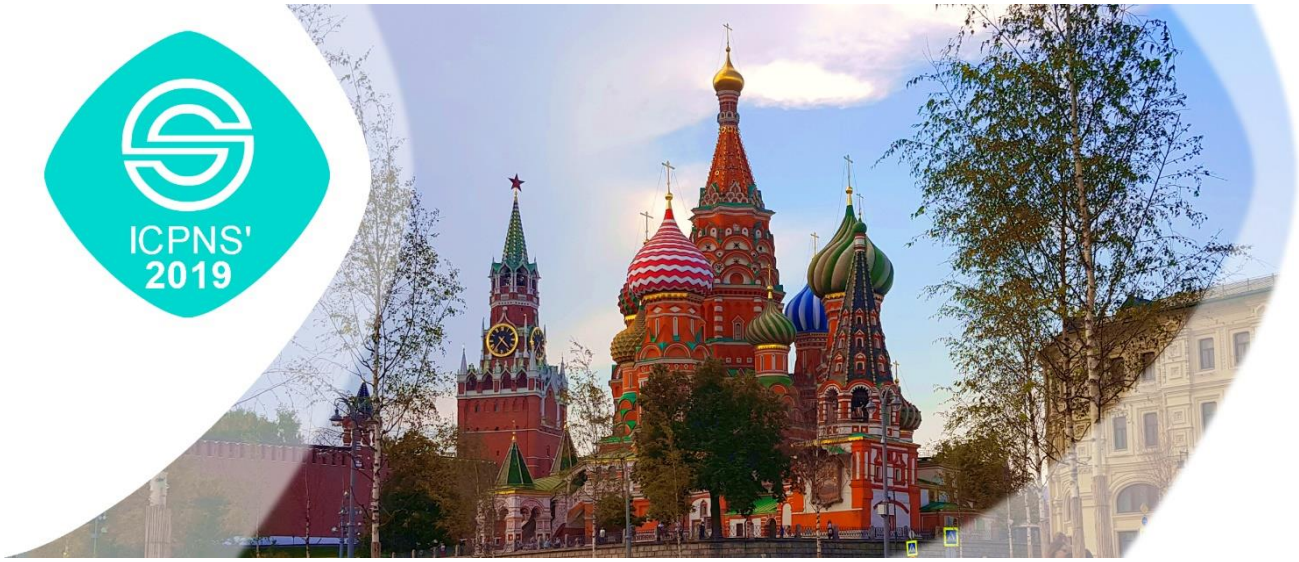
The 9th International Conference on Physical and Numerical Simulation of Materials Processing



Tentative program

HIGHER SCHOOL OF ECONOMICS
NATIONAL RESEARCH UNIVERSITY

HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

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October 10
Arriving of the participants

October 11	
09:00-14:00	Registration
09:30-09:45	Opening
09:45-11:15	Plenary Talks (1)
11:15-11:30	Coffee break
11:30-13:00	Plenary Talks (2)
13:00-14:00	Lunch
14:00-15:30	Plenary Talks (3)
15:30-16:00	Coffee break & Poster Session
16:00-17:00	Plenary Talks (4)
18:00-20:00	Welcome Reception

October 12	
09:30-10:00	Registration
10:00-11:15	Parallel Sections (A11, B11, C11)
11:15-11:45	Coffee break & Poster Session
11:45-13:00	Parallel Sections (A12, B12, C12)
13:00-14:00	Lunch
14:00-15:00	Parallel Sections (A13, B13)
15:00-15:15	Coffee break
15:15-19:00	Conference tour

October 13	
09:30-10:00	Registration
10:00-11:15	Parallel Sections (A21, B21, C21)
11:15-11:45	Coffee break & Poster Session
11:45-13:00	Parallel Sections (A22, B22, C22)
13:00-14:00	Lunch
14:00-15:00	Parallel Sections (A23, B23)
15:00-15:30	Coffee break & Poster Session
15:30-17:00	Meeting of International Federation on Physical and Numerical Simulation of Materials Processing (IFPNS)
17:00-19:00	Transfer to Gala Diner
18:00-22:00	Gala Diner
22:50	Departure to St. Petersburg

