

DIMAT 2021 Programme

	Monday (5th July)	
	Session 1 (Virtual Room A)	
	Chairman: Zoltán Erdélyi	
9:00	Conference Opening Ferenc Kun Dean of Faculty of Science and Technology	
	István Szabó From DIMETA to DIMAT	
9:45	Dezső Beke Interdiffusion along grain boundaries – DIGM and low temperature homogenization in nanostructured thin films	
10:30	Coffee Break	
	Session 2 (Virtual Room A)	Session 3 (Virtual Room B)
	Chairman: Miklós Menyhárd	Chairman: Boris Bokstein
11:00	Alain Portavoce Effect of atomic transport during thin film growth on material properties	Wolfgang Jäger Advanced Transmission Electron Microscopy of Diffusion Phenomena in Semiconductors
11:35	Laura Juhász Porous gold nanoparticles: thermal stability, optical properties and support-free synthesis	D. Keith Coffman In-situ Nanomechanics and Laser Heating for Study of Interphase Diffusion of Individual Ceramic Interfaces in the TEM
12:00	Réka Lilla Kovács Effect of nanoscopic defects on barrier performance of thin films deposited by PE-ALD on flexible polymers	Katharina Hogrefe With a Little Help from 31P: Localized Hopping and Long-Range Li ⁺ Transport in Argyrodite-Type Li ₆ PS ₅ I
12:25	Nuri Choi Non-equilibrium state of grain boundaries in additively manufactured CoCrFeMnNi high-entropy alloy	
12:50	Lunch	
	Session 4 (Virtual Room A)	
	Chairman: Alain Portavoce	
13:30	Jörg Karger Diffusion in Nanoporous Materials: Challenges, Surprises and Tasks of the Day	
14:15	Boris Bokstein Grain Boundary Segregation: new sprouts	
14:50	Vladimir Popov Grain boundary diffusion of cobalt in coarse grained and ultrafine grained nickel	
15:15	Zsolt Kovács Interaction between grain boundary slip and solute atom diffusion	
15:40	Coffee Break	

	Tuesday (6th July)	
	Session 5 (Virtual Room A)	
	Chairman: Eugen Rabkin	
9:00	Sergiy Divinski Tracer diffusion in multi-principal element alloys: does chemical complexity induce sluggishness?	
9:45	Gary Collins Jump-frequencies of indium probe atoms in phases having the Al ₄ Ba structure	
10:20	Esakkiraja Neelamegan Tracer diffusion coefficients in NiCoFeCr estimated by pseudo-binary, pseudo-ternary diffusion couple and radiotracer methods	
10:45	Coffee Break	
	Session 6 (Virtual Room A)	Session 7 (Virtual Room B)
	Chairman: Gary Collins	Chairman: Paul Heitjans
11:00	Helmut Mehrer Diffusion in metals and intermetallics	Dominique Mangelinck Diffusion at interphases during lateral growth and dewetting of Ni silicide thin films
11:35	Camille Salsi Diffusion-deformation interactions in the Ni-Cr-Si system	Jan Kristen Prüßing Self-atom and Dopant Diffusion in Silicon Nano Pillars
12:00	Mohan Muralikrishna Garlapati Composition-dependent tracer diffusivities in Fe-Ga alloys: An experimental scheme of simultaneous tracer and chemical diffusion	Jianbao Gao Study on dewetting phenomenon in Ni silicide thin film on Si substrate: Phase-field modeling & Experimental measurement
12:25	Zhenbo Wang Interfacial diffusion and thermal stability of nanolaminated metals	
12:50	Lunch	
	Session 8 (Virtual Room A)	
	Chairman: Dominique Mangelinck	
13:30	Manfred Martin Diffusion in Oxides – from Fuel Cells to Memristors	
14:15	Aloke Paul Effect of Pt and Pd on oxidation and growth of interdiffusion zone between the bond coat and single crystal superalloys	
14:50	Felix Kipke Intrinsic and oxygen enhanced boron diffusion in germanium	
15:15	Bernhard Gadermaier Disorder-controlled ion dynamics in nanocrystalline and nanoglassy ion conductors	
15:50	Coffee Break	
	Session 9 (Virtual Room A)	
	Poster Session	
	Moderator: Csaba Cserháti	
16:00	Vladimir Popov Simulation of structure of special tilt boundaries and grain-boundary self-diffusion in Ti	
16:15	Gergő Vecsei Diffusion Studies in Al ₂ O ₃ /ZnO Cylindrical Nanostructures	
16:30	Maksim Stupak Simulation of Point Defects in Special Grain Boundaries and Self-Diffusion along Symmetrical Tilt Boundaries <110> in Nb	

16:45	Vilmos Vékony Diffusional and driven jumps of magnetic moments in nanoparticles
17:00	Tim Bockendorf Self-Diffusion in Amorphous Germanium and Amorphous Silicon

