

July 2nd, Wednesday

PRECONFERENCE COURSES

8:00-10:00	Registration		
	Room A	Room B	Room C
10:00-11:00	Medical Thermography, part I Prof. F. Ring, Historical introduction Prof. K. Ammer, Principles of thermal physiology	Basic Thermography, part I Prof. X. Maldague, Université Laval, Canada Prof. V. Vavilov, Tomsk Polytechnic University, Russia	Applications of Thermography to Thermo-Fluid-Dynamics, part I Prof. G. M. Carlomagno, Università di Napoli Federico II, Italy
11:00-11:15	Coffee break		
11:15-12:30	Medical Thermography, part II Prof. K. Ammer, Thermal physiology Prof. F. Ring, Standard protocols for thermography Prof. K. Ammer, Causes of human temp. increase & decrease	Basic Thermography, part II Prof. X. Maldague, Université Laval, Canada Prof. V. Vavilov, Tomsk Polytechnic University, Russia	Applications of Thermography to Thermo-Fluid-Dynamics, part II Prof. G. M. Carlomagno, Università di Napoli Federico II, Italy
12:30-14:00	Lunch		
14:00-15:30	Medical Thermography, part III Prof. F. Ring Film, Hot and cold "Living Body" Prof. F. Ring Provocation tests R. Thomas, IR detectors and camera	Application of dynamic thermography to Nondestructive Testing, part I Prof. G. Busse, University Stuttgart, Germany	Application of thermography to buildings, part I Prof. E. Grinzato, CNR-ITC, Padova, Italy
15:30-15:45	Coffee break		
15:45-17:00	Medical Thermography, part IV Dr P. Plassmann, Image processing principles Dr P. Plassmann, Quality assurance in thermography Prof. K. Ammer, Education resources Prof. F. Ring, Future developments in thermography	Application of dynamic thermography to Nondestructive Testing, part II Prof. G. Busse, University Stuttgart, Germany	Application of thermography to buildings, part II Prof. E. Grinzato, CNR-ITC, Padova, Italy
18:00-21:00	Welcome reception, "Krakus" restaurant, AGH University		

July 3rd, Thursday

8:00-9:00	Registration		
9:00-9:30	Opening		
9:30-10:15	Invited paper I – S. M. Shepard, Advances in Flash Thermography for NDT and Materials Characterization		
10:15-10:45	Coffee break		
	Room A	Room B	Room C
	NDE I, prof G. Busse	Civil engineering, prof. J-M. Buchlin	Thermophysics I, prof. A. Salazar
10:45-11:10	A. Mendioroz, A. Salazar, F. Alonso, I. Sáez-Ocáriz Crack characterization in metallic plates using vibrothermography	A. Colantonio, M. Theauvette Specifying Infrared Services for Building Applications	P.Bison, E. Grinzato, Measurement of building materials thermal properties in transient regime by IR thermography
11:10-11:35	B. Oswald-Tranta Time-dependent evaluation of inductive pulse heating measurements	S. Švaić, I. Boras, M. Andrassy, M. Suša Characterization of subsurface defects in building envelope and flat roof structure by means of thermography supported by numerical simulation	D. Legaie, H. Pron, C. Bissieux, V. Blain Thermographic application of black coatings on metals
11:35-12:00	M. Susa, X. Maldaque, S. Svaic, I. Boras The influence of surface coatings on the differences between numerical and experimental results for samples subjected to pulse thermography examination	M. Larbi Youcef, L. Ibos, A. Mazioud, Y. Candau, P. Brémond, M. Piro, A. Filloux A non destructive method for diagnostic of insulated building walls using infrared thermography in real situation	B.G. Vainer Quantitative characterization of vapour adsorption on solid surfaces and estimation of emissivity of solids using infrared thermography
12:00-12:25	C. Spiessberger, A. Gleiter, G. Busse Data Fusion of Lockin-Thermography Phase Images	M. Marchetti, S. Ludwig, J. Dumoulin, L. Ibos, A. Mazioud Active Infrared Thermography for Non-Destructive Control for Detection of Defects in Asphalt Pavements	J.Banaszczyk, G. De Mey Infrared thermography of electroconductive woven textiles
12:25-14:00	Lunch		
	NDE II, prof. V. Vavilov	Microscale applications I, prof. X. Maldaque	Thermophysics II, prof. E. Grinzato
14:00-14:25	A. Gleiter, C. Spießberger, G. Busse Phase Angle Thermography for depth resolved defect characterization	J. Morikawa, E. Hayakawa, T. Hashimoto, C. Pradere, J. Toutain, J.C. Batsale Micro-scale thermography of freezing biological cells in view of cryo-preservation	A. Muscio Measurement of thermal diffusivity by a modification of the Angstrom's method using thermally short specimens
14:25-14:50	A. Gleiter, C. Spießberger, G. Busse Thermography Data Fusion for Failure Analysis	O. Fudym, F. Sepulveda, J.C. Batsale, C. Pradère Averaged field analysis for infrared images processing. Application to microscale thermal characterization	P. Bison, F. Cernuschi Evaluation of thermal conduction anisotropy on Thermal Barrier Coating
14:50-15:15	G. Mayr, B. Dietermayr, G. Hendorfer, Characterization of defects in curved CFRP samples using pulsed thermography and 3D Finite Element Simulation	P. Ginet, J.-L. Battaglia, C. Pradere, C. Lucat Quantitative infrared on screen-printed metallic electrothermal microactuators, comparison with a model	R. Celorrio, M. Costa, S.M. Shibli, E. Apiñaniz, A. Mendioroz, A. Salazar Characterization of subsurface overlapping cylindrical inclusions by infrared thermography
15:15-15:40	C. Zöcke, A. Langmeier, R. Stöbel, W. Arnold A new technique to reconstruct the defect shape from Lockin thermography phase images	J. Morikawa, E. Hayakawa, T.Eto, T. Hashimoto Two-dimensional thermal analysis of organic materials by micro-scale thermography	A. Salazar, R. Celorrio, A. Mendioroz, E. Apiñaniz, A. Oleaga Reconstruction of the hardening depth profile of steel rods
15:40-17:00	Posters session, coffee		
18:00-22:00	Social event, bus departure to Korzkiew castle (20 km from Krakow)		

