Novel Infrared Methodologies

Speaker
Mario De Cesare

09:40
10:40
10:40
11:10
11:10
12:50

Image & Data Processing: Part III
Session | Location: Room B | Chair: Christopher Elvidge

09:40-10:00
Beyond the Muzzle Flash: RGB-IR Fusion for Firearm Discharge Analytics

Speaker
Lucas Westfal

10:00-10:20
Accelerated active infrared thermography using GPUs and edge computing device

Speaker
Pablo Venegas

10:20-10:40
Infrared Thermography Methodology for Reusable Space Re-entry: Assessment of the Novel CMC ISiComp TPS

Speaker
Giovanni Santonicola

Coffee Break
Break | Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy

Heat Transfer/Fluid Dynamics: Part IV
Session | Location: Room A | Chair: Boguslaw Wiecek

11:10-11:30
Experimental Investigation of Spray Cooling on Offset Strip Fins Using Infrared Thermography

Speaker
Carolina S. Morandi

11:30-11:50
Prototyping a 2-phase cooling system for electronic applications

Speaker
Boguslaw Wiecek

11:50-12:10
Towards improved reliability in the Infrared thermography simulations: calibrated modelling of a halogen heat source

Speaker
Van Duong LE

12:10-12:30
Effects of the nozzle-to-plate distance and nozzle exit section shape on the heat transfer behaviour of impinging synthetic jets

Speaker
Giosuè Longobardo

12:30-12:50
Thermal fields evolution at pulsed discharge initiation in a shock tube flow

Speaker
Murat Muratov

11:10

12:50

11:10

Industrial Application: Part III			Thursday 2 July
Session	Location: Room B	Chair: Ludovic Gaverina	
11:10-11:30	Thermography-Guided Optimization of Laser Sintering of Copper-Based Conductive Lines on ITO-coated Silicon Substrate		
Speakers	Ranganathan Kumar, Eduardo Castillo-Orozco		
11:30-11:50	Measurement of contact temperature during resistance spot welding : correction of size source effect		
Speaker	Rémy Ndoumou		
11:50-12:10	Application of Remote FTIR Spectroscopy for Quantitative Assessment of Methane Emissions from Industrial Flares		
Speaker	Mariusz Kastek		
12:10-12:30	Analyzing the condition of railway track using infrared thermography		
Speaker	Katarina Vranešić		
12:30-12:50	Active thermography with inductive excitation applied to landing gear components		
Speakers	Fethi Dahmene, Samuel Maillard		
Non-Destructive Testing: Part V			
Session	Location: Aula Magna	Chair: Waldemar Swiderski	
11:10-11:30	Effect of Sandwich Honeycomb Core features on Thermography Inspection with Pulsed Optical Excitation		
Speakers	Fethi DAHMENE, Samuel Maillard		
11:30-11:50	Numerical and Experimental Investigations of Induction Thermography for the Detection of Microporosities in Cast Superalloy Blades		

12:50

12:50

14:10

14:10

14:30

14:30

Speaker	Thursday 2 July
Renil Thomas Kidangan	
11:50-12:10	A novel perspective on the rapid detection and tomography for impact damage of thermoplastic matrix fiber metal laminates (TFMLs) using multimodal radar thermography
Speaker	Fei Wang
12:10-12:30	Ultrasound-excited active thermography inspection of CFRP: relationship between detectable delamination conditions and propagating waves
Speaker	Masashi Ishikawa
12:30-12:50	Quantitative Characterization of Multi-Source Defects in Composite Laminates via Adaptive Tomographic Radar Thermography
Speaker	Rongcheng Li
Lunch	
Break	Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy
QIRT 2026 Group Photo	
Break	Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy
Poster	
Session Location: Room A1	
Assessing Body Thermoregulation under Localized Cold Stress Using MWIR and LWIR Thermography	
Speaker	Fumin Wang
Adaptive Multi-Domain Fusion for Enhanced Defect Detectability in Active Infrared Thermography	
Speaker	Stefano Sfarra
Thermal Performance of Eco-Friendly Mortars with Recycled Aggregates and Supplementary Cementitious Materials	
Speaker	Andrea Saponaro
Infrared thermography for In-Process TIG welding supervision using unsupervised anomaly detection with a convolutional autoencoder	
Speaker	Wojciech Jamrozik
Thermographic Identification of Oxidation State on Stainless Steel Surfaces During and After Welding with a Moving Heat Source	