October 14	
06:47	Arriving to St. Petersburg
07:00-11:00	Bus tour by the city and breakfast
11:00-13:00	Plenary Session in Peter the Great St. Petersburg Polytechnic University
13:00-14:30	Lunch
14:30-18:00	Excursion program
18:00-21:00	Diner

OCTOBER 11

Opening	Room 506
09:30-09:45	Welcoming Speeches **Evgenii Krouk**, *Academic Supervisor, Director of HSE Tikhonov Moscow Institute of Electronics and Mathematics (MIEM HSE),* ***Russia*** **Jitai Niu**, *Chairman of the International Federation on Physical and Numerical Simulation of Materials Processing,* ***China***

Plenary Talks (1)	Room 506
09:45-10:30	Analysis of Materials of Similar Mechanical Behavior and Similar Industrial Assignment **Josip Brnić**, *University of Rijeka,* ***Croatia***
10:30-11:15	Superfine Ion Beam Processing of Micro- and NanoStructures **Konstantin Arutyunov**, *HSE Tikhonov Moscow Institute of Electronics and Mathematics,* ***Russia***

Plenary Talks (2)	Room 506
11:30-12:15	Recent Advance of Gleeble Technology and Applications **Leonard Wanigasooriya**, *DSI Company,* ***USA***
12:15-13:00	Modelling and design of new stainless steel welding alloys suitable for low-deformation repair and restoration processes **Amir A. Shirzadi**, *School of Engineering & Innovation, The Open University,* ***UK***

Plenary Talks (3)	Room 506
14:00-14:30	Titanium Matrix Composites for High Temperature Applications **Lin Geng**, *Harbin Institute of Technology,* ***China***
14:30-15:00	Coupled theoretical and experimental determination of residual resistivity as a non-destructive materials characterization tool **Par Olsson**, *KTH Royal Institute of Technology,* ***Sweden***
15:00-15:30	Investigation of Ultrahigh-heat-input Weld HAZ in Nb-Ti-B Bearing Steels **Jer-Ren Yang**, *National Taiwan University,* ***Taiwan***

Plenary Talks(4)	Room 506
16:00-16:30	The Role of Thermomechanical Treatments in Memory Behavior of Shape Memory Alloys **Osman Adiguzel**, *Firat University, Department of Physics,* ***Turkey***
16:30-17:00	The New Trend of Equipments for Thermal/Mechanical Simulation of Metal **Hitoshi Iino**, *Fuji Electronic Industrial Co., Ltd,* ***Japan***

OCTOBER 12 (10:00-11:15)

Section A11		**Room 408**
10:00 - 10:15	Honggang Zhong	Thermal simulation method and setup for solidification and hot-tearing of steel
10:15 - 10:30	Huachen Li	Numerical simulation of high temperature tensile behavior of boron steel/Q235 laser welded joint by welding with synchronous thermal field
10:30 - 10:45	Pavel Korzhavyi	Ab-initio Simulations of Point Defects and Diffusion in Cubic Carbides
10:45 - 11:00	Alexey Fedorenko	Failure analysis of composite materials subjected to low-velocity impact
11:00 - 11:15	Rui Zhang	The Thermal Compression Behavior and Dynamic Modeling of TiBw/Ti-6Al-2.5Zr-1Mo-1V-0.5Si Composite

Section B11		**Room 410**
10:00 - 10:15	Baohui Tian	Finite Element Simulation of Relative Sliding in Hot Rolling
10:15 - 10:30	Evgeniy Panin	Study of the influence of the main parameters of “rolling-ECAP” process on the stress-strain state and the microstructure evolution using computer simulation
10:30 - 10:45	Jong-Ning Aoh	Strip end flip during finishing rolling under misalignment conditions of work roll pair
10:45 - 11:00	Liwen Zhang	Simulation on Microstructure Evolution of 38CrMoAl Steel Rod During Multi-pass Hot Rolling Process
11:00 - 11:15	Richard Fabík	Influence of technological conditions of drawing on inhomogeneity of deformation under conditions of hydro-dynamic lubrication