July 4th, Friday

8:00-9:00	Registration		
8:45-9:30	Invited paper II – P. Bison, Measuring thermophysical properties by IR thermography		
	Room A	Room B	Room C
	Solid mechanics, prof. D. Balageas	Fluid dynamics I, prof. G. Carlomagno	Applications I, prof. A. Nowakowski
9:30-9:55	E.A. Pieczyńska, W.K. Nowacki, H. Tobushi, S. Hayashi Thermomechanical properties of shape memory polymer subjected to tension and simple shear process	C. O. Asma, J. Thoemel, S. Paris, O. Chazot Utilization of Infrared Thermography to Investigate Atmospheric Entry Aerothermodynamics of Space Vehicles at von Karman Institute	P. Corvaglia, A. Largo IRT survey for the quality control of FRP reinforced r.c. structures
9:55-10:20	M.Y. Choi, S.S. Lee, K.S. Kim, J.H. Park, W.T. Kim, K.S. Kang Predicting the Dynamic Stress Concentration Factor Using the Stress Measuring Method Based on the Infrared Thermography	J.-C. Batsale, J.-P. Lasserre, M. Varenne-Pellegrini, V. Desormiere, L. Authesserre, A. Descuns, G. Lamothe, Transient Heat Transfer in Rotating Cylinder – Thermography Measurement to Analyse Intense Heat Flux Distribution	A. Mazioud, L. Ibos, A. Khlaifi, J.F. Durastanti Study of the heat generated by a rolling bearing degradation by IR thermography
10:20-10:45	H.-A. Crostack, R. Zielke, X. Feng, G. Fischer Thermographic study of nucleation and propagation of Portevin-Le Châtelier bands	J.-M. Buchlin, R. Herrero, I. Horvath, Ph. Planquart Thermal study of Flapping Jet by Infrared Thermography	J. Thevenet, M. Siroux, B. Desmet Brake disc surface temperature measurement using a fiber optic two-color pyrometer
10:45-11:15	Coffee break		
	Works of art, prof. E. Grinzato	Fluid dynamics II, prof. J.-C. Batsale	Image processing, prof. X. Maldague
11:15-11:40	A.Tavukcuoglu, P. Cicek, L. Tosun, E. Grinzato Thermal Analysis of an historical bath (hammam) by quantitative IR thermography	C. T'Joel, A. Willockx, M. De Paepe Infrared visualisation of flow within inclined louvered fins	N.M. Nandhitha, N. Manoharan, B. Sheela Rani, B.Venkataraman, M.Vasudevan, P.Kalyana Sundaram, Baldev Raj Wavelet based feature extraction algorithm for porosity and Lack of Penetration detection for On-line Monitoring in Gas Tungsten Arc Welding by IR Thermography in AISI 316 Stainless Steel
11:40-12:05	C. Ibarra-Castaneda, S. Sfarra, D. Ambrosini, D. Paoletti, A. Bendada, X. Maldague Subsurface defect characterization in artworks by quantitative PPT	P. Reulet, D. Donjat, E. Divouren, E. Radenac, P. Millan Infrared thermography analysis of the transient aerothermal evolution in a turbofan core compartment model	G. Cardone, S. Discetti Reconstruction of 3D Surface Temperature from IR images
12:05-12:30	J.-C. Candoré, J.-L. Bodnar, F. Depasse, N. Horny, V. Detalle, P. Grosse Approach of the characterization of delamination in mural paintings	A. Willockx, C. T'Joel, H.-J. Steeman, H. Canière, M. De Paepe IR Temperature Measurements to Determine Fin Effectiveness of Longitudinal Fins	M. Klein, A. Bendada, M. Pilla, C. Ibarra-Castaneda, X. Maldague Enhancing Infrared Images Contrast for Pulsed Thermography
12:30-14:00	Lunch		
	Modelling, prof. G. de Mey	Biomedical applications I, prof. K. Ammer	Thermographic system and components, prof. W. Minkina
14:00-14:25	D. Dović, S. Svačić, A. Galović Estimating heat losses in solar collectors by IR thermography and numerical simulations	H. Trabelsi, M. Gantri, E. Sediki A Near Infrared Radiation Model in a Biological Tissue	G. Machin, R. Simpson, M. Brousseley Calibration and validation of thermal imagers
