

SCIENTIFIC PROGRAMME

Monday, 12 September 2022

17:00–20:00 Registration
18:00–18:20 Opening
18:30–20:00 Get together

Tuesday, 13 September 2022

9:00–9:20 Opening address

Session 1

Chair: Przemyslaw Fima

9:20–10:00 Olivier Dezellus
O1 IS Al-Al₃Nb-L PERITECTIC OR EUTECTIC? A BENCHMARK OF EXPERIMENTAL METHODS (*invited talk*)
10:00–10:20 Stephanie Lippmann
O2 METASTABLE EXTENSIONS OF PHASE EQUILIBRIA
10:20–10:40 Ondrej Zobac
O3 EXPERIMENTAL PHASE DIAGRAM OF THE Al-Ge-Mg TERNARY SYSTEM
10:40–11:10 *Coffee break*

Session 2

Chair: Stephanie Lippmann

11:10–11:30 Simona Delsante
O4 Al-Zn-TM (TM = Hf, Zr) SYSTEMS: PHASE EQUILIBRIA AND EXPERIMENTAL DETERMINATION OF THERMODYNAMIC PROPERTIES
11:30–11:50 Lisa-Yvonne Schmitt
O5 THERMODYNAMIC STUDY OF THE BINARY P-Pt SYSTEM
11:50–12:10 Wenhao Ma
O6 THERMODYNAMIC ANALYSIS AND MODELING OF NOVEL TERNARY Ni-S-BASED BULK METALLIC-FORMING SYSTEMS
12:10–12:30 Ioana Nuta
O7 THERMODYNAMICS OF THE Ag-Zr SYSTEM
12:30–14:30 *Lunch*

Session 3

Chair: Simona Delsante

14:30–14:50 Shao Wei
O8 THE PREDICTION OF Al-Li PHASE DIAGRAM BY FIRST PRINCIPLES CALCULATIONS AND STATISTICAL MECHANICS SIMULATIONS
14:50–15:10 Jan Vřešťál
O9 THERMODYNAMIC ASSESSMENT OF THE SYSTEM Nb-Sb
15:10–15:30 Pavel Brož
O10 EXPERIMENTAL STUDY AND THERMODYNAMIC MODELLING OF THE Hf-Mn SYSTEM

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15:30–15:50 O11	Hans Flandorfer ENTHALPY OF FORMATION OF SnS AND SnS ₂ DEPENDING ON CRYSTAL SIZE
15:50–16:10 O12	Andreas Leineweber SYSTEMATICS OF Sn-RICH TRANSITION-METAL ALLOYS
16:10–16:30	<i>Coffee break</i>
16:30–19:00	Poster session

Wednesday, 14 September 2022

Session 4

Chair: Juergen Brillo

9:00–9:40 O13	Guy Makov PRESSURE DEPENDENCE OF BINARY PHASE DIAGRAMS: EXPERIMENTS AND THERMODYNAMIC MODELLING (<i>invited talk</i>)
9:40–10:00 O14	Andreas Czerny HETEROGENEOUS PHASE EQUILIBRIA IN THE Mo-Si-Ti SYSTEM AT 1300°C
10:00–10:20 O15	Hirotoyo Nakashima EXPERIMENTAL STUDY AND THERMODYNAMIC MODELING OF THE Ti-Al-Ni TERNARY SYSTEM IN THE REGION UP TO 35 AT.% Ni
10:20–10:40 O16	Augustin Flores EXPERIMENTAL STUDY AND THERMODYNAMIC MODELING OF THE Cr-Fe-Mo-Ti SYSTEM
10:40–11:10	<i>Coffee break</i>

