20. Tagung Festkörperanalytik

20th Conference on Solid State Analysis

Vienna, July 1 – 3, 2019

Organizers:

Institut für Chemische Technologien und Analytik der TU Wien
Österreichische Gesellschaft für Analytische Chemie (ASAC) in der GÖCh

Supporting Organizations:

Institut für Physik & Institut für Chemie der TU Chemnitz
Chemikerausschuss des Vereins Deutscher Eisenhüttenleute
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GDMB Gesellschaft der Metallurgen und Bergleute e.V.
Deutscher Verband für Materialforschung und -prüfung e.V.
Deutsche Vakuumgesellschaft e.V. (DVG)
Fachverband Kristalline Festkörper und deren Mikrostruktur der DPG

PROGRAM

Venue: **Vienna University of Technology**
Wiedner Hauptstraße 8-10
A-1040 Vienna

Office hours and registration:
Sunday, June 30, 2019, 16.00 – 20.00 h
Monday, July 1 to Wednesday, July 3, 2019, 8.30 – 18.00 h


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PROGRAM

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Concept of the Conference

The FKA conference is held biannually alternating between Vienna and Chemnitz. It has a very strong interdisciplinary character with the focus on scientific exchange between analytical-methodological developments and scientific-technological problem solving covering all fields of research on solids by invited and contributed lectures as well as poster presentations. This broad range of topics combined with the intimate character of the conference has made FKA very unique and appreciated in the scientific community for many decades in Germany, Austria and Switzerland, but also among participants from neighboring countries. In order to meet numerous requests in the past and in order to facilitate participation for non-German speaking scientists, this year, being the 20th jubilee of the conference, all presentations will be given in English. Nonetheless we will keep the unique interdisciplinary and intimate character of the conference, but making it more accessible to everybody who is interested to experience that unique and inspiring atmosphere.

NEW ! – Hands-On Workshops

This year a TOF-SIMS workshop both with lectures and hands-on experience will be offered. The workshop will be held on **Sunday, June 30, 2019, 13 – 17 h** prior to the reception with registration for the conference. Participation is included in the conference fee.

Company Exhibition

Manufacturers of analytical instruments will present their newest developments during the whole period of the conference.

Topics

The conference covers all topics related to characterization of solids and their behavior, including both basic research and technological applications.

- **Elemental and compound analysis:** micro- and nano-analysis, surface and interface analysis, trace analysis
- **Structural analysis**
- **Chemical reactions in solids and on solid surfaces**
- **Dynamic behavior of solids:**
  transport phenomena, diffusion, segregation
- **Application to material science:** metals, semiconductors, ceramics, glasses, polymers, composites, nano-structured materials, biomaterials, functional layer systems (micro/nano-electronics, opto-electronics, photonics, adhesive- and anti-adhesive layers, self-assembled layers)
- **Theoretical and chemometrical aspects**
- **Quality assurance**
- **New instruments & methods**

NEW ! – Special Focus

For each edition of the FKA conference we would like to solicite contributions on highly relevant current research topics. In 2019 this focus will be put on **"New Surfaces and Functional Layers – Functionalizing and Analyzing"**. All contributions related to this topic ranging from theory to experiments covering fundamental and application-related aspects are particularly welcomed, and will be matched by the program committee with the other topics of the conference and the whole program.

Invited Lectures

Markus BRANDSTETTER, RECENDT Research Center for Non-Destructive Testing GmbH, Linz, Austria
Non-destructive chemical imaging of materials utilizing mid-infrared spectroscopy

Claus DANZER, University of Jena, Germany
First Conference on Solid State Analysis - Pros and Cons in Organizing a Conference in GDR 1975
(Lecture dedicated to the 20th jubilee of the conference)

Manfred GRASSERBAUER, TU Wien, Austria
Memories are made of this: Scientific relations in the times of the Cold War
(Lecture dedicated to the 20th jubilee of the conference)

Juliana MARTINS, Martin Luther University Halle, Germany
Nanotomographic X-ray imaging for materials science

