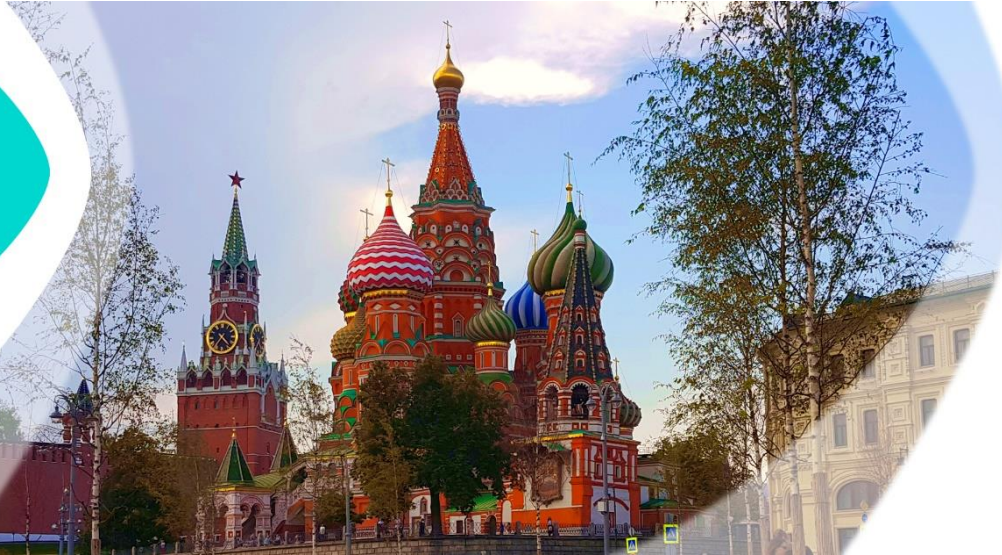


The 9th International Conference on Physical and Numerical Simulation of Materials Processing



Tentative program

October 10:

- Arriving of the participants

October 11:

- Opening ceremony
- Plenary presentations

October 12:

- Section meetings

October 13:

- Section meetings
- On the evening of October 13 the participants taking a part in St.Petersburg session will travel by train from Moscow to St. Petersburg.

October 14:

- Plenary session is Peter the Great St. Petersburg Polytechnic University
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LIST OF SPEAKERS

Speaker	Topic	Country
Dr. Alexey Fedorenko	Failure analysis of composite materials subjected to low-velocity impact	Russia
Dr. Amir A. Shirzadi	Modelling and design of new stainless steel welding alloys suitable for low-deformation repair and restoration processes	Great Britain
Dr. Baohui Tian	Finite Element Simulation of Relative Sliding in Hot Rolling	Austria
Dr. Boris Fedulov	Influence of manufacturing process on strength of composite materials	Russia
Dr. Bu Hengyong	Numerical Simulation and Experimental Validation for Low-Pressure Rotors in Quenching Process	China
Dr. Danni Yang	Parameters prediction of hot-pressing sintering of high entropy alloys using numerical modeling and simulation	China
Dr. Di Wu	Numerical Simulation of Hot Cracks Initiation and Growth in Castings	China
Dr. Evgenii Aryshenskii	Development of the new fast approach for calculation of texture evolution during hot deformation of aluminum alloys	Russia
Dr. Feng Ying	Research on Loading Path Control Method in Hydroforming Process of Bi-layered Tube	China
Dr. Firas Jarrar	Deformation Stability in Superplastic Forming at the Sheet-die Interface	Arab Emirates
Dr. Haitao Huang	The microstructure and mechanical property of TiAl alloy containing β -stabilizer	China
Dr. Hui Hong	Roll Pass Design and Simulation on Continuous Rolling of Alloy Steel Round	China
Dr. Jicai Kuai	Research on Generation and Polishing Mechanisms of Nano Grain α -Fe ₂ O ₃ in Precision Electrolytic in process dressing (ELID) Grinding	China
Dr. Konstantin Solomonov	Virtual and physical simulation forming of flat workpieces with upsetting	Russia

