

THERMAL STRESSES 2016

Sunday June 5	
9.00-13.00	Excursion to Amalfi Coast for Editorial Board Members and Committees Members
13.00-14.30	EBM and Comm. Members Lunch
17.00-19.00	Welcome and registration
19.00-20.00	Welcome cocktail
20.00-21.30	Welcome dinner

TIME AND PLACE

The Congress will be held from June 5 to 9, 2016, near the campus of the University of Salerno, Italy. The accommodation will be organized in nearby hotels within walking distance.

AIM

The objectives of the Congress are to provide a forum for scientists and engineers from academia, research laboratories, and industry from all over the world who are involved in the field of thermal stresses to exchange ideas and to extend further cooperation among participants. The Congress should forge cooperative links between researches and engineers by bringing them to one place where they present their achievements and conduct discussions.

TOPICS

This is a conference on thermal stresses and related topics, with particular focus on the following, but not limited to them:

- Thermal Stresses and Deformations
- Thermoelasticity and Viscoelasticity
- Thermal Stresses in
 - * Contact Mechanics,
 - * Dynamic Problems,
 - * Fracture and Fatigue of Heterogeneous Materials and Manufacturing
- Thermo-Hygro-Mechanics
- Thermo-Biomechanics
- Thermal Shock
- Continuum Thermomechanics
- Heat Conduction, Convection and Radiation Problems
- Experimental Methods in Thermomechanics
- Computational Methods in Thermomechanics
- Control of Thermal Structures
- Instability and Localization under Thermomechanic Loading
- Inverse and Optimization Methods in Thermomechanics
- Thermal Stresses in Smart Materials
- Thermal-Induced Fracture of Smart Materials

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Monday June 6		
8.30-9.00	Registration	
9.00-9.30	Opening and Welcome	
	Room "Vietri"	
9.30-10.10	Fabrizio	
10.20-11.00	Straughan	
11.10-11.30	break	
11.30-12.10	Huo	
12.20-13.00	Gigliotti	
13.10-14.30	Lunch + Meeting of Editorial Board	
	Room "Furore"	Room "Positano"
	Theoretical Problems	FGM
14.30-14.50	Ilesan	Noda
14.55-15.15	Morro	Jafarzadeh
15.20-15.40	Chirita	Vatani
15.45-16.05	Maruszewski	Pandey
16.10-16.30	break	
	Theoretical Problems	FGM
16.30-16.50	El-Karamany	Pourmansour
16.55-17.15	Demir	Kiani
17.20-17.40	Povstenko	Li
17.45-18.05	Ignaczak	Wan
18.10-18.30	Chen	Mallick
19.00-20.00	Meeting of the Congress Committees	

Room "Vietri": Plenary Lectures

Fabrizio	A. Berti, M. Fabrizio, A Ginzburg-Landau model for material aging depending on temperature
Straughan	B. Straughan, Waves and uniqueness in multi-porosity elasticity
Huo	Y. Zhao, S. Ding, Y. Huo, C. Wang, L. Yang, Irradiation-induced thermo-mechanical behavior in ADS composite fuel pellets: mechanism and main influencing factors
Gigliotti	M. Gigliotti, Residual Thermal Strains and Stresses in Organic Matrix Composite Materials

Room "Furore": Theoretical Problems

Ilesan	D. Ilesan, Chiral effects in reinforced thermoelastic rods
Morro	A. Morro, Stress, heat conduction, and diffusion in mixtures revisited
Chirita	Stan Chirita, Michele Ciarletta and Vincenzo Tibullo, On the time differential dual-phase-lag heat conduction
Maruszewski	B. T. Maruszewski, Thermomechanics of continuous multiferroics
El-Karamany	Ahmed S. El-Karamany, Thermodiffusion in Anisotropic Viscoelastic Material
Demir	M. H. Demir and F. Yigit, Effects of Coating Properties on the Growth Instability during the Early Stages of Solidification of Pure Metals on a Coated Planar Mold
Povstenko	Y. Povstenko, Harmonic impact in the plane problem of fractional thermoelasticity
Ignaczak	J. Ignaczak and W. Domański, One-dimensional model of nonlinear thermo-elasticity at low temperatures and small strains
Chen	Weiqiu Chen, On general solutions for thermoelasticity