Speaker Bernard Wyględacz	Thursday 2 July
Infrared microthermography as a tool to study ice behavior in beef	
Speaker Heidi L. Busse	
Thermographic method for testing of the gas turbine engine blades	
Speaker Stanislav Donets	
Yet another transformation: Experimenting on the Legendre Transform as a processing tool in Pulse IR Thermography	
Speaker Giovanni Ferrarini	
Internal Defect Evaluation for Thermal Protection Composites Using Infrared Thermography and Microwave Near-Field Reflection	
Speaker Mingyu Gao	
Thermal characterization of microwave power amplifier GaN HEMT ICs using infrared thermography	
Speaker Konstantin Petrosyants	
Advanced Infrared Thermographic Image Processing for quantitative Non-Destructive Detection of Subsurface Defects in Aluminum plates	
Speaker Sara Afouzar	
Thermal and Gas-Dynamic Processes At Shock Wave Interaction with Axisymmetric Models in a Channel	
Speakers Arseny Filatov, Murat Muratov	
Automated Deep Learning Framework for Seepage Detection in Earthen Dams Using Infrared Thermography	
Speaker Vaishnavi Bherde	
Deep Learning-Based RGB Color Normalization for Enhanced Thermal Consistency in Breast Infrared Thermography: A Comparative Study	
Speaker Juan cristobal Espinoza Rodas	
Temperature deviations between spectral and diffuse-gray models for quantitative thermography through numerical simulation	
Speaker Vitor Paes	
ACQUISITION AND PROCESSING OF THERMAL DATA USING LIDAR SCANNER IN INDUSTRIAL HERITAGE	

Speaker Antonio Adán	Thursday 2 July
Experimental characterization of the effect of acceleration on the performance of additively manufactured loop heat pipes using infrared thermography	
Speakers Delphine Laboureur, Aude Lecardonnel	
Thermal Imaging-Based Thyroid Tumor Classification via Transfer Learning	
Speaker Francesco Romano	
Pixel-Level Infrared Thermography Data Enhancement Strategy for Aerospace Carbon Fiber Reinforced Polymer	
Speaker Fumin Wang	
Potential and challenges of applying infrared thermography in dairy farming	
Speaker Tina Bobić	
Infrared thermography for non-invasive monitoring of swimmers' body temperature after ice swimming	
Speaker Arkadiusz Hulewicz	
Advancements in Accelerated Monte Carlo Ray Tracing for Infrared Image Simulation: Application to Wall Monitoring in Fusion Devices	
Speaker Hugo Bec	
Spatial and temporal charaterization of halogen lamps for active infrared thermography. Application to thickness evaluation.	
Speaker Olivier Ghibaudo	
Towards Generalizable Crack Segmentation in Laser Thermography using Foundation Models	
Speaker Bilal Rahou	
Optical Fiber Breakpoint Detection in Drop Cables Using Lock-in Thermography with Low Optical Input Power	
Speaker Tomokazu Oda	
Experimental observation of the group velocity of thermal waves propagating in various materials	
Speaker Kosuke Nishida	
Linking Coal Fracture Networks to Thermal Recovery Dynamics Under Water Cooling	

	Speaker Mrityunjay Jaiswal Thursday 2 July
	Active thermographic large-area inspection using periodic scanning heating and phase image transformation Speaker Itsuki Kanetani
	Improving Meltpool Monitoring Reliability with Deep Segmentation of Infrared Thermographic Data Speaker Iago Gil Cortés
	ENHANCED DEFECT CONTRAST USING VORTEX CROSS-CORRELATION IN MULTI-DIRECTIONAL EDDY CURRENT LOCK-IN THERMOGRAPHY Speaker Angel Cifuentes
	Initial tests to characterize thermal metamaterials in microscopic local motion and macroscopically stationary Speakers Alain Sommier, Batsale Jean-Christophe
	Active Microwave Thermography for Lymphedema Diagnostics Speakers Daniel Fehr, Fabrizio Spano, Mathias Bonmarin
	Interpretation of Building Façades from Thermal Images Speaker Petra Bagavac
	Extraction of Quantitative Indices from Infrared Imaging in patients with Type 2 Diabetes Mellitus: A Case Study Speakers Crescencio García-Segundo, Rosalinda Ortiz_Sosa
	Advances in Pain Assessment by using Thermography: FITI-PAIN Project Speaker Rosario Morello
16:30	
16:30	
17:15	QIRT Journal Committee Meeting (hybrid mode) Contribution Location: Room A
17:30	
18:00	Bus departing for the Monumental Complex of Santa Maria la Nova (Further info provided at the conference). Break
19:00	
22:00	Social Dinner at the Cloister of San Giacomo, Santa Maria La Nova Monumental Complex Break

