

29th International Workshop on Computational Mechanics of Materials (IWCMM29)  
 Centre for Advanced Academic Studies  
 Dubrovnik, Croatia, September 15-18, 2019

Program Overview

Sunday, 15/Sep/2019	Monday, 16/Sep/2019	Tuesday, 17/Sep/2019	Wednesday, 18/Sep/2019
	08:00-08:40 Registration	08:00-09:00 Registration	08:00-09:00 Registration
	08:40-09:00 Workshop Opening		
	09:00-09:40 Plenary Lecture: Alan Needleman	09:00-09:40 Plenary Lecture: Reinhard Pippan	09:00-09:40 Plenary Lecture: Jianying He
	09:50-11:10 Parallel Sessions	09:50-11:10 Parallel Sessions	09:50-11:10 Parallel Sessions
	11:10-11:30 Coffee Break	11:10-11:30 Coffee Break	11:10-11:30 Coffee Break
	11:30-12:50 Parallel Sessions	11:30-12:50 Parallel Sessions	11:30-12:50 Parallel Sessions
	12:50-14:20 Lunch	12:50-14:20 Lunch	12:50-14:20 Lunch
	14:20-15:00 Plenary Lecture: Erkan Oterkus	14:20-15:00 Plenary Lecture: Joško Ožbolt	14:20-15:00 Plenary Lecture: Robert Skelton
	15:10-15:30 Coffee Break	15:10-15:30 Coffee Break	15:10-15:40 Workshop Closing
	15:30-16:50 Parallel Sessions	15:30-16:50 Parallel Sessions	
15:00-20:00 Registration	18:00- ... Dubrovnik City Center Tour	16:50-17:30 Poster Session	
18:00-20:00 Welcome Reception		19:30- ... Banquet	

# 29th International Workshop on Computational Mechanics of Materials (IWCMM29)

Centre for Advanced Academic Studies

Dubrovnik, Croatia, September 15-18, 2019

## Detailed Program

### Sunday, 15/September/2019

15:00 - 20:00 Registration

18:00 - 20:00 Welcome Reception

Room: Atrium

### Monday, 16/September/2019

08:00 - 08:40 Registration

08:40 - 09:00 Workshop Opening

Room: CONFERENCE HALL - ground floor

09:00 - 09:40 Plenary Lecture:

*MESOSCALE MODELING OF DISCRETE SHEAR TRANSFORMATION ZONE (STZ) PLASTICITY*  
*Alan Needleman*

Room: CONFERENCE HALL - ground floor

Chair: Siegfried Schmauder

09:50 - 11:10 High-Temperature Materials and Structures (HTM)

Room: CONFERENCE HALL

Chair: Cristian Dascalu

09:50 - 10:10 MULTISCALE MODELING OF THE INTERACTION BETWEEN BULK AND INTERFACE CREEP BEHAVIOR IN TIAL

I. Scheider, H. Ganesan, JE. Schnabel

10:10 - 10:30 MICROSTRUCTURE-BASED MODELLING OF THERMOMECHANICAL BEHAVIOUR OF CAST IRONS

E.N. Palkanoglou, V. Nekouie, K.P. Baxevanakis, V.V. Silberschmidt

10:30 - 10:50 ON THE CREEP-FATIGUE PERFORMANCE OF TRANSPIRATION COOLING SYSTEMS FOR JET ENGINE TURBINES

C. Skamniotis, A. Cocks

10:50 - 11:10 MICROSTRUCTURE-BASED MODELLING OF RUBBING IN POLYCRYSTALLINE HONEYCOMB STRUCTURES

T. Fischer, E. Werner, S.U. Kyzy, O. Munz

09:50 - 11:10 Numerical Modelling and Simulations (NMS.1)

Room: LECTURE ROOM 4

Chair: Dan-Andrei Serban

09:50 - 10:10 CRYSTAL PLASTICITY ASSESSMENT OF THE EFFECT OF MATERIAL PARAMETERS ON CONTACT DEPTH DURING SPHERICAL INDENTATION OF 304 STAINLESS STEEL  
Y.Y. Li, W. Jiang