Room "Positano": Functionally Graded Materials

Noda	N. Noda, N. Sumi and M. Ohmichi, Plane Heat Conduction Problems of Functionally Graded Orthotropic Materials
Jafarzadeh	A. Jafarzadeh, A. Taghvaeipour and M.R Eslami, Thermo-mechanical analysis of FGM hollow cylinders due to radially symmetric loads by superelement method
Vatani	D. Vatani and M. Ghannad, Analytical and numerical solution of FG pressurized thick cylindrical shells under transient thermal load
Pandey	Shashank Pandey and S. Pradyumna, A Finite Element Formulation for Rapid Heating of Functionally Graded Material Shells
Pourmansour	P. Pourmansour, M. Ghannad, Stress Concentration Analysis of Functionally Graded Plate Subjected to Thermal and Mechanical Loading
Kiani	Y. Kiani and M.R. Eslami, Axisymmetric Geometrically Nonlinear Thermally Induced Vibration of FGM Shallow Conical Cap
Li	S.R.Li and Y.Sun and M.L.Wang, Thermal post - buckling of FGM circular plates with in - plane elastic constraints
Wan	Zeqing Wan Shirong Li, Thermal Buckling of Functionally Graded Cylindrical Shells
Mallick	Ashis Mallick and Rajiv Ranjan, Analysis of Thermal Stresses and Inverse Prediction for a Functionally Graded Annular Fin

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Tuesday June 7		
	Room "Furore"	Room "Positano"
	Thermoelectric Problems	Wave Analysis
9.00-9.20	Carrera	Hilton
9.25-9.45	Chao-1	Carillo
9.50-10.10	Sulym-1	Z-Huang
10.15-10.35	Heidary	Furukawa
10.40-11.00	break	
	Thermoelectric Problems	Aerospace Applications
11.00-11.20	Ishihara	Ferraiuolo
11.25-11.45	Sulym-2	Abbiati
11.50-12.10	Fu	Piscopo
12.15-12.35	Entezari	Baghdasaryan
12.40-14.30	lunch	
	Room "Vietri"	
14.30-15.10	Obata	
15.20-16.00	Ostoja-Starzewski	
16.10-16.30	break	
	Room "Furore"	Room "Positano"
	Thermal Stresses	Heat Flow Processes
16.30-16.50	Ejtemajou	Chao-2
16.55-17.15	Nelson	Rossikhin
17.20-17.40	Banaszkiewicz	Rasouli
17.45-18.05	Elsawaf	Chao-3
18.10-18.30	Muradyan	Dzierwa
21.00	Banquet	

Room "Vietri": Plenary Lectures

Obata Y. Obata, wood as prospective materials for sustainable development – evaluation of tactile warmth by heat transfer analysis

Ostoja-Starz. Martin Ostoja-Starzewski, Continuum mechanics versus violations of the second law of thermodynamics

Room "Furore": Thermoelectric Problems

Carrera E. Carrera and E. Zappino, Electro-thermo-mechanical analysis of an amplified piezoelectric actuator using refined one-dimensional models

Chao-1 Ching-Kong Chao, Chun-Ching Hsiao, An-Shen Siao, Yi-Je Tsai and Ching Liu, Study on thermal-electrical coupling effect in pyroelectric devices

Sulym-1 H. Sulym, Ia. Pasternak and G. Zietek, Boundary element analysis of defective thermoelectroelastic bimaterial with coherent high temperature conducting interface

Heidary Fariborz Heidary and M. Reza Eslami, Dynamic Coupled Piezothermoelasticity of Pyroelectric Composite Plate

Ishihara M. Ishihara, Y. Ootao, Y. Kameo, Thermoelectroelastic response of a piezoelectric semi-infinite body with D^∞ symmetry to a surface heating

Sulym-2 H. Sulym, R. Pasternak and G. Zietek, Boundary element analysis of 3D thermomagnetoelastic anisotropic solids

Fu J.W. Fu and L.F. Qian, Magneto-thermo-elastic analysis of a bilayered hollow cylinder using the generalized thermoelastic theory

Entezari A. Entezari, M. Filippi, M. A. Kouchakzadeh, E. Carrera, Application of a Refined Finite Element Method to Thermal Stress Analysis in Variable Thickness Rotating Disks

Room "Positano": Wave Analysis

Hilton Harry H. Hilton, Coupled 1-D thermal and stress waves in temperature dependent nonlinear elastic and viscoelastic media

Carillo S. Carillo and P. M. Jordan, Second-sound in nonlinear Graffi-Franchi-Straughan type one dimensional heat conductors

Z-Huang Zaixing Huang, Elastic vibration and wave coupled with thermal dissipation