Section C11		**Room 412**
10:00 - 10:15	Gennady Bondarenko	Simulation of charge processes in dielectric films of MIS structures at simultaneous influence by ionization and high-field injection of electrons
10:15 - 10:30	Pavel Selyshchev	Recovering of Irradiated Metal by means of Self-sustaining and Propagating Annealing: Theoretical Description
10:30 - 10:45	Shihong Zhang	Effect of initial texture on the formability of Zircaloy-4 sheet in sheet forming with FEM-VPSC modeling
10:45 - 11:00	Nikita Epifanov	Action upon Materials of Shock Waves Generated in Dense Plasma Focus devices and at Pulsed Laser Irradiation
11:00 - 11:15	Thomas Forstner	Investigation of the fibre type influence on the energy density of the induction heating process through a semi-analytic method

OCTOBER 12 (11:45-13:00)

Section A12		**Room 408**
11:45 - 12:00	Xuewen Qian	Physical Simulation of Fluid Frontal Motion Morphology in Filling Process of Titanium Alloy Vertical Centrifugal Casting
12:00 - 12:15	Shuangming Li	Solute migration and thermoelectric properties of Co-Sb alloy during temperature gradient zone melting
12:15 - 12:30	Zongan Luo	Extended Function and Assist Device of MMS Thermal Mechanical Simulator
12:30 - 12:45	Andrey Chastukhin	Development and industrial applying of the model of austenite grain size evolution in Nb-microalloyed pipe steels
12:45 - 13:00	Jianxin Zhou	Effects of solute and flow field on 3D dendritic growth of superalloys in melt convection

Section B12		**Room 410**
11:45 - 12:00	Firas Jarrar	Deformation Stability in Superplastic Forming at the Sheet-die Interface
12:00 - 12:15	Aleksey Kolesnikov	Simulation of metal forming and casting manufacturing technologies
12:15 - 12:30	Ahmed Mosleh	Optimization of superplastic forming of ultrafine-grained Ti-4Al-3Mo-1V alloy
12:30 - 12:45	Yingying Feng	Research on Loading Path Control Method in Hydroforming Process of Bi-layered Tube
12:45 - 13:00	Ivan Zakhariev	The effect of finite element type on the results of superplastic forming simulation

Section C12		**Room 412**
11:45 - 12:00	Ilia Doludenko	Characterization of nanowires of FeNi and FeCo alloys
12:00 - 12:15	Pavel Bokov	Simulation of self-sustained relaxation of a two-dimensional metastable medium by means of a traveling wave
12:15 - 12:30	Andrei Taikin	Study of the dependence of the luminescent properties of CdSe / CdS / ZnS quantum dots on their thickness
12:30 - 12:45	Vladimir Dremov	Atomistic Simulation of Strength Properties of Conventional and Nano-Structured Materials
12:45 - 13:00	Langping Wang	Processing and Molecular dynamics simulation of ion beam polishing of TC4 alloy

OCTOBER 12 (14:00-15:00)

Section A13		**Room 408**
14:00 - 14:15	Di Wu	Numerical Simulation of Hot Cracks Initiation and Growth in Castings
14:15 - 14:30	Xuesong Xu	The microstructure and mechnical property of high niobium TiAl alloy prepared by electromagnetic cold crucible
14:30 - 14:45	Jincheng Wang	Macro-micro coupled simulation of microstructure evolution during laser powder deposition process
14:45 - 15:00	Yinghuai Qiang	Formability analysis of bearing ring produced by short-flow warm extrusion processing

Section B13		**Room 410**
14:00 - 14:15	Alexander Zhuravskii	Numerical Simulation Of Heat Transfer In Built-Up Surface
14:15 - 14:30	Jianfeng Gu	Coupled Numerical Simulation and Distortion Prediction of Gears Subjected to Quenching Process
14:30 - 14:45	Danni Yang	Parameters prediction of hot-pressing sintering of high entropy alloys using numerical modeling and simulation
14:45 - 15:00	Dmitrii Krivenko	Preform shape design of hot metal forging by using QForm software and isothermal surfaces method

OCTOBER 13 (10:00-11:15)