	Wednesday (7th July)	
	Session 10 (Virtual Room A)	
	Chairman: Sergiy Divinski	
9:00	Alan Lindsay Greer Atomic diffusion in glasses: opportunities to study new effects of fundamental interest and of practical importance	
9:45	Yuri Kaganovsky Photo Induced Self-diffusion and Viscosity in Amorphous Chalcogenide Film	
10:20	István Csarnovics Investigation of surface-enhanced Raman scattering on gold nanoislands substrates with different geometrical parameters	
10:45	Coffee Break	
	Session 11 (Virtual Room A)	Session 12 (Virtual Room B)
	Chairman: Yuri Kaganovsky	Chairman: Boris Straumal
11:00	Miklós Menyhárd Interface Induced Diffusion; Area Selective Interface Patterning	Maytal Caspary Toroker Modeling polaron hopping in ternary spinel oxides
11:35	Anna Zigelman Surface Diffusion: Defining a new critical effective radius for holes in thin films.	Nóra Kucska Ferromagnetism in golden nanograins explained with a 2D strongly correlated itinerant electron system with many-body spin-orbit
12:00	Matteo Zanierato Nb ₃ Sn Targets Synthesis via Liquid Tin Diffusion for Thin Films Depositions	Yunho Ahn Diffusion and oxidation kinetics in polyethylene thermo/radio-oxidation
12:25	Guido Roma From helium diffusion to bubble nucleation in boron carbide	Aleksei Seregin Simulation of Diffusion-Controlled Transition from Internal Oxidation and Nitridation to Scale Formation by Means of the Cellular Automata Approach
12:50	Lunch	
	Session 13 (Virtual Room A)	
	Chairman: Dezső Beke	
13:30	Guido Schmitz Atomic Transport in Battery Materials	
14:15	Boris Straumal Mass-Transfer during Phase Transformations driven by the High Pressure Torsion	
14:50	Ruslan Z. Valiev Ultralow-temperature superplasticity and its novel mechanism with enhanced diffusion in ultrafine-grained Al alloys	
15:15	Ilyes Medouni Disorientation-dependent elastic field influence on impurity segregation at low angle tilt grain boundaries	
15:40	Coffee Break	
	Session 14 (Virtual Room A)	
	Poster Session	
	Moderator: Csaba Cserhádi	
16:00	Sineglazov Dmitriy Molecular-dynamic simulation of diffusion in Al-Fe under a magnetic field	

16:15	Pokoev Aleksander Vladimirovich Magnetoplasticity of the Cu-Be-Ni Alloy Appearing in a Hardened State after Aging in the Constant Magnetic Field
16:30	Magamedova Selimat Gabibullaevna Temporal Dependence of Microhardness and Phase Formation Parameters in Si-Cu-Fe Aluminium Alloy after Ageing in Constant and Pul
16:45	Szilvia Gulyás Investigation of Fe-Pd based thin films
17:00	Yug Joshi Slow-Moving Phase Boundary in $\text{Li}_{4/3+x}\text{Ti}_5\text{O}_{30}$
17:15	Bence Parditka ALD of TiO_2/ZnO multilayers towards the understanding of optical properties and polarizability

	Thursday (8th July)	
	Session 15 (Virtual Room A)	
	Chairman: Thomas Schuler	
9:00	Helmut Mehrer Diffusion in Metallic and in Oxide Glasses	
9:45	Yongho Sohn Role of Diffusion in Microstructural Development of Additively Manufactured Metallic Alloys	
10:20		
10:45	Coffee Break	
	Session 16 (Virtual Room A)	Session 17 (Virtual Room B)
	Chairman: Vladimir Popov	Chairman: Helena Zapolsky
11:00	Lijun Zhang An overview on high-throughput determination of high-quality interdiffusion coefficients in metallic solids	Rafal Kozubski Atomic migration precesses in materials: The power of Monte Carlo simulations
11:35	Daniel Gaertner Concentration-dependent atomic mobilities in CoCrFeMnNi high-entropy alloy using tracer/interdiffusion pseudo-binary couples	Andriy Gusak Formation and Ripening of Nanobelts/Nanofibers under Stirring of aqueous Solution – Experiment and Modeling
12:00	Sandipan Sen Self- and solute diffusion in HCP high-entropy alloys	Debapriya Pinaki Mohanty Diffusion of Water in a Plant Leaf System
12:25	Vladimir A. Esin Intrinsic heterogeneity of grain boundary states in ultrafine-grained Ni: a multi-level study by SIMS and radiotracer analyses	
12:50	Lunch	
	Session 18 (Virtual Room A)	
	Chairman: Rafal Kozubski	
13:30	Helena Zapolsky Morphological Instability During Precipitate Growth: Insights from Phase-Field Simulations	
14:05	Andriy Gusak Modeling of Phase Formation in Solid-Solid and Solid-Liquid Interactions	
14:40	Janos J. Toman 3D phase diagrams and the thermal stability of two-component Janus nanoparticles: effects of size, composition and temperature	
15:05	Quentin Bizot Atomic mobility and reactivity in nanocomposites mechanically elaborated: a molecular dynamics study	
15:30	Coffee Break	
	Session 19 (Virtual Room C)	
16:00	International Advisory Board	

	Friday (9th July)
	Session 20 (Virtual Room A)
	Chairman: István Szabó
9:00	Xi Zhang Ab initio phase stabilities and diffusion kinetics in alloys with complex chemical order
9:35	Pamela Camilos Atomic-scale modelling of diffusion in concentrated alloys
10:00	Coffee Break
	Session 21 (Virtual Room A)
	Chairman: Andriy Gusak
10:30	Thomas Schuler Computation of transport coefficients in ternary alloys from the atomic scale using the KineCluE code
11:05	Michael Yu. Semenov Local atomic mechanism of diffusion jumps for the transfer of carbon atom in austenite
11:30	Gabriella Jáger Nanoparticle formation during the post-annealing of low-energy ion-implanted samples
11:55	Yaron Amouyal A first-principles study of the temperature-dependent diffusion coefficient of silver in the thermoelectric compound PbTe
12:20	Sungil Baik Diffusional coupling effects during the coarsening of gamma-prime (L12) precipitates in a Ni-Al-Cr-Re alloy
12:45	Coffee Break
	Session 22 (Virtual Room A)
	Chairman: Zoltán Erdélyi
13:00	Eugen Rabkin Self- and heterodiffusion along the metal-ceramic interfaces
13:45	Closing Ceremony Zoltán Erdélyi