Speaker	Topic	Country
Dr. Lorenzo Iorio	Residual stresses prediction on clad pipeline girth welds through numerical simulation	Italy
Dr. Mei Zhang	Elevated Temperature Deformation characteristics of 0.15C-7Mn Steels	China
Dr. Nan Qu	High entropy alloys phase selection via machine learning	China
Dr. Pavel Bokov	Simulation of self-sustained relaxation of a two-dimensional metastable medium by means of a traveling wave	South Africa
Dr. Pavel Korzhavyi	Ab-initio Simulations of Point Defects and Diffusion in Cubic Carbides	Sweden
Dr. Peng Wang	A flow instability criterion for alloys during hot deformation	Austria
Dr. Péter Berczki	The effect of strain rate under multiple forging on the mechanical and microstructural properties	Hungary
Dr. Petr Zhilyaev	Simulation of laser heating of carbon materials	Russia
Dr. Rui-Xue Wang	Microstructure and texture evolution of Magnesium rare earth alloy under different hydrostatic pressure conditions	China
Dr. Vasiliy Fedorov	Powder and wire melting of titanium alloys by electron beam	Russia
Dr. Vladimir Dremov	Atomistic Simulation of Strength Properties of Conventional and Nano-Structured Materials	Russia
Dr. Vladimir Egorov	The waveguide-resonance phenomenon of radiation fluxes propagation as the background for the cold fusion simulation	Russia
Dr. Vladimir Gavrish	On the issue of the techniques to produce mass and low-price tungsten oxide nanopowder	Russia
Dr. Xiaohui Feng	Effect of forced convection on equiaxed solidification of Ni-based alloy	China
Dr. Xuesong Xu	The microstructure and mechanical property of high niobium TiAl alloy prepared by electromagnetic cold crucible	China

Speaker	Topic	Country
Dr. Zhenhai Xu	Effect of Force Constant of Virtual Spherical Indenter on Atomistic Simulations of Nanoindentation	China
Mr. Alexander Zhuravskii	Numerical Simulation Of Heat Transfer In Built-Up Surface	Russia
Mr. Andrei Taikin	Study of the dependence of the luminescent properties of CdSe / CdS / ZnS quantum dots on their thickness	Russia
Mr. Andrey Chastukhin	Development and industrial applying of the model of austenite grain size evolution in Nb-microalloyed pipe steels	Russia
Mr. Anton Kotov	Superplastic forming of Ti-4Al-3Mo-1V alloy: behavior characterization, flow modeling, finite element simulation and superplastic forming	Russia
Mr. Chung Tsai-Fu	Intrinsic twin boundary of η -MgZn ₂ precipitate in the AA7050 aluminium alloy	Taiwan
Mr. Cong Wang	Flow behavior and microstructure evolution of Mg-5Zn-3.5Sn-1Mn-0.5Ca-0.5Cu alloy during hot compression	China
Mr. Dmitrii Krivenko	Preform shape design of hot metal forging by using QForm software and isothermal surfaces method	Russia
Mr. Dmitriy Demin	Analysis of residual stress after the cold-drawn wire drawing process	Russia
Mr. Huachen Li	Numerical simulation of high temperature tensile behavior of boron steel/Q235 laser welded joint by welding with synchronous thermal field	China
Mr. Ilia Doludenko	Characterization of nanowires of FeNi and FeCo alloys	Russia
Mr. Ivan Zakhariev	The effect of finite element type on the results of superplastic forming simulation	Russia
Mr. Maksim Terentev	Method of Hardenability Bands Calculation for Low Alloy Steels	Russia
Mr. Nikita Epifanov	Action upon Materials of Shock Waves Generated in Dense Plasma Focus devices and at Pulsed Laser Irradiation	Russia