Section A21		**Room 408**
10:00 - 10:15	Rui-Xue Wang	Microstructure and texture evolution of Magnesium rare earth alloy under different hydrostatic pressure conditions
10:15 - 10:30	Evgenii Aryshenskii	Development of the new fast approach for calculation of texture evolution during hot deformation of aluminum alloys
10:30 - 10:45	Hengyong Bu	Numerical Simulation and Experimental Validation for Low-Pressure Rotors in Quenching Process
10:45 - 11:00	György Krallics	Hot deformation properties of 8006 aluminium alloy
11:00 - 11:15	Xuewen Qian	Optimization on the deformation of circular bosses of a compressor casing wax pattern in selective laser sintering process

Section B21		**Room 410**
10:00 - 10:15	Jinfu Li	Investigation on the origin of anomalous eutectic formation by remelting of thin samples
10:15 - 10:30	Xiaohui Feng	Effect of forced convection on equiaxed solidification of Ni-based alloy
10:30 - 10:45	Hongsheng Ding	Numerical simulation and experimental verification of electromagnetic field of continuous casting copper crucible
10:45 - 11:00	Chao Lei	Magma software simulation assisted optimization of the casting system of turbocharger castings
11:00 - 11:15	Yajun Yin	Research and development of casting process CAD system for steel casting based on OpenCASCADE and wxWidgets

Section C21		**Room 412**
10:00 - 10:15	Nan Qu	High entropy alloys phase selection via machine learning
10:15 - 10:30	Hsin-Chih Lin	Atomic layer deposited Al2O3 films on NiTi shape memory alloys for biomedical applications
10:30 - 10:45	Jian Lin	Effect of Temperature and Zinc Coating on Interfacial Bonding between Steel and Aluminum Dissimilar Materials
10:45 - 11:00	Marino Brcic	Equivalent beam model of SWNT and DWNT with imperfections
11:00 - 11:15	Tsai-Fu Chung	Intrinsic twin boundary of η-MgZn2 precipitate in the AA7050 aluminium alloy

OCTOBER 13 (11:45-13:00)

Section A22		**Room 408**
11:45 - 12:00	Yuansheng Yang	Solidification Structure Control by the Interaction of Pulsed Magnetic Field and Melt
12:00 - 12:15	Mei Zhang	Elevated Temperature Deformation characteristics of 0.15C-7Mn Steels
12:15 - 12:30	Mikhail Kishchik	Influence of isothermal multi-directional forging on the grain structure, superplasticity and mechanical properties of the Al-Mg-based alloy
12:30 - 12:45	Peng Wang	A flow instability criterion for alloys during hot deformation
12:45 - 13:00	Vasiliy Fedorov	Powder and wire melting of titanium alloys by electron beam

Section B22		**Room 410**
11:45 - 12:00	Zhaoxia QU	Study on Welding Deformation Numerical Simulation for Ultra-high Strength Steel BS960E
12:00 - 12:15	Konstantin Solomonov	Virtual and physical simulation forming of flat workpieces with upsetting
12:15 - 12:30	Maksim Terentev	Method of Hardenability Bands Calculation for Low Alloy Steels
12:30 - 12:45	Dmitriy Demin	Analysis of residual stress after the cold-drawn wire drawing process
12:45 - 13:00	Lorenzo Iorio	Residual stresses prediction on clad pipeline girth welds through numerical simulation

Section C22		**Room 412**
11:45 - 12:00	Peng He	Brazing of Al2O3 ceramics by Bi2O3-B2O3-ZnO glass
12:00 - 12:15	Péter Bereczki	The effect of strain rate under multiple forging on the mechanical and microstructural properties
12:15 - 12:30	Anton Kotov	Superplastic forming of Ti-4Al-3Mo-1V alloy: behavior characterization, flow modeling, finite element simulation and superplastic forming
12:30 - 12:45	Xudong Zhou	Valence Electron Theoretical Calculation of Austenite Binding Energy
12:45 - 13:00	Boris Fedulov	Influence of manufacturing process on strength of composite materials

OCTOBER 13 (14:00-15:00)