10:10 - 10:30 THERMAL MODELING OF THE SELF-HEATING PHENOMENA USING A SPACE-TIME APPROACH  
R. Al Nahas, J. Petit, A. Charles, B. Panicaud, K. Saliya, I. Choucair, E. Rouhaud, R. Kerner

10:30 - 10:50 NUMERICAL RESOLUTION OF SPACE-TIME FINITE ELEMENT OF SPACE-TIME MODELS FOR FINITE DEFORMATION (APPLICATION TO NEO-HOOKEAN MODELS)  
K. Saliya, I. Choucair, B. Panicaud, E. Rouhaud, A. Charles, R. Al Nahas, R. Kerner

10:50 - 11:10 NUMERICAL MODELLING AND INTEGRITY ASSESSMENT OF A TOTAL HIP PROSTHESIS  
M. Babić, O. Verić, Ž. Božić, A. Sušić

09:50 - 11:10 Analytical, Computational and Physical Models (ACP)

Room: LECTURE ROOM 5

Chair: Javad Kadkhodapour

09:50 - 10:10 A MODIFICATION OF DAMAGE ACCUMULATION RULE IN JIANG CRITERION FOR LOW CYCLE FATIGUE  
M. Fusek, R. Halama

10:10 - 10:30 A THERMODYNAMICALLY CONSISTENT CONSTITUTIVE MODEL FOR THE STRAIN INDUCED CRYSTALLISATION (SIC) PHENOMENON FOR THE NATURAL RUBBER  
K. Loos, A.B. Aydogdu, A. Lion, M. Jöhrlitz, J. Calipel

10:30 - 10:50 UNDERLYING FRACTURE TRENDS ON MODE-I CRACK MULTIPLE-BRANCHING WITH A WEAK DISTURBANCE OF MODE-II LOADING  
H. Yuan, Y.J. Xie, W. Wang

10:50 - 11:10 ON THE POST-NECKING CORRECTION OF STRESS IN AXISYMMETRIC TENSILE SPECIMEN WITH EXTRUDED TEXTURE  
T. Manik, F. Lu, B. Holmedal

11:10 - 11:30 Coffee Break

11:30 - 12:50 Mini Symposium: Fatigue and Fracture at all Scales (FFS)

Room: CONFERENCE HALL

Chair: Nina Gunkelmann

11:30 - 11:50 CRACK NUCLEATION DURING DYNAMIC INDENTATION OF GLASS  
M. Kang, A.F.T. Leong, W. Li, T.C. Hufnagel, J.T. Harris, K.T. Ramesh

11:50 - 12:10 PERIDYNAMIC FATIGUE DAMAGE SIMULATION COUPLED WITH MODAL ANALYSIS FOR DAMAGE DETECTION  
A. Freimanis, A. Paeglitis

12:10 - 12:30 EVALUATION OF THE EFFECT OF WELD GEOMETRY ON STRESS CONCENTRATION FACTORS FOR OFFSHORE TUBULAR JOINTS  
K. Hectors, W. De Waele

12:30 - 12:50 -  
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11:30 - 12:50 Numerical Modelling and Simulations (NMS.2)

Room: LECTURE ROOM 4

Chair: Pierre Rossi

11:30 - 11:50 MOLECULAR DYNAMIC SIMULATION OF SHOCK-INDUCED TEMPERATURE RISE AND LOSS OF SHEAR STRENGTH IN BORON CARBIDE

G. Subhash, M. DeVries, A. Awasthi

11:50 - 12:10 STUDY ON DIAMETER ESTIMATION IN INTERCONNECTED STRUCTURES: ACCURACY, DEVIATIONS AND CORRECTION APPROACHES

C. Richert, N. Huber

12:10 - 12:30 NUMERICAL EVALUATION OF INTERACTION TENSORS IN HETEROGENEOUS MATERIALS

K. Spilker, L. Noels, L. Wu

12:30 - 12:50 -

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11:30 - 12:50 Micromechanics of Materials (MMA)