Session 5

Chair: Guy Makov

11:10–11:30 O17	Juergen Brillo MOLAR HEAT CAPACITY OF LIQUID Ti, Al ₂₀ Ti ₈₀ AND Al ₅₀ Ti ₅₀ MEASURED IN ELECTROMAGNETIC LEVITATION
11:30–11:50 O18	Lucas Tosin Paese ASSESSMENT ON THE Li-Ni-Mn-Co-O SYSTEM AND APPLICATIONS ON LITHIUM-ION BATTERIES LAYERED CATHODES
11:50–12:10 O19	Magda Pęska CAST AND MECHANICALLY ALLOYED MAGNESIUM – NOBLE METALS ALLOYS AND THEIR HYDROGEN STORAGE PROPERTIES
12:10–12:30 O20	George Kaptay THE PARALLEL TANGENT METHOD CORRECTED
12:30–14:30	<i>Lunch</i>
15:50–19:00	Guided tour of Krakow's Old Town (meeting point: in front of Novotel Kraków City West Hotel)
19:00–22:00	Conference dinner (Szara Kazimierz Restaurant, 39 Szeroka Street, Kraków)

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Thursday, 15 September 2022

Session 6

Chair: Marcela Trybula

- 9:00–9:40
O21 Reza Darvishi Kamachali
CALPHAD INTEGRATED DENSITY-BASED PHASE DIAGRAM AND OPENING
POSSIBILITIES FOR GRAIN BOUNDARY ENGINEERING (*invited talk, on-line*)
- 9:40–10:00
O22 Theresa Davey
MIGRATION OF ALLOYING ELEMENTS AND FORMATION OF INTERMETALLIC
PHASES BETWEEN CHROMIUM-BASED AND ZIRCONIUM-BASED ALLOYS (*on-line*)
- 10:00–10:20
O23 Neelamgan Esakkiraja
DIFFUSION AND GROWTH OF β -Ni(PtPd)Al BOND COAT ON NI-BASED
SUPERALLOY
- 10:20–10:40
O24 Shipeng Huang
DIFFUSION AND ATOMIC MOBILITY FOR FCC Ni-Si-Ti ALLOYS (*on-line*)
- 10:40–11:10
Coffee break

Session 7

Chair: Klaus Richter

- 11:10–11:30
O25 Mohan Muralikrishna Garlapati
COMPREHENSIVE UNDERSTANDING OF DIFFUSION IN THE TERNARY
CuFeNi SYSTEM: EXPERIMENTS AND THEORY
- 11:30–11:50
O26 Yuheng Liu
PHASE-FIELD SIMULATION OF ANTIPHASE DOMAIN GROWTH FOR D03
ORDERED Fe₃Al ALLOY (*on-line*)
- 11:50–12:10
O27 Mariia Ilatovskaia
DEVELOPMENT OF ALUMINA-BASED THERMODYNAMIC DATABASE FOR
AL MELT FILTRATION
- 12:10–12:30
O28 Fengyang Gao
THERMODYNAMIC MODELLING OF THE Al₂O₃-CaO-FeOx SYSTEM (*on-line*)
- 12:30–14:30
Lunch

Session 8

Chair: Frank Stein

- 14:30–14:50
O29 Manuel Loeffler
PHASE EQUILIBRIUM INVESTIGATIONS AND THERMODYNAMIC MODELLING
OF THE ZrO₂-Ta₂O₅ SYSTEM
- 14:50–15:10
O30 Sabina Kovariková Oweis
MODELLING OF TAU PHASES IN THE Al-Cu-Zn SYSTEM (*on-line*)
- 15:10–15:30
O31 Joonho Lee
THERMODYNAMIC INVESTIGATION OF VANADIUM OXIDES IN CAO-SIO2-VOX
SYSTEM EQUILIBRIATED WITH Pt-V ALLOYS AT 1873 K
- 15:30–16:10
O32 Dongwon Shin
FIRST-PRINCIPLES THERMODYNAMICS OF ALUMINUM ALLOYS (*invited
talk, on-line*)

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16:10–16:40 *Coffee break*

Session 9

Chair: Joonho Lee

- 16:40–17:00
O33 Frank Stein
DESTABILIZATION OF THE ω_0 PHASE OF THE Ti-Al-Nb SYSTEM BY Mo AND W ADDITIONS
- 17:00–17:20
O34 Paul Lafaye
CRYSTAL CHEMISTRY AND THERMODYNAMIC MODELLING OF THE $Al_{13}(Fe, TM)_4$ SOLID SOLUTIONS (TM = Co, Cr, Mn, Ni, Pt, V)
- 17:20–17:40
O35 Arkadiusz Zydek
OXIDATION OF ALUMINUM-MAGNESIUM SURFACE BY REACTIVE MOLECULAR DYNAMICS STUDY
- 17:40–18:00
O36 Piotr Palimąka
THERMODYNAMIC AND PRACTICAL ASPECTS OF CARBON CAPTURE IN MOLTEN SALTS (CCMS) TECHNOLOGY