Speaker	Topic	Country
Mr. Rui Zhang	The Thermal Compression Behavior and Dynamic Modeling of TiBw/Ti-6Al-2.5Zr-1Mo-1V-0.5Si Composite	China
Mr. Su Long	Application of Siemens PLC in Thermal Simulator Control System	China
Mr. Thomas Forstner	Investigation of the fibre type influence on the energy density of the induction heating process through a semi-analytic method	Germany
Mr. Tong Wang	Research and development of casting process CAD system for steel casting based on OpenCASCADE and wxWidgets	China
Mr. Zhao Guo	Effects of solute and flow field on 3D dendritic growth of superalloys in melt convection	China
Mrs. Zhaoxia Qu	Study on Welding Deformation Numerical Simulation for Ultra-high Strength Steel BS960E	China
Ms. Pavel Gostischev	Heterostructure Improvements of the Solar Cells based on Perovskite	Russia
Ms. Pavel Gostischev	LED Heterostructure Optimization	Russia
Ms. Pavel Gostischev	AlGaP heterostructures and LEDs optimization	Russia
Ms. Qian Xuewen	Optimization on the deformation of circular bosses of a compressor casing wax pattern in selective laser sintering process	China
Ms. Qian Xuewen	Physical Simulation of Fluid Frontal Motion Morphology in Filling Process of Titanium Alloy Vertical Centrifugal Casting	China
Prof. Abdrakhman Naizabekov	Study of the influence of the main parameters of “rolling-ECAP” process on the stress-strain state and the microstructure evolution using computer simulation	Kazakhstan
Prof. Gennady Bondarenko	Simulation of charge processes in dielectric films of MIS structures at simultaneous influence by ionization and high-field injection of electrons	Russia
Prof. György György	Hot deformation properties of 8006 aluminium alloy	Hungary

Speaker	Topic	Country
Prof. Hongsheng Ding	Numerical simulation and experimental verification of electromagnetic field of continuous casting copper crucible	China
Prof. Hsin-Chih Lin	Atomic layer deposited Al ₂ O ₃ films on NiTi shape memory alloys for biomedical applications	Taiwan
Prof. Igor Mazur	Experimental studies of the work of steel fiber in fine-grained slag concrete, taking into account the age of the concrete matrix	Russia
Prof. Jer-Ren Yang	Investigation of Ultrahigh-heat-input Weld HAZ in Nb-Ti-B Bearing Steels	Taiwan
Prof. Jian Lin	Effect of Temperature and Zinc Coating on Interfacial Bonding between Steel and Aluminum Dissimilar Materials	China
Prof. Jincheng Wang	Macro-micro coupled simulation of microstructure evolution during laser powder deposition process	China
Prof. Jinfu Li	Investigation on the origin of anomalous eutectic formation by remelting of thin samples	China
Prof. Jitai Niu	The Development and Application of Physical Simulation Technology in the World and in China	China
Prof. Josip Brnić	Analysis of Materials of Similar Mechanical Behavior and Similar Industrial Assignment	Croatia
Prof. Kai-Chiang Yang	The Effect of Culture Material on Insulin Secretion in Pancreatic Beta-cells	Taiwan
Prof. Konstantin Arutyunov	Superfine Ion Beam Processing of Micro- and NanoStructures	Russia
Prof. Langping Wang	Processing and Molecular dynamics simulation of ion beam polishing of TC4 alloy	China
Prof. Lin Geng	Titanium Matrix Composites for High Temperature Applications	China
Prof. Lin Liu	The numerical simulation of casting defects for nickel-based single crystal superalloys	China
Prof. Luo An	Extended Function and Assist Device of MMS Thermal Mechanical Simulator	China

Speaker	Topic	Country
Prof. Marino Brcic	Equivalent beam model of SWNT and DWNT with imperfections	Croatia
Prof. Osman Adiguzel	The Role of Thermomechanical Treatments in Memory Behavior of Shape Memory Alloys	Turkey
Prof. Pavel Selyshchev	Recovering of Irradiated Metal by means of Self-sustaining and Propagating Annealing: Theoretical Description	South Africa
Prof. Peng He	Brazing of Al ₂ O ₃ ceramics by Bi ₂ O ₃ -B ₂ O ₃ -ZnO glass	China
Prof. Shuangming Li	Solute migration and thermoelectric properties of Co-Sb alloy during temperature gradient zone melting	China
Prof. Xudong Zhou	Valence Electron Theoretical Calculation of Austenite Binding Energy	China
Prof. Yang Yi	Magma software simulation assisted optimization of the casting system of turbocharger castings	China
Prof. Yinghuai Qiang	Formability analysis of bearing ring produced by short-flow warm extrusion processing	China
Prof. Yuansheng Yang	Solidification Structure Control by the Interaction of Pulsed Magnetic Field and Melt	China