Room: LECTURE ROOM 5

Chair: Shyamal Roy

11:30 - 11:50 THE EFFECT OF INTERPOLATION FUNCTIONS IN NUMERICAL SIMULATION OF INTERPHASE IN DUAL-PHASE STEELS

M. Khoshbin, A.C. Darabi, J. Kadkhodapour, A.P. Anaraki, S. Schmauder

11:50 - 12:10 BUCKLING BEHAVIOR OF CARBON NANOTUBES USING VARIATIONAL METHOD

AE. Nicolescu

12:10 - 12:30 A FINITE ELEMENT CRYSTAL PLASTICITY ANALYSIS OF RATCHETING AND MEAN STRESS RELAXATION IN POLYCRYSTALLINE AGGREGATES

H. Farooq, G. Cailletaud, S. Forest, D. Ryckelynck

12:30 - 12:50 DETERMINATION OF THE HOMOGENIZED PROPERTIES OF HETEROGENEOUS MEDIA USING THE BOUNDARY ELEMENT METHOD

A.A. Akay, S. Göktepe, E. Gürses

12:50 - 14:20 Lunch

14:20 - 15:00 *Plenary Lecture :*

*PERIDYNAMICS: PAST, PRESENT AND FUTURE*

*Erkan Oterkus*

Room: CONFERENCE HALL - ground floor

Chair: Jianying He

15:10 - 15:30 Coffee Break

15:30 - 16:50 Mini Symposium: Fatigue and Fracture at all Scales (FFS)

Room: CONFERENCE HALL

Chair: Vadim V. Silberschmidt

15:30 - 15:50 CRITICAL COMPARISON OF HOT SPOT STRESS APPROACHES: A CASE STUDY FOR A WELDED MACHINE COMPONENT

W. De Waele, J. Zhang, K. Samadian, S. Hertelé, T. De Craemer

15:50 - 16:10 EFFECT OF LOADING CONDITIONS ON HEAT DISSIPATION AT FATIGUE CRACK TIP IN STAINLESS STEEL

A. Vshivkov, A. Iziumova, A. Zakharov, V. Shlyannikov, O. Plekhov

16:10 - 16:30 MICROMECHANICAL MODELING OF PLASTICITY AND DAMAGE BEHAVIOR OF A FINE-STRUCTURED DUAL-PHASE STEEL

W. Liu, J. Lian, S. Munstermann

16:30 - 16:50 MICROMECHANICAL MODELING OF PLASTICITY AND DAMAGE OF MARTENSITIC STEELS IN HIGH CYCLE FATIGUE CONDITIONS

M. Lindroos, A. Laukkanen, T. Andersson, J. Vaara, A. Mäntylä, T. Frondelius, S. Forest

15:30 - 16:50 Smart Materials (SMA)

Room: LECTURE ROOM 4

Chair: Alireza Tabarraei

15:30 - 15:50 STUDY OF THE IMPACT OF CONTROLLED PERTURBATIONS ON REINFORCEMENT MORPHOLOGY IN THE HOMOGENIZED BEHAVIOR OF COMPOSITES

P. Karamian, S. Lemaitre, D. Choi

15:50 - 16:10 ANALYSIS AND SIMULATION OF SMART MATERIALS TO CREATE SOFT INTRACORPOREAL ROBOTS FOR BIOLOGICAL TISSUE SURGERY

D. Gouot, M. Padrin, F. Chapelle, G. Granet, JJ. Lemaire, Y. Lapusta

16:10 - 16:30 DESIGN AND FINITE ELEMENT ANALYSIS OF AN ADJUSTABLE SILICONE COUPLING JOINT

A. Pagoli, F. Chapelle, J. Corrales, Y. Mezouar, Y. Lapusta

16:30 - 16:50 -

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15:30 - 16:50 Advanced Materials Modelling (AMM)

Room: LECTURE ROOM 5

Chair: Wei Jiang

15:30 - 15:50 AUXETIC META-MATERIALS FOR BIOMEDICAL APPLICATIONS: SELF EXPANDING STENTS

J. Kadkhodapour, S. Schmauder

15:50 - 16:10 PHASE FIELD MODELING TO PREDICT THE ROLE OF INSOLUBLE CORROSION PRODUCTS FORMATION IN LOCALIZED CORROSION

T.Q. Ansari, SQ. Shi

16:10 - 16:30 A STABLE DISCONTINUOUS GALERKIN METHOD FOR LINEAR ELASTODYNAMICS IN GEOMETRICALLY COMPLEX MEDIA USING PHYSICS BASED NUMERICAL FLUXES