Section A23		**Room 408**
14:00 - 14:15	Oksana Shpigunova	Numerical simulation of pulsed arc welding based on adaptive algorithms of pulsed control
14:15 - 14:30	Hao Lu	Modeling of acoustics in weakly ionized plasma of high frequency GTAW
14:30 - 14:45	Kai-Chiang Yang	The Effect of Culture Material on Insulin Secretion in Pancreatic Beta-cells
14:45 - 15:00	Pavel Gostischev	AlGaP heterostructures and LEDs optimization

Section B23		**Room 410**
14:00 - 14:15	Haitao Huang	The microstructure and mechanical property of TiAl alloy containing β-stabilizer
14:15 - 14:30	Jicai Kuai	Research on Generation and Polishing Mechanisms of Nano Grain α-Fe2O3 in Precision Electrolytic in process dressing (ELID) Grinding
14:30 - 14:45	Longchuan Niu	Integration of Multi-Camera Vision System for Automatic Robotic Assembly
14:45 - 15:00	Hailong Su	Application of Siemens PLC in Thermal Simulator Control System

Poster Session

List of Posters		Hall 5th floor
01	Jing Zou	MoS2/U-g-C3N4 hierarchical nanosheets synthesized by Microwave Hydrothermal Method for Enhanced Electrocatalytic Hydrogen Evolution
02	Wen Li	Indentation response of γ-TiAl(111) and influence of True-twin interface
03	Aiqin Wang	Numerical Simulation of Cast-rolling Process for Copper-Aluminum Composite Plate
04	Guoqing Chen	Finite Element Simulation of Push-bending Process of Stainless-steel Tubes and its forming quality
05	Jianmin Zeng	Effect of Contact Heat Transfer on Aluminum alloy Hot Rolling
06	Jie Zhang	Relief and Numerical Simulation of the Residual Stresses i Si3N4/Invar Joint by Multi-layers Braze Structure
07	Jitai Niu	Joining Mechanism of SiC Particle Reinforced Aluminum Matrix Composite (AlSiCp-MMC) by Resistance Spot Welding
08	Jitai Niu	Study on Diffusion Welding of Al-MMCs
09	Jitai Niu	Vacuum Brazing of High Volume Fraction SiC Particles Reinforced Aluminum Matrix Composites
10	Wenhao Zhou	Numerical simulation and optimization of the hot isostatic pressure process of a part of aircraft structure
11	Wenpeng Yang	Effects of extrusion temperature on texture and recrystallization in hot extruded Mg-6Zn-1Y-1Ce alloys
12	Yanmin Zhang	Fatigue Failure Prediction Model and Verification of Hot Extrusion Die
13	Yong Hu	Numerical Simulation of Effect of Glass Lubricant on Hot Extrusion of Inconel 625 Alloy Tubes
14	Yongping Lei	Numerical Calculation of Welding Residual Stress for Thick Wall Pressure Vessel
15	Ling Qiao	Seam Tracking for Mobile Welding Robot Based on Terminal Sliding Mode
16	Bo Wu	Research on Approaches for Computer Aided Detection of Casting Defects in X-ray Images with Feature Engineering and Machine Learning
17	Chunhua Ju	Photocatalytic Degradation of TOC by Ag/TiO2 Coated on Light Ceramic
18	Jianmin Zeng	A Method for Determination of Hydrogen Concentration in Aluminum
19	Jianmin Zeng	Study on Aging Characteristics of Cast Al-Si-Mg Alloy
20	Pavel Gostischev	Heterostructure Improvements of the Solar Cells based on Perovskite
21	Paweł Żukowski	Influence of an annealing on the electrical properties of the silicon-insulator system implanted with In and Sb ions