Furukawa T. Furukawa and T. Sueyoshi, Reconsideration of stress focusing phenomena with finite thermal wave speed

Room "Positano": Aerospace Applications

Ferraiuolo M. Ferraiuolo and V. Russo, Thermostructural design of a regeneratively cooled thrust chamber for aerospace applications

Abbiati G. Abbiati, M. Ferraiuolo, N. Tondini and B. Stojadinovic, Fully Coupled Hybrid Simulation of Spacecraft Thermal Structures

Piscopo G. Piscopo, R. Scigliano, V. Carandente, V. De Simone, M. Ferraiuolo, Thermo-mechanical simulation of additive layer manufacturing process

Baghdasaryan G.Y. Baghdasaryan, M.A. Mikilyan and P. Marzocca, Nonlinear thermoelastic vibrations of plate in supersonic gas flow: Vibration Amplitude-Frequency relationships

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Room "Furore": Thermal Stresses

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|---------------|---|
| Ejtemajou | M. Ejtemajou, H. Mahbadi, M.R. Eslami, Thermal and Mechanical Cyclic Loading of Thick Cylindrical Vessels Made of Transversely Isotropic Materials |
| Nelson | N. Rino Nelson, N. Siva Prasad and A.S. Sekhar, Thermal behavior of gasketed flange joint with single and twin gaskets under external axial and bending loads |
| Banaszkiewicz | M. Banaszkiewicz, A two-step algorithm for on-line determination of transient thermal stresses in critical steam turbine components |
| Elsawaf | A. Elsayaf and Yasser M. Shabana, Optimizing Composite Structures for Thermal Applications |
| Muradyan | N. Muradyan, Stability of plate under the action of thermal field |

Room "Positano": Heat Flow Processes

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|-----------|---|
| Chao-2 | C.K. Chao, F.M. Chen, T.H. Lin and C.H. Chen, Interaction of two circular inclusions with a remote uniform heat flow |
| Rossikhin | Yu. Rossikhin, M. Shitikova and V. Shitikov, The analysis of impact interaction of a thermoelastic rod with a heated wall via the hyperbolic model with a small parameter |
| Rasouli | M. Rasouli and M. Jafari, A Study of the Effect of Different Parameters on Thermal Stress Subjected to Uniform Heat Flux in an Anisotropic Plate |
| Chao-3 | C.K. Chao, F.M. Chen, T.H. Lin and C.H. Chen, On two circular inclusions in plane elasticity with a point heat source |
| Dzierwa | P. Dzierwa and D. Taler and J. Taler, Optimum heating of the boiler evaporator with thick-walled drum |

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Wednesday June 8		
	Room "Furore"	Room "Positano"
	Porous Materials	FEM Analysis
9.00-9.20	Bucur	Vidal
9.25-9.45	Svanadze	Grzes
9.50-10.10	Kojima	Lenarda
10.15-10.35	Wu	Lee
10.40-11.00	break	
	Material Behavior	FEM Analysis
11.00-11.20	Muc-1	Muc-2
11.25-11.45	Gu	Gyhlesten-Back
11.50-12.10	Mao	Pilarczyk
12.15-12.35	Agbo	Zhang
12.40-14.30	lunch	
14.30-20.00	Excursion to the Royal Caserta Palace and Royal Park	

Room "Furore": Porous Materials

- Bucur A. Bucur, Rayleigh surface waves problem in thermoviscoelastic medium with voids
- Svanadze M. Svanadze, On the linear theory of thermoelasticity for triple porosity materials
- Kojima K. Kojima, M. Ishihara, and Y. Ootao, Nonlinear coupling between heat and moisture diffusion in one-dimensional cylindrical porous media in a transient state
- Wu Di Wu and Yang Gao, General steady-state solutions and fundamental solutions in plane thermoporoelasticity

Room "Furore": Material Behavior

- Muc-1 A. Muc, M. Barski, P. Kędziora, M. Chwał, Design of heating process for constructions made of FRP composites
- Gu Kaixuan Gu, Cui Chen, Ningxiang Tong and Junjie Wang, The effect of thermocycling stress on the cryogenic properties of AISI 4340 steel
- Mao Xu Mao and C. Steve Suh, On The Thermoplastic Responses of Polycrystalline Metals To Ultrafast Laser Ablation
- Agbo Cornelius O. A. Agbo, Physical Optimization of the Residual Strength of Unsaturated Polyester Resin Composites through Appropriate Cure Temperature Regime