K. Duru, L. Rannabauer, O.K.A. Ling, AA. Gabriel, H. Igel, M. Bader

16:30 - 16:50 -

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18:00 - ... Dubrovnik City Center Tour

08:00 - 09:00 Registration

09:00 - 09:40 Plenary Lecture:  
*FRACTURE TOUGHNESS OF TUNGSTEN, PHYSICAL MECHANISM, EXPERIMENTS, AND SIMULATIONS*  
*Reinhard Pippan*

Room: CONFERENCE HALL - ground floor  
Chair: Alan Needleman

09:50 - 11:10 Metals and Alloys (MAL)

Room: CONFERENCE HALL  
Chair: Kaliat T. Ramesh

09:50 - 10:10 THERMO-MICRO-MECHANICAL SIMULATION OF METAL FORMING PROCESSES  
U. Prah, S.A.H. Motaman

10:10 - 10:30 THE MECHANICAL CHARACTERISATION OF LIGHT WEIGHT HIGH ENTROPY ALLOYS  
A.N. Rotariu, L. Matache, F. Bucur

10:30 - 10:50 MULTIPHASE-FIELD APPROACH TO SIMULATE THE FORMATION AND EVOLUTION OF INTERMETALLIC COMPOUNDS DURING SOLID-STATE JOINING PROCESS OF AN AL-MG ALLOY  
S.H. Raza, U. Suhuddin, B. Klusemann

10:50 - 11:10 A COMPARISON OF INTERATOMIC POTENTIALS FOR ATOMISTIC SIMULATIONS OF SINTERING OF ALUMINA  
S. Roy, A. Prakash, S. Sandfeld

09:50 - 11:10 Composite Materials and Structures (CMS.1)

Room: LECTURE ROOM 4  
Chair: Tomas Manik

09:50 - 10:10 MATHEMATICAL MODEL OF REINFORCED CRACK IN A PRE-STRESSED COMPOSITE  
EM. Craciun, S. Das, A. Rabaea

10:10 - 10:30 APPLICATIONS OF STANDARD FRACTURE TOUGHNESS TESTS TO FRP LAMINATES WITH ELASTIC COUPLINGS  
J. Rzeczkowski, S. Samborski, J. Pańnik

10:30 - 10:50 DEFORMATION AND DAMAGE MECHANISMS IN HIGH ENTROPY ALLOYS BY MULTISCALE MATERIALS MODELING  
A. Laukkanen, M. Lindroos, T. Andersson, T. Suhonen

10:50 - 11:10 A MACHINE LEARNING-BASED APPROACH TO PREDICT PROPERTIES AND FAILURE MECHANISMS IN FIBER REINFORCED COMPOSITE MATERIALS  
S.A. Ponnusami