	Friday 3 July
09:00	Keynote: Dr. Ester D’Accardi, Polytechnic University of Bari, Italy Session Location: Aula Magna Chair: Giovanni Maria Carlomagno
09:50	09:00-09:50 From Process Control to Material Characterization: The Versatility of Thermal Methods in Additive Manufacturing Speaker Ester D'Accardi
10:00	Calibration & Metrology: Part IV Session Location: Room A Chair: Ingmar Mueller
	10:00-10:20 Periodical checks for industrial applications of active thermography Speaker Samuel Maillard
	10:20-10:40 A calibration procedure for liquid-crystal thermography applied in water flows Speaker Delphine Laboureur
	10:40-11:00 First approach of IR camera calibration dedicated to NDT Application Speaker Samuel Maillard
11:00	
10:00	Non-Destructive Testing: Part VI Session Location: Aula Magna Chair: Xavier Maldague
	10:00-10:20 Infrared thermography for evaluating graphene nanoplatelet dispersion in nanocomposites Speaker Leandro Maio
	10:20-10:40 Dynamic handheld thermal scanning for rapid in-situ inspection of inaccessible timber heritage: detection of hidden decorations and material defects in a Northern Song dynasty caisson ceiling Speaker Yinuo Ding
	10:40-11:00 Infrared thermography for in situ stone characterization in geoheritage: thermophysical properties and associated microclimatic implications Speakers Jacopo Melada, Nicola Ludwig
11:00	

10:00

11:00

11:00

11:30

11:30

12:30

11:30

Thermophysics/Photothermal: Part II

Session | Location: Room B | Chair: Sreedhar Unnikrishnakurup

Friday 3 July

10:00-10:20

Towards multi-parameter thermal characterization using single-test laser spot thermography

Speaker
Giuseppe Dell'Avvocato

10:20-10:40

Estimation of normal spectral emissivity of CeO2 ceramic at high temperatures

Speaker
Aouali Abderezak

10:40-11:00

Visualizing fundamental microwave resonances in aqueous spheres with thermography

Speaker
Aaron Slepkov

Coffee Break

Break | Location: University of Naples Federico II Conference Center, Via Partenope, 36, Naples, Italy

Artificial Intelligence: Part IV

Session | Location: Aula Magna | Chair: Gerardo Paolillo

11:30-11:50

Active Infrared Thermography for Thermal Characterization of Tungsten-Based Fusion Coatings: A Combined Experimental-Numerical-AI Approach

Speaker
Sreedhar Unnikrishnakurup

11:50-12:10

Object-level evaluation of model-based neural networks for thermographic image reconstruction

Speaker
Gergő Galiger

12:10-12:30

Dual-modal Defect Detection in Aeroengine Blades: A Comparative Analysis of Deep Learning Architectures using Visual and Active Thermographic Data Fusion

Speaker
Abdelrhaman Alzarooni

Biomedical: Part IV

Session | Location: Room B | Chair: Henrique Fernandes

11:30-11:50

Non-invasive Thermal IR Screening for Medical Assessments with a Radiometrically Calibrated Uncooled Camera

Speaker
Ben Saute

12:30

11:30

12:30

12:40

13:00

11:50-12:10

Role of infrared thermography in preoperative assessment of vascular access

Speaker
Giulia D'Ambrosio

12:10-12:30

The role of quantitative IRT in space medicine: current evidence and perspectives

Speaker
Riccardo G. Sorrentino

Heat Transfer/Fluid Dynamics: Part V

Session | Location: Room A | Chair: Stéphane Chevalier

11:30-11:50

Experimental Investigation of Convective Heat Transfer Coefficient over a Riblet Surface

Speaker
Antonio Mazzara

11:50-12:10

Detecting Carotid Atherosclerotic Disease from Skin Thermal Signatures: A Combined Multiphysics and Deep Learning Approach

Speaker
Francesco Romano

12:10-12:30

Infrared Thermography Investigation of Boundary-Layer Behavior on an Optimized Circulation-Control Airfoil