14:25-14:50	M. Bajorek, M. Kaczmarek Numerical heat transfer model in skin burn depth simulations	J-H. Tan, E.Y.K. Ng, R Acharya Localization of eye and cornea on IR thermogram using genetic snake for early detection of eye disease	M. Vilain, J.L. Tissot, O. Legras, C. Minassian, B. Fièque, J.M Chiappa Uncooled amorphous silicon IRFPA with 25 µm pixel-pitch for large volume applications
14:50-15:15	I. Szczygieł, A. Fic, T. Kruczek, A. Sachajdak Verification of temperature distribution in the system for pad welding by means of infrared thermography	E.F.J. Ring, A. Jung, J. Zuber, P. Rutkowski, B. Kalicki, U. Bajwa Detecting fever in polish children by infrared thermography	D. Rzeszutarski, B. Wiecek Calibration for 3D Reconstruction of Thermal Images
15:15-16:30	Exhibitors panel, coffee, P. Pręgowski		
17:00-22:00	Social event, bus departure to Wieliczka salt mine (20 km from Krakow)		

July 5th, Saturday

8:30-9:15	Invited paper III – A. Nowakowski, Advances of QIRT in medical diagnostics		
	Room A	Room B	Room C
	Biomedical applications II, prof. A. Jung	Applications II, prof. G. Machin	Energetics, prof. S. Svaic
9:30-9:55	K. Ammer The sensitivity of infrared imaging for diagnosing Raynaud's phenomenon and for Thoracic Outlet Syndrome is depended on the method of temperature extraction from thermal images	V. Vavilov, W. Swiderski Inspecting localized moisture in building materials by applying surface and microwave heating	P. Pregowski, G. Goleniewski, W. Komosa, W. Korytkowski, S. Zwolenik Dynamic, Multispectral-band IR Thermography Applications in the Petrochemical Furnaces
9:55-10:20	B.G. Vainer, A.S. Moskalev Heterogeneous thermograms: the methods of attack	S. Dudzik Calculation of the heat power consumption in the heat exchanger using artificial neural network	M. Strojnik, G. Paez Temperature evolution during first millisecond after ignition in a gas stove
10:20-10:45	E. F.J. Ring, R. Vardasca, U. Bajwa Monitoring Cooling Agents Applied to the Skin of Normal Subjects by Quantitative Thermal Imaging	P. Bison, A. Dragano, S. Rossi, Experimental evaluation of absorption coefficient of insulated vehicle sandwich panel	R. Thomas Quantitative factors to consider during IR inspections of Power Transformers
10:45-11:10	Ruminski - The DICOM standard for medical thermal imaging	T. Kruczek Particular applications of infrared thermography temperature measurements for diagnostics of overhead heat pipelines	I. Benko Improvement of IR-emissivity of ceramic fibre by silicon carbide coating in furnaces
11:10-11:30	Coffee break		
	Fluid dynamics III, W. Minkina	Applications III, prof. R. Thomas	Microscale applications II, prof. G. de Mey
11:30-11:55	T. Astarita, R. Giordano, G.M. Carlomagno Convective heat transfer around a wall mounted cylinder	A. Bzymek, A. Czupryński, M. Fidali, W. Jamrozik, A. Timofiejczuk Analysis of images recorded during welding processes	C. Hany, C. Pradere, J. Toutain, J.C. Batsale, M. Joanicot A millifluidic calorimeter without contact for reaction enthalpy and kinetics measurements
11:55-12:20	T. Swiatczak, R. Olbrycht, B. Wiecek Evaluation of convection cooling conditions using Fourier and wavelet analysis in lock-in thermography	N. Hots Theoretical aspects of the integration of thermography and pyrometry methods	L. Bodelot, L. Sabatier, E. Charkaluk, P. Dufrenoy Optical and infrared coupled full-field measurements at a micrometric scale
12:20-12:45	R. Ricci, S. Montelpare, G. Artipoli Thermographic Analysis of Mechanical Disturbances Effects on Laminar Separation Bubble	V. Chatziathanasiou, G. T. Andreou, D. P. Labridis Thermal Analysis of an Installation Fault Concerning a Ripple Control Transformer	
12:45-13:00	Closing address		
13:00-15:00	Lunch		