- 09:50 - 11:10 **Experimental Verifications (EVE)**  
 Room: LECTURE ROOM 5  
 Chair: Van Dung Nguyen
- 09:50 - 10:10 **CORRECTION AND EXPANSION OF THERMALLY-INDUCED ERRORS IN CNC MILLING VIA INTEGRATED CAD / CAM / FEA OPERATIONS FOR AL 7075**  
 S.M. Unlu, E.S. Topal, O.F. Ergin, M. Gul
- 10:10 - 10:30 **COMPUTER SUMULATION OF THE DIE FORGING PROCESS OF CRANKSHAFT AND ANALYSIS OF THE SURFACE DEFECTS**  
 B. Jiang, X. Hu, H. Wang, C. Zhang, Y. Liu
- 10:30 - 10:50 **EXPERIMENTAL INVESTIGATION OF THE DYNAMIC BEHAVIOUR OF A COULOMB FRICTION OSCILLATOR**  
 L. Marino, A. Cicirello
- 10:50 - 11:10 **THE INFLUENCE OF THE DEFORMATION STAGES ON THE STATISTICAL DISTRIBUTION PATTERNS OF ELEMENTARY FRACTURE EVENTS. EXPERIMENTAL STUDY AND NUMERICAL SIMULATION.**  
 M. Eremin, P. Makarov, I. Smolin, A. Kulkov, A. Chirkov
- 11:10 - 11:30 **Coffee Break**
- 11:30 - 12:50 **Mini Symposium: Computational Fracture Mechanics (CFM)**  
 Room: CONFERENCE HALL  
 Chair: Ivan Giorgio
- 11:30 - 14:10 **Keynote lecture:**  
**ENERGY APPROACH TO DAMAGE AND FRACTURE MECHANICS IN STRAIN GRADIENT MATERIALS**  
 E. Barchiesi, L. Placidi
- 14:10 - 14:30 **SIMULATION OF FATIGUE SMALL CRACK GROWTH IN ADDITIVE MANUFACTURED TI-6AL-4V MATERIAL**  
 A. Gupta, W. Sun, C. Bennett
- 14:30 - 14:50 **MULTI-SCALE STRATEGY FOR MODELING MACROCRACKS PROPAGATION IN REINFORCED CONCRETE STRUCTURES**  
 C. Nader, P. Rossi, JL. Tailhan
- 11:30 - 12:50 **Composite Materials and Structures (CMS.2)**  
 Room: LECTURE ROOM 4  
 Chair: Rotariu Adrian Nicolae
- 11:30 - 11:50 **NUMERICAL MODELING OF THE RATE-DEPENDENT ELASTO-PLASTIC RESPONSE IN SHORT-FIBER REINFORCE POLYMERS**  
 A. Amiri-Rad, L.E. Govaert, J.A.W. van Dommelen
- 11:50 - 12:10 **EFFECT OF PIEZOELECTRIC FIBRE ALIGNMENT ON MORPHING OF BISTABLE COMPOSITES**  
 P.M. Anilkumar, B.N. Rao, A. Haldar, E.L. Jansen, R. Rolfes
- 12:10 - 12:30 **STUDY ON THE ACTUATION FORCE OF TRIANGULAR BISTABLE COMPOSITE LAMINATES**  
 A. Phanendra Kumar, P.M. Anilkumar, B.N. Rao
- 12:30 - 12:50 **TOWARDS A MATERIAL DESIGN TOOL FOR PROCESS-STRUCTURE-PROPERTY PREDICTION IN 9-12CR STEEL WELDMENTS**  
 R. Barrett, P. O'Donoghue, S. Leen

- 11:30 - 12:50 **Damage Mechanics (DMA)**  
 Room: LECTURE ROOM 5  
 Chair: Georges Cailletaud
- 11:30 - 11:50 **ENVIRONMENT ASSISTED CRACKING OF GRAPHENE**  
 M. Elapolu, A. Tabarraei
- 11:50 - 12:10 **PREDICTION OF DAMAGE SCENARIO IN A 3D MICRO-MECHANICAL MODEL UNDER DIFFERENT STRESS STATES**  
 A.C. Darabi, V. Guski, J. Kadkhodapour, A.P. Anaraki, S. Schmauder
- 12:10 - 12:30 **THERMAL EFFECTS IN DYNAMIC BRITTLE FAILURE: A MULTISCALE DAMAGE MODEL**  
 C. Dascalu, K. Gbetchi
- 12:30 - 12:50 **MATHEMATICAL MODEL OF DAMAGE-INDUCED DISSIPATION IN PLASTICALLY DEFORMED METALS**  
 A. Kostina, A. Vedernikova, O. Plekhov, B. Venkatraman
- 12:50 - 14:20 **Lunch**
- 14:20 - 15:00 **Plenary Lecture:**  
*MODELLING CORROSION OF STEEL IN CONCRETE: PAST, PRESENT AND FUTURE*  
*Joško Ožbolt*  
 Room: CONFERENCE HALL - ground floor  
 Chair: Erkan Oterkus
- 15:10 - 15:30 **Coffee Break**
- 15:30 - 16:50 **Mini Symposium: Computational Fracture Mechanics (CFM)**  
 Room: CONFERENCE HALL  
 Chair: Emilio Barchiesi
- 15:30 - 15:50 **NUMERICAL AND EXPERIMENTAL EVIDENCE OF FIBER RUPTURE IN PANTOGRAPHIC SHEETS**  
 I. Giorgio, E. Turco
- 15:50 - 16:10 **A NONLOCAL MODEL FOR DUCTILE FAILURE INCORPORATING VOID GROWTH AND COALESCENCE**  
 VD. Nguyen, T. Pardoen, L. Noels
- 16:10 - 16:30 **PERIDYNAMICS FOR BENDING ANALYSIS OF LAMINATED COMPOSITE PLATES BASED ON REFINED ZIGZAG THEORY**  
 M.Dorduncu, O.F. Ergin
- 16:30 - 16:50 **DAMAGE PREDICTION IN STIFFENED STRUCTURES BY USING PERIDYNAMICS**  
 C.T. Nguyen, S. Oterkus