Friday, 16 September 2022

Session 10

Chair: Andreas Leineweber

- 9:00–9:20
O37 Marko Vogric
CHARACTERIZATION AND MODELING OF THE CHEMICAL COMPOSITION OF GROWING GRAIN BOUNDARY CEMENTITE IN HYPEREUTECTOID STEELS
- 9:20–9:40
O38 Annie Antoni-Zdziobek
EXPERIMENTAL INVESTIGATION OF SOLID-LIQUID EQUILIBRIA IN THE Fe-B BINARY SYSTEM FOR LOW BORON CONTENTS
- 9:40–10:00
O39 Fayssal Oudich
THE THERMODYNAMIC MODEL OF THE TERNARY Fe-Mn-Si AND ITS IMPACT ON THE QUATERNARY Fe-Mn-Si-C FOR PREDICTION OF PHASE EQUILIBRIA IN NEW STEEL GRADES OF THIRD GENERATION
- 10:00–10:20
O40 Aurelie Jacob
THERMODYNAMIC MODELLING OF STEEL RECYCLING
- 10:20–10:40
O41 Vladyslav Turlo
ACCESSING VACANCY SEGREGATION AT HETEROGENEOUS INTERFACES IN METAL/METAL AND METAL/CERAMIC NANO-MULTILAYERS
- 10:40–11:10 *Coffee break*

Session 11

Chair: Annie Antoni-Zdziobek

- 11:10–11:30
O42 Mehdi Nourazar
"A JOURNEY TO THE CENTER OF A VACANCY" FREE ENERGIES OF METAL VACANCIES IN CUBIC CARBIDES
- 11:30–11:50
O43 Klaus Richter
VANADIUM-BASED MISFIT LAYER COMPOUNDS: SYNTHESIS, CHARACTERISATION AND PHASE EQUILIBRIA

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11:50–12:10	Fabio Miani
O44	CAN WE IMPROVE OUR CURRENT VIEW OF THE IRON CARBON PHASE DIAGRAM?
12:10–12:30	Closing remarks
12:30–14:30	Lunch

Tuesday, 13 September 2022

16:30–19:00 Poster session

- P1 Klaus Richter
THE PHASE DIAGRAMS Mn-Rh AND Bi-Mn-Rh
- P2 Dragan Manasijević
STUDY OF THERMAL PROPERTIES AND MICROSTRUCTURE OF THE Ag–Ge ALLOYS
- P3 Ljubisa Balanović
THERMAL TRANSPORT PROPERTIES AND MICROSTRUCTURE OF THE SOLID Bi-Cu ALLOYS
- P4 Ha Eun Kim
IN-SITU OBSERVATION OF PHASE TRANSITION OF SILICO-FERRITE OF CALCIUM AND ALUMINUM BY HYDROGEN REDUCTION
- P5 Adam Dębski
CALORIMETRIC STUDIES OF THE Mg-Pt SYSTEM
- P6 Danilo Alencar De Abreu
EXPERIMENTAL INVESTIGATION AND THERMODYNAMIC MODELING OF THE Li₂O-Al₂O₃ SYSTEM
- P7 Viera Homolova
AN UPDATED THERMODYNAMIC DESCRIPTION OF THE B-Fe-V SYSTEM WITH FOCUS ON TERNARY PHASE
- P8 Marian Drienovsky
MICROSTRUCTURE EVOLUTION IN Ga-Co-Cr-Ni-Fe SERIES OF MULTIPRINCIPAL ELEMENT ALLOYS
- P9 Marian Drienovsky
MICROSTRUCTURE AND THERMAL PROPERTIES OF Sn-Ag-Cu-Bi LEAD-FREE SOLDER ALLOYS
- P10 Lukas Fischer
SEMI-LIQUID METAL ANODES FOR Li-ION BATTERIES: CONSTITUTION AND THERMODYNAMICS OF THE SYSTEMS Li-Zn AND Li-Sn-Zn
- P11 Fabrizio Valenza
ZIRCONIA-HEA JOINTS FOR BIOMEDICAL APPLICATIONS: THE ROLE OF Ag-BASED FILLERS ON INTERFACIAL REACTIVITY
- P12 Guido Kreiner
PECULIARITIES OF THE Fe-Ga SYSTEM
- P13 Ivona Černičková
HIGH-TEMPERATURE PARTIAL ISOTHERMAL SECTIONS OF Al-Pd-Co PHASE DIAGRAM
- P14 Libor Ďuriška
DESCRIPTION OF THERMODYNAMIC PROPERTIES OF SAC + X (X = Bi, Ga, Ni) SOLDER JOINTS
- P15 Marcela E. Trybula
BEHAVIOUR OF METAL/LIQUID INTERFACES WITHIN ATOMISTIC SIMULATIONS
- P16 Kamila Limanówka
EFFECT OF Er AND Zr MICRO-ALLOYING ELEMENTS ON THE STRENGTHENING OF Al-Mg ALLOYS WITH HIGH CONTENT OF Mg AFTER THERMO-MECHANICAL PROCESSING