LIST OF POSTERS

Author	Topic	Country
Dr. Abdul Razaq	Influence of Alloying Elements Sn and Ti on the Microstructure and Mechanical Properties of Gray Cast Iron	China
Dr. Changchun Dong	Study of the curing process of carbon fiber reinforced resin matrix composites in autoclave processing	China
Dr. Hongwei Wang	The effect of pressure on the stable growing wavelength of intermetallic compound Al ₃ Ni with nil solid solubility and potential curves of hypo-peritectic Al-Ni alloy	China
Dr. Ling Qiao	Seam Tracking for Mobile Welding Robot Based on Terminal Sliding Mode	China

Author	Topic	Country
Dr. Longchuan Niu	Flexible Robotic Assembly with Multi-Camera Vision	Finland
Dr. Sergey Belskiy	Study of the microstructure of electrotechnical anisotropic steel with accelerated cooling	Russia
Dr. Wang Xiaopeng	Characterization of thermal deformation behavior of a γ -TiAl alloy	China
Dr. Wenpeng Yang	Effects of extrusion temperature on texture and recrystallization in hot extruded Mg-6Zn-1Y-1Ce alloys	China
Dr. Xiaohui Feng	Numerical Simulation of Grain Refinement of Pure Copper Solidified under Pulsed Magnetic Field	China
Dr. Xiaoyun Feng	Numerical simulation for isothermal forging of cup-shaped component of 6A02 Aluminum alloy	China
Miss. Qian Xu	Using crystal plasticity finite element method to investigate the mechanical properties under uniaxial compression	China
Mr. Bo Wu	Research on Approaches for Computer Aided Detection of Casting Defects in X-ray Images with Feature Engineering and Machine Learning	China
Mr. Chen Guoqing	Finite Element Simulation of Push-bending Process of Stainless-steel Tubes and its forming quality	China
Mr. Duan Yuping	Simulation models of Microwave photonic crystals: Metamaterial with enhanced and tunable performance by surface plasmon polaritons produced in microwave band	China
Mr. Guanbing Xiang	A flexible method for converting non-relational text data to relational data for data acquisition of equipment operation	China
Mr. Lanyu Mao	Numerical simulation of electron beam welding for Q345 and 3Cr2Mo	China
Mr. Lele Tong	Numerical investigation of turbulent flow behavior of sand particles in core shooting process	China
Mr. Maxim Garkusha	Researching CdSe/Cds/ZnS Quantum Dots Lifetime in Cathodoluminescent Mode	Russia

Author	Topic	Country
Mr. Peng Wan	Experimental Study on Gas Evolution Process of Binders in Foundry Industry based on TG-MS	China
Mr. Taher Shehabeldeen	Comparison of RSM with ANFIS in predicting tensile strength of dissimilar friction stir welded AA2024 - AA5083 aluminium alloys	China
Mr. Tu Zhixin	A Taylor approximation scheme for coupling thermodynamic data of multicomponent alloy in phase-field model	China
Mr. Wen Li	Indentation response of γ -TiAl(111) and influence of True-twin interface	China
Mr. Wenhao Zhou	Numerical simulation and optimization of the hot isostatic pressure process of a part of aircraft structure	China
Mr. Yongjia Zhang	Parallel partitioning algorithm for numerical simulation of gas-liquid two-phase flow during the mold filling process	China
Mr. Zarina Satbaeva	Physical interaction model of low-temperature plasma with the surface of the steel under the electrolytic-plasma nitriding	Kazakhstan
Mr. Zhipeng Zhang	A Method for Modeling and Extracting 3D Structural Features of Castings Considering Size	China
Mrs. Ai Qin Wang	Numerical Simulation of Cast-rolling Process for Copper-Aluminum Composite Plate	China
Mrs. Junguang He	Hot deformation behavior and processing map of cast 5052 aluminum alloy	China
Mrs. Yanmin Zhang	Fatigue Failure Prediction Model and Verification of Hot Extrusion Die	China
Ms. Anna Levykina	Hot rolling strips at the casting and rolling unit during coil-to-coil and endless rolling modes	Russia
Ms. Chunhua Ju	Photocatalytic Degradation of TOC by Ag/TiO ₂ Coated on Light Ceramic	China
Ms. Jie Zhang	Relief and Numerical Simulation of the Residual Stresses in Si ₃ N ₄ /Invar Joint by Multi-layers Braze Structure	China