Speaker
Fabiana Ruggiano

Closing Ceremony

Session | Chair: Gennaro Cardone

Sessions and Chairpersons

Keynote I
Keynote II
Keynote III
Keynote IV

Xavier Maldague
Paolo Bison
Gennaro Cardone
Giovanni Maria Carlomagno

Artificial Intelligence: Part I
Artificial Intelligence: Part II
Artificial Intelligence: Part III
Artificial Intelligence: Part IV

Ricardo Vardasca
Fumin Wang
Giovanni Ferrarini
Gerardo Paolillo

Biomedical: Part I
Biomedical: Part II
Biomedical: Part III
Biomedical: Part IV

Lilach Gavish
Arcangelo Merla
Mariusz Kaczmarek
Henrique Fernandes

Calibration & Metrology: Part I
Calibration & Metrology: Part II
Calibration & Metrology: Part III
Calibration & Metrology: Part IV

Anton Averin
Mathias Ziegler
Rainer Krankenhagen
Ingmar Mueller

Heat Transfer Fluid Dynamics: Part I
Heat Transfer Fluid Dynamics: Part II
Heat Transfer Fluid Dynamics: Part III
Heat Transfer Fluid Dynamics: Part IV
Heat Transfer Fluid Dynamics: Part V

Jean Dumoulin
Delphine Laboureur
Carlo S. Greco
Boguslaw Wiecek
Stéphane Chevalier

Image & Data Processing: Part I
Image & Data Processing: Part II
Image & Data Processing: Part III

Ester D'Accardi
Thibaud Toulhier
Christopher Elvidge

Industrial Application: Part I
Industrial Application: Part II
Industrial Application: Part III

Phalguni Mukhopadhyaya
Jean-Christophe Batsale
Ludovic Gaverina

Multidisciplinary

Sandra Pozzer

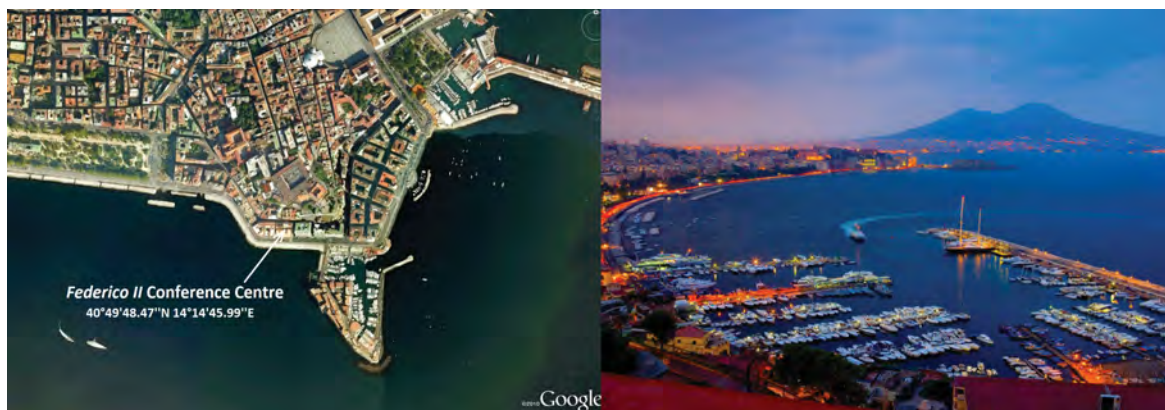
Non-Destructive Testing: Part I
Non-Destructive Testing: Part II
Non-Destructive Testing: Part III
Non-Destructive Testing: Part IV
Non-Destructive Testing: Part V
Non-Destructive Testing: Part VI

Nicolas Avdelidis
Stefano Sfarra
Yi Liu
Julien Lecompañon
Waldemar Swiderski
Xavier Maldague

Thermophysics/Photothermal: Part I
Thermophysics/Photothermal: Part II

Beate Oswald-Tranta
Sreedhar Unnikrishnakurup

QIRT 2026 will take place at the University of Naples Federico II Conference Centre. Boasting a superb waterfront location, the venue is situated in a vibrant area renowned for its cultural and leisure activities. Naples serves as a perfect hub for international guests wishing to explore the famous landmarks of Campania, such as Pompeii, Herculaneum, Capri, and the Amalfi Coast, which are all reachable within an hour.



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