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- P17 Yuheng Liu
SPINODAL DECOMPOSITION OF Fe-Co-Cr ALLOY AFTER ULTRA-RAPID COOLING IN POWDER BED FUSION ADDITIVE MANUFACTURING: A PHASE-FIELD STUDY
- P18 Klaudia Walaszczyk
ANALYSIS OF THE TEMPERATURE DISTRIBUTION ON THE SURFACE OF RECTANGULAR CONTINUOUS INGOTS
- P19 Pedro P. Ferreira
GENERALIZED QUASICHEMICAL THEORY APPLIED TO GAPLESS SYSTEMS
- P20 Joonbum Park
KINETICS OF SILICON CARBIDE DISSOLUTION IN MOLTEN IRON
- P21 Rada Novakovic
ROM BULK TO SIZE-DEPENDENT MELTING PROPERTIES OF Ag-Au NANOALLOYS
- P22 Simona Delsante
NANOTECHNOLOGY IN BIOMEDICAL APPLICATIONS: Ag/TiAlV LONG-TERM STABLE NANOSTRUCTURED INTERFACES FOR DENTAL IMPLANTS
- P23 Alexander Westbye
CORROSION IN SELECTED CERAMICS AND NICKEL ALLOYS EXPOSED TO A EUTECTIC CaCl₂-CaF₂ MOLTEN SALT WITH CaO AT ELEVATED TEMPERATURE
- P24 George Kaptay
MELTING OF NANO-CRYSTALS TAKING INTO ACCOUNT SURFACE MELTING
- P25 Viera Homolova
EXPERIMENTAL STUDY OF PHASE COMPOSITION OF IRIIDIUM ALLOYS
- P26 Seung-Hyeok Shin
DEVELOPMENT OF SEISMIC RESISTANT HIGH-STRENGTH LOW-CARBON DUAL-PHASE STEEL PLATE WITH GOOD LOW-TEMPERATURE TOUGHNESS
- P27 Sang-Gyu Kim
EFFECT OF Si CONTENT ON HYDROGEN EMBRITTEMENT OF TEMPERED MARTENSITIC STEELS
- P28 Tilen Balaško
INFLUENCE OF CARBIDE TYPES ON THE HIGH-TEMPERATURE OXIDATION KINETICS OF HOT-WORK TOOL STEELS
- P29 Stephanie Lippmann
TEMPERATURE GRADIENTS FOR DATA MINING
- P30 Ilona Jastrzębska
FACTSAGE EQUILIBRIA SIMULATIONS AS A TOOL TO ENVISAGE CORROSION OF REFRACTORY MATERIALS FOR THE COPPER INDUSTRY
- P31 Ilona Jastrzębska
HOW FACTSAGE SOFTWARE CAN FACILITATE WORK IN REFRACTORY MATERIALS SCIENCE