Author	Topic	Country
Prof. Baifeng Luan	Effect of α phase fraction on the mechanical properties of a metastable β -Zr alloy	China
Prof. Fantao Kong	Hot Deformation Behavior of a As-forged β -solidifying TiAl Alloy	China
Prof. Fuxiao Chen	Research on precise establishment of constitutive relation of laminated composite	China
Prof. Jianmin Zeng	Effect of Contact Heat Transfer on Aluminum alloy Hot Rolling	China
Prof. Jianmin Zeng	Study on Aging Characteristics of Cast Al-Si-Mg Alloy	China
Prof. Jianmin Zeng	Purification of Aluminum melt in Crucibles by Bubble Flotation	China
Prof. Jianmin Zeng	Physical Simulation of Recovery Cast iron from Bayer Red Mud	China
Prof. Jianmin Zeng	Bubble Flotation for Purification of High Manganese Steel with Porous Blower	China
Prof. Jing Zou	MoS ₂ /U-g-C ₃ N ₄ hierarchical nanosheets synthesized by Microwave Hydrothermal Method for Enhanced Electrocatalytic Hydrogen Evolution	China
Prof. Jitai Niu	Vacuum Brazing of High Volume Fraction SiC Particles Reinforced Aluminum Matrix Composites	China
Prof. Jitai Niu	Study on Diffusion Welding of Al-MMCs	China
Prof. Jitai Niu	Physical simulation of weld heat affect zone for a high strength wear resistant alloy	China
Prof. Jitai Niu	Joining Mechanism of SiC Particle Reinforced Aluminum Matrix Composite (AlSiCp-MMC) by Resistance Spot Welding	China
Prof. Jiuba Wen	Numerical simulation and experimental research of the aluminum alloy rolling edge crack at room temperature	China
Prof. Lihua Zhu	MoS ₂ /U-g-C ₃ N ₄ hierarchical nanosheets synthesized by Microwave Hydrothermal Method for Enhanced Electrocatalytic Hydrogen Evolution	China

Author	Topic	Country
Prof. Nikolay Kolbasnikov	Modeling of Austenitization Kinetics under Continuous Heating of Steels with Complex Microstructure	Russia
Prof. Paweł Żukowski	Influence of an annealing on the electrical properties of the silicon-insulator system implanted with In and Sb ions	Poland
Prof. Peng He	Correlation of Process Parameters and Porosity in Laser Welding of 7A52 Aluminum Alloy using Response Surface Methodology	China
Prof. Tomasz Kołtunowicz	Determination of chemical composition of metal-dielectric nanocomposites based on SiO ₂	Poland
Prof. Wenming Jiang	Effects of process parameters on microstructure and mechanical properties of AZ91D alloy by expendable pattern shell casting with mechanical vibration	China
Prof. Wenyan Wang	Effect of Heat Treatment on Microstructure and Properties of Ti-6Al-4V-0.5Si alloy	China
Prof. Xuwen Chen	Valence Electron Theoretical Calculation of Austenite Binding Energy	China
Prof. Yong Hu	Numerical Simulation of Effect of Glass Lubricant on Hot Extrusion of Inconel 625 Alloy Tubes	China
Prof. Yongping Lei	Numerical Calculation of Welding Residual Stress for Thick Wall Pressure Vessel	China