22	Sergey Belskiy	Study of the microstructure of electrotechnical anisotropic steel with accelerated cooling
23	Tomasz Kołtunowicz	Determination of chemical composition of metal-dielectric nanocomposites based on SiO2
24	Wang Xiaopeng	Characterization of thermal deformation behavior of a γ-TiAl alloy
25	Vladimir Gavrish	On the issue of the techniques to produce mass and low-price tungsten oxide nanopowder
26	Fuxiao Chen	Research on precise establishment of constitutive relation of laminated composite
27	Victoria Sturova	Experimental studies of the work of steel fiber in fine-grained slag concrete, taking into account the age of the concrete matrix
28	Lele Tong	Numerical investigation of turbulent flow behavior of sand particles in core shooting process
29	Lianxi Hu	Hot deformation behavior and flow stress model of an as-cast GH4720LI Ni-based alloy
30	Xuewen Chen	Valence Electron Theoretical Calculation of Austenite Binding Energy
31	Xiaoyun Feng	Numerical simulation for isothermal forging of cup-shaped component of 6A02 Aluminum alloy
32	Abdul Razaq	Influence of Alloying Elements Sn and Ti on the Microstructure and Mechanical Properties of Gray Cast Iron
33	Anna Levykina	Hot rolling strips at the casting and rolling unit during coil-to-coil and endless rolling modes
34	Jianmin Zeng	Bubble Flotation for Purification of High Manganese Steel with Porous Blower
35	Xiaohui Feng	Numerical Simulation of Grain Refinement of Pure Copper Solidified under Pulsed Magnetic Field
36	Yongjia Zhang	Parallel partitioning algorithm for numerical simulation of gas-liquid two-phase flow during the mold filling process
37	Changchun Dong	Study of the curing process of carbon fiber reinforced resin matrix composites in autoclave processing
38	Jianmin Zeng	Purification of Aluminum melt in Crucibles by Bubble Flotation
39	Yuping Duan	Simulation models of Microwave photonic crystals: Metamaterial with enhanced and tunable performance by surface plasmon polaritons produced in microwave band
40	Fantao Kong	Hot Deformation Behavior of a As-forged β-solidifying TiAl Alloy
41	Huachen Li	Numerical simulation of temperature field of boron steel/Q235 laser tailored blanks by welding with synchronous thermal field

42	Jitai Niu	Physical simulation of weld heat affect zone for a high strength wear resistant alloy
43	Jiuba Wen	Numerical simulation and experimental research of the aluminum alloy rolling edge crack at room temperature
44	Junguang He	Hot deformation behavior and processing map of cast 5052 aluminum alloy
45	Lanyu Mao	Numerical simulation of electron beam welding for Q345 and 3Cr2Mo
46	Zarina Satbaeva	Physical interaction model of low-temperature plasma with the surface of the steel under the electrolytic-plasma nitriding
47	f Wang	Flow behavior and microstructure evolution of Mg-5Zn-3.5Sn-1Mn-0.5Ca-0.5Cu alloy during hot compression
48	Mei Zhang	Experimental and Numerical Simulation on Laser welding of High Manganese TWIP980 Steel
49	Peng He	Correlation of Process Parameters and Porosity in Laser Welding of 7A52 Aluminum Alloy using Response Surface Methodology
50	Maxim Garkusha	Researching CdSe/Cds/ZnS Quantum Dots Lifetime in Cathodoluminescent Mode
51	Hongwei Wang	The effect of pressure on the stable growing wavelength of intermetallic compound Al3Ni with nil solid solubility and potential curves of hypo-peritectic Al-Ni alloy
52	Nikolay Kolbasnikov	Modeling of Austenitization Kinetics under Continuous Heating of Steels with Complex Microstructure
53	Tu Zhixin	A Taylor approximation scheme for coupling thermodynamic data of multicomponent alloy in phase-field model
54	Wenyan Wang	Effect of Heat Treatment on Microstructure and Properties of Ti-6Al-4V-0.5Si alloy
55	Mei Zhang	Investigation on High Temperature Compression Deformation Behavior of 0.2C7Mn Steel
56	Guanbing Xiang	A flexible method for converting non-relational text data to relational data for data acquisition of equipment operation
57	Zhipeng Zhang	A Method for Modeling and Extracting 3D Structural Features of Castings Considering Size
58	Qian Xu	Using crystal plasticity finite element method to investigate the mechanical properties under uniaxial compression
59	Taher Shehabeldeen	Comparison of RSM with ANFIS in predicting tensile strength of dissimilar friction stir welded AA2024 -AA5083 aluminium alloys
60	Jianmin Zeng	Physical Simulation of Recovery Cast iron from Bayer Red Mud

61	Peng Wan	Experimental Study on Gas Evolution Process of Binders in Foundry Industry based on TG-MS
62	Rande Kang	Manufacturer of material research equipment, and related products