15:30 - 16:50 Polymers and Composites (PCO)

Room: LECTURE ROOM 4

Chair: Anssi Laukkanen

15:30 - 15:50 NUMERICAL MODELLING OF WOOD CHIP REINFORCED GEOPOLYMERS

DA. Şerban, G. Furtos, L. Marsavina, C. Sosdean, R. Negru

15:50 - 16:10 CRACK TIP PLASTIC ZONE EVOLUTION IN GLASSY THERMOPLASTIC POLYMERS UNDER CYCLIC LOADING

T. Laschütza, T. Seelig

16:10 - 16:30 COMPUTATIONAL STUDY OF MORPHOLOGICAL EFFECTS ON THE DEFORMATION AND FRACTURE BEHAVIOR OF PC/ABS BLENDS

J. Hund, T. Seelig

16:30 - 16:50 INVESTIGATIONS ON THE INFLUENCE OF THE TRIAXIAL STATE OF STRESS ON THE FAILURE OF POLYURETHANE RIGID FOAMS

DA. Serban, R. Negru, H. Filipescu, L. Marsavina

16:50 - 17:30 Poster Session

Room: Hall

MODELING OF SINTERING PROCESS OF INTERMETALLIC NIAL POWDER USING MULTISCALE APPROACH

S. Nosewicz, J. Rojek, K. Wawrzyk, P. Kowalczyk, G. Maciejewski, M. Maździarz

A VIRTUAL LABORATORY FOR DEFINING MATERIALS' MECHANICAL PROPERTIES IN SHEET METAL PROCESSES

S. Solhjoo, J. Post, A.I. Vakis

COMPUTATIONAL ANALYSIS OF DEFORMATION AND FRACTURE IN METAL-MATRIX COMPOSITE MATERIALS AND COATINGS

R. Balokhonov, V. Romanova, S. Schmauder, R. Bakeev, E. Emelianova, M. Sergeev

19:30 - ... Banquet

08:00 - 09:00 Registration

09:00 - 09:40 Plenary Lecture:  
*NANOMECHANICS OF METAL COATED POLYMER PARTICLES*  
*Jianying He*  
Room: CONFERENCE HALL - ground floor  
Chair: Reinhard Pippan

09:50 - 11:10 Biomaterials (BMA)  
Room: CONFERENCE HALL  
Chair: Ingo Scheider

09:50 - 10:10 NUMERICAL MODELLING OF IN-VIVO BEHAVIOUR OF HUMAN SOFT-TISSUE  
T. Marinopoulos, S. Li, V.V. Silberschmidt

10:10 - 10:30 CONSTITUTIVE MODELING AND SIMULATION OF PH-SENSITIVE HYDROGEL  
C.V.S.R. Krishna, S.S. MULAY

10:30 - 10:50 MODELLING SOLID WOOD IN LS-DYNA: PROS AND CONS OF MAT58, MAT126 AND MAT143  
G. Baumann, U. Mueller, S. Hartmann, C. Kurzboeck, F. Feist