Room "Positano": FEM Analysis

- Vidal P. Vidal, L. Gallimard, I. Ranc and O. Polit, Explicit thermomechanical solution of laminated composite beam based on a variables separation with arbitrary heat source location
- Grzes P. Grzes, FE solution of the system of equations of heat dynamics of friction and wear at single braking
- Lenarda P. Lenarda and M. Paggi, A fully implicit thermo-visco-elastic finite element formulation for thermo-rheologically complex polymers based on fractional calculus
- Lee Yongwoo Lee, Yuwei Liu, J.R. Barber, Yong Hoon Jang, Thermal considerations during transient asperity contact
- Muc-2 A. Muc, P.D. Pastuszek, A. Stawiarski, S. Miarka, Heat convection in defective composite structures with the use of a pulse thermography; experiments vs numerical modeling
- Gyhlesten-Back Jessica Gyhlesten Back and Lars-Erik Lindgren, Simplified Implementation of the Koistinen-Marburger Model for Use in Finite Element Simulations
- Pilarczyk M. Pilarczyk, B. Węglowski, P. Ocioń and J. Taler, Thermal and structural analysis of boiler's steam chamber in transient state
- Zhang J. H. Zhang, Control Thermal Flutter of Space Structures by Using Heaters

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Thrusday June 9		
	Room "Furore"	Room "Positano"
	Further Theor. Problems	Fracture and Damage
9.00-9.20	Yevtushenko	Banas
9.25-9.45	Aslanyan	Ziolkowski
9.50-10.10	Dhanesh	Chaofeng-Lu
10.15-10.35	Kulikov	Sonobe
10.40-11.00	break	
	Further Theor. Problems	Further Problems
11.00-11.20	Kushnir	Xiong
11.25-11.45	Sikon	Shekyan
11.50-12.10	C-Huang	Tokovyy
12.15-12.35	Zhao	
12.40-14.30	Farewell lunch	

Room "Furore": Further Theoretical Problems

Yevtushenko	A. Yevtushenko, M. Kuciej and E. Och, Nonlinear analytical models of temperature calculation at frictional heating during braking
Aslanyan	N.S. Aslanyan and S.H. Sargsyan, Variation principles of thermoelasticity of applied theory of micropolar orthotropic thin plates
Dhanesh	N. Dhanesh and S. Kapuria, Free Edge Thermal Stresses in Composite and Sandwich Laminates using Mixed-Field Multiterm Extended Kantorovich Method
Kulikov	G.M. Kulikov, A.A. Mamontov, S.V. Plotnikova, M.G. Kulikov, Three-dimensional analysis of thermal stresses in smart shells
Kushnir	R. Kushnir, A. Yasinsky, Yu. Tokovyy and O. Ierokhova, Optimization of thermal stresses and displacements in an elastic half-space by controlling the near-surface heat sources
Sikon	M. Sikoń and I. Sanetra, Application of the quantum statistical mechanics for description of the Cosserat material with thermal stresses
C-Huang	Cheng Huang, Temperature-dependence of microstructure evolution in multilayer ferroelectric actuators under coupled mechanical-electro
Zhao	Zinan Zhao, The frequency temperature dependence of the thickness-shear vibrations of AT-cut quartz crystal resonator

Room "Positano": Fracture and Damage

Banas	Kamil Banas and Janusz Badur, On an approach to the thermo-elastic-plastic failure based on the Burzynski-Pecherski criterion
Ziolkowski	P.J. Ziolkowski, P. Ziolkowski and J. Badur, Unsteady thermal stresses causing plastic flow and the damage of heat-resistant material through the blockage phenomena
Chaofeng-Lu	Chaofeng Lu, Thermomechanical Delamination Mechanism for Laser-Driven Non-Contact Transfer Printing
Sonobe	Y. Sonobe and A. Saimoto, A mesh-free analysis of 3D crack growth under thermal stresses due to point heat

Room "Positano": Further Problems

Xiong	Cenbo Xiong, Biao Ma, Heyan Li, Huiyu Xu and Jianwen Chen, Heat partition coefficient between contacting discs in multi-disc clutches
Shekyan	L.A. Shekyan, S.V. Verlinski, Contact between ring punch and elastic layer in boundary friction regime
Tokovyy	Yu. Tokovyy, A. Chyzh and C.-C. Ma, Axisymmetric thermal stresses in a radially-inhomogeneous elastic cylinder subjected to with-respect-to-length varying thermal loadings