POSTERS SESSION

Applications

1. M. Fidali, An idea of continuous thermographic monitoring of machinery
2. W. Wittchen, M. Niesler, M. Borecki, B. Zdonek, Application of thermovision method in analysing metallurgical processes
3. P. Baranowski, W. Mazurek, Chosen aspects of thermographic studies on detection of physiological disorders and mechanical defects in apples
4. M. Bednarek, J. Rybiński, T. Świetlik, P. Wiśniewski, Application of microscope thermography in the production technology of semiconductor lasers
5. M. Broussely, G. Machin, R. Simpson, A. Cozzani, C. Gomez Hernandez Application of IR thermography for quantitative temperature measurements in a Thermal-Vacuum Space Simulator

Solid mechanics

6. E.S. Lukin, A.M. Ivanov, Influence of material plasticity change on the evolved heat quantity of constructional steel subjected ECAP

Thermophysics

7. M. Dąbrowski, R. Dulski, P. Trzaskawka, P. Zaborowski, Measurements of polymerization temperature of light-hardened dental materials by a thermal camera
8. G. Gralewicz, J. Woźny, B. Więcek, G. Owczarek, Detecting flaws in composite materials – thermal model and simulation results
9. C. Boué, D. Fourier, Infrared thermography measurement of the thermal parameters (effusivity, diffusivity and conductivity) of materials
10. M. Maj, W. Oliferuk and O. Wysocka, Relation between defect depth and standard thermal contrast on the steel surface in pulsed thermography

IR signature and recognition

11. H. Madura, M. Dąbrowski, T. Sosnowski, P. Trzaskawka, Method of automatic recognition of helicopters flying at low altitudes
12. T. Sosnowski, H. Polakowski, R. Dulski, Modelling of IR images of sky and clouds
13. M. Zieliński, The measurements and simulations of the ship thermal signature
14. M. Kastek, T. Piątkowski, H. Polakowski, T. Sosnowski, Methane detection in far infrared using multispectral IR camera
15. S. Milewski, Detection of small targets in maritime conditions
16. G. Bieszczad, T. Sosnowski, Real-time mean-shift based tracker for thermal vision systems

Energetics

17. E. Popa, I. Pisa, S. Ignat, C. Ciobanu, M. Georgescu, process technology concerning the integrated solid industrial waste management for the paper industry optimized by infrared approach
18. T. Prisecaru, C. Dica, M. Teodorescu, M. Prisecaru, L. Mihaescu, Experimental validation of an hho gas cutting flame cfd model
19. V.V. Ghiea (Ghia), Research and testing methods for establishing of the fuel oil combustion flame emissivity
20. C. Allouis, F. Beretta, Fast Infrared Imaging to study burner fluctuations

Fluid dynamics

21. T. Bury, T. Kruczek, Application of infrared thermography for validation of numerical analyses results of a finned cross-flow heat exchanger with non uniform flow of the agents
22. G. Sobieraj, P. Sierputowski, T. Kowalewski, K. Gumowski, Thermography in Aerodynamics