10:50 - 11:10 -  
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09:50 - 11:10 Multiscale Modelling of Materials (MMM.1)  
Room: LECTURE ROOM 4  
Chair: Matti Lindroos

09:50 - 10:10 ROLE OF GRAIN BOUNDARIES IN PLASTIC DEFORMATION OF POLYCRYSTALLINE METALS: A DISCRETE DISLOCATION DYNAMICS STUDY  
T.N. Tak, A. Prakash, I. Samajdar, P.J. Guruprasad

10:10 - 10:30 DYNAMIC ELASTIC-PLASTIC CONTACT MODEL OF ROUGH SURFACES IN THE PRESENCE OF ADHESION  
A. Di Bella, M. Scalerandi, A. Gliozzi, M. Tortello

10:30 - 10:50 SINGLE CRYSTAL PLASTICITY SIMULATION AT VERY LARGE DEFORMATION: EVOLUTION OF DISLOCATION DENSITY TENSOR AND STUDY OF LOCALIZATION PHENOMENA  
V. Phalke, S. Forest, H.J. Chang

10:50 - 11:10 THE MODAL ANALYSIS OF GRAPHENE SHEETS, CARBON NANOTUBES, AND NANOCONES BASED ON CONTINUUM AND ATOMISTIC APPROACHES  
R. Ghaffari, A. Mokhalingam, S. Gupta, R.A. Sauer

11:10 - 11:30 Coffee Break

11:30 - 12:50 Mini Symposium: Functional and architected materials (FAM)

Room: CONFERENCE HALL

Chair: Ahmet Burak Aydogdu

11:30 - 11:50 STRUCTURE-PROPERTY RELATIONSHIPS CONNECTING TOPOLOGY AND MACROSCOPIC MECHANICAL PROPERTIES OF OPEN-PORE MATERIALS

N. Huber

11:50 - 12:10 THERMAL AND MECHANICAL CHARACTERISATION OF ADDITIVELY MANUFACTURED POLYMER LATTICES

S. Alqahtani, F. Farukh, K. Kandan

12:10 - 12:30 PROPAGATING MATERIAL INSTABILITIES IN PERIODIC ARCHITECTURED MATERIALS

AE. Viard, J. Dirrenberger, S. Forest

12:30 - 12:50 -

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11:30 - 12:50 Multiscale Modelling of Materials (MMM.2)

Room: LECTURE ROOM 4

Chair: Kanssoun Saliya

11:30 - 11:50 HYDROGEN EFFECT ON FRACTURE BEHAVIOUR OF AUSTENITIC STAINLESS STEEL

E. Ogosi, U. Bin Asim, M.A. Siddiq, M.E. Kartal

11:50 - 12:10 A NEW CONTINUUM MODEL FOR SINGLE LAYER BLUE PHOSPHORUS BASED ON DFT SIMULATIONS

F. Shirazian, R. Ghaffari, M. Hu, R.A. Sauer

12:10 - 12:30 A MULTISCALE APPROACH TO CLASSIFY DISLOCATION MICROSTRUCTURES

N. Gunkelmann, M. Stricker, I. Alhafez, D. Steinberger, H. M. Urbassek, S. Sandfeld

12:30 - 12:50 THERMODYNAMICALLY CONSISTENT COSSERAT FRAMEWORK: OVERCOMING LOCAL MESH DEPENDENCY IN SIMULATIONS OF HAT-SHAPED SPECIMENS UNDER COMPRESSION

R. Russo, S. Forest, F.G. Mata, D. Jacquin

12:50 - 14:20 Lunch

14:20 - 15:00 Plenary Lecture:

*A JOURNEY TOWARD INTEGRATING MATERIAL, STRUCTURE, SIGNAL PROCESSING, AND CONTROL DESIGN*

*Robert Skelton*

Room: CONFERENCE HALL - ground floor

Chair: Joško Ožbolt

15:10 - 15:40 Workshop Closing

Room: CONFERENCE HALL - ground floor

Conference Venue

The address of the Conference Venue:  
CENTRE FOR ADVANCED ACADEMIC STUDIES  
Don Frana Bulića 4  
20000 Dubrovnik  
CROATIA