Biomedical applications

23. M. Więcek, R. Strąkowski, T. Jakubowska, B. Więcek, Software for classification of thermal imaging for medical applications
24. A. Sarah Nica, G. Mologhianu, A. Murgu, F. Ojoga, B. Sirghii, S. Ilie, A. Meila, Thermography Study of the Patient with Diabetic Foot Treated in a Rehabilitation Department
25. A. Zalewska, G. Gralewicz, G. Owczarek, B. Więcek, Psoriatic lesion regression – thermographic evaluation
26. K. Goździuk, T. Wolski, P. Baranowski, W. Mazurek, O. Kalisz, A. Rojowski, Application of thermography in curing oversweating

27. O. Kalisz, M. Gerkowicz, T. Wolski, K. Goździuk, P. Baranowski, W. Mazurek, Thermographic evaluation of healing process on patients after surgery of cataract with the use of facoemulsification
28. M. Moderhak, A. Nowakowski, Problems of 3D breast imaging
29. A. Trafarski, L. Różanski, A. Straburzynska - Lupa, P. Korman, W. Romanowski, The Quality of Diagnosis by IR Thermography as a Function of Thermal Stimulation in Chosen Medical Applications
30. M. Kaczmarek, Thermal imaging and modelling of burned skin
31. R. Vardasca, E.F.J. Ring, P. Plassmann, C.D. Jones, A case study on thermal image monitoring of hand stress during keyboard typing
32. D. Mikulska, R. Maleszka, Thermal imaging compared to dermoscopy in evaluation of skin melanocytic lesions

Civil engineering

33. J-L. Bodnar, A. Szefflinski, J-C. Candoré, L. Ibos, M. Larbi Youcef, A. Mazioud, Y. Candau, Detection of insulation defaults in building structures by active infrared thermography
34. J. Jaworski, The infrared thermography of buildings proceeding its surrounding and their thermal performance
35. A. Wróbel, T. Kisilewicz, Thermographic detection of thermal bridges - aims, possibilities and conditions
36. T. Toma, V. Barbu, S. Novac, Thermography applied to the efficiency development of utilization of the energy in the building energetics

Works of art

37. J.C. Candoré, J.L. Bodnar, V. Detalle, P. Grosseil, Non destructive testing of works of art by stimulated infrared thermography
38. J. Rogóż, A. Cupa, B. Więcek, The analysis of mural painting „The Crucifixion” in St. John the Baptist and St. John the Evangelist basilica in Toruń
39. M. Poksińska, A. Cupa, S. Socha-Bystroń, Thermography in the investigation of gilding on historical wall paintings
40. M. Poksińska, B. Więcek, A. Wyrwa Thermovision investigation of frescos in Cistercian monastery in Łąd - Poland

Calibration and metrology

41. T. Piatkowski, H. Polakowski, N. Hots, Examination of metallic surfaces for IR gray body sources
42. S. Dudzik, W. Minkina, Application of the numerical method for the propagation of distributions to the calculation of coverage intervals in the thermovision measurements

Modelling

43. M. Felczak, B. Więcek, Application of genetic algorithms for electronic devices placement
44. M. Michalak, M. Felczak, B. Więcek, A new method of evaluation of thermal parameters of textile material

NDE

45. L. Junyan, W. Yang, D. Jingmin, L. Hui, W. Zijun, Research on the IR Lock-in Thermography Based on the Image Sequence Processing for NDT
46. R. Plum, T. Ummenhofer, Ultrasound excited thermography of load bearing members used in constructional steelwork
47. E. Saarimäki, P. Ylinen, An investigation of non-destructive thermographic inspection exploiting phase transition of water for moisture detection in aircraft structures
48. M. Souza, Defect detection in fiberglass reinforced epoxy composite pipes reproducing field inspection conditions
49. W. Swiderski, D. Szabra, M. Szudrowicz, Nondestructive Testing of Composite Armour by IR Thermography Method
50. W. Yang, L. Hui, L. Junyan, Experimental study of ultrasound excited lock-in thermography
51. C. Ibarra-Castanedo, E. Grinzato, S. Marinetti, P. Bison, N. Avdelidis, M. Grenier J-M. Piau, A. Bendada, X. Maldague, Quantitative assessment of aerospace materials by active thermography techniques
52. F. J. Madruga, C. Ibarra-Castanedo, O.M Conde, J.M Lopez-Higuera, X. Maldague, Automatic data processing based on the skewness statistic parameter for subsurface defect detection by active infrared thermography

Thermographic systems and components

53. M. Fidali, M. Mikulski, A chip black body model