Frank MÜCKLICH, Saarland University, Saarbrücken, Germany
New surfaces by tailored microtopography - fast, precise and efficient through Direct Laser Interference Patterning (DLIP)

A. Gareth S. PARKINSON, TU Wien, Austria
Single-Atom Catalysis: An Atomic-Scale View

Michael RHODE, BAM – Bundesanstalt für Materialforschung und –prüfung, Berlin, Germany
Hydrogen in weld joints - an underestimated risk ? - Utilization potential of gas analytics versus safety of welded components

Marietta SEIFERT, IFW Leibniz Institute for Solid State and Materials Research, Dresden, Germany
Characterization of Advanced Material Systems for High Temperature Sensor Devices

Julia STÄHLER, Fritz Haber Institute, Berlin, Germany
Taming ZnO: Following the many pathways of optical excitations in a recalcitrant material from femto- to microseconds

Christof WÖLL, KIT – Karlsruhe Institute of Technology, Germany
Multifunctional, Crystalline Designer Solids via Layer-by-Layer Assembly of Molecular Building Blocks: Principles, Prospects, and Applications of SURMOFs

Scientific Committee

G. Friedbacher, Wien (Chair)
C. Tegenkamp, Chemnitz (Co-Chair)
D. Bleiner, Dübendorf
J. Broekaert, Hamburg
R. Denecke, Leipzig
H.-J. Engelmann, Dresden
M. Fröba, Hamburg
T. Gemming, Dresden
W. A. Goedel, Chemnitz
M. Hietschold, Chemnitz
R. Holze, Chemnitz
H. Hutter, Wien
M. Kopnarski, Kaiserslautern
H. S. Leipner, Halle
J. Mayer, Aachen
F. Mücklich, Saarbrücken
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K. Wetzig, Dresden
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Ch. Ziegler, Kaiserslautern

Organization

Prof. Dr. Gernot Friedbacher
Ing. Elisabeth Eitenberger (conference office and exhibition)
Anna Satzinger (office)
Sarah Maschler (conference office)
Institut für Chemische Technologien und Analytik
Technische Universität Wien
Getreidemarkt 9/164-IAC, A-1060 Wien

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Registration for conference, welcome reception and „Heurigenabend" (dinner in traditional Viennese wine tavern) with enclosed form (also available on *http://fka20.at* (please send by e-mail)).

Accommodation

Sandrina Sinko / Miriam Aichberger
Verkehrsbüro Business Travel GmbH
Lasallestraße 3, A-1020 Wien
Phone: +43 1 58800 517 or 511
Fax: +43 1 58800 520
E-mail: fka20@vb-mice.at
Homepage: www.vb-mice.at

Rooms can be reserved online (*http://fka20.at*). In case the quota for the conference is exceeded, rooms can be booked via *www.booking.com/city/at/vienna*.

Any questions regarding accommodation or cultural program in Vienna should be **directly addressed to Verkehrsbüro Business Travel GmbH (see above)**.

Acknowledgements

The organizers would like to thank Verkehrsbüro Business Travel GmbH as well as all exhibitors and sponsors for financial support of the conference.

Exhibitors and Sponsors

		
		
		
		
		

PROGRAM

Monday, July 1, 2019

8.30	Registration
9.00	Opening & Welcome
9.15 *Inv1*	**F. Mücklich**, Institute for Functional Materials, Saarland University, Saarbrücken, Germany, ***New surfaces by tailored microtopography - fast, precise and efficient through Direct Laser Interference Patterning (DLIP)***
9.50 *Inv2*	**C. Wöll**, Institute of Functional Interfaces (IFG), Karlsruhe Institute of Technology (KIT), Germany, ***Multifunctional, Crystalline Designer Solids via Layer-by-Layer Assembly of Molecular Building Blocks: Principles, Prospects, and Applications of SURMOFs***
10.25	PRESENTATIONS OF EXHIBITORS
10.40	EXHIBITION, COFFEE
11.00 *L1*	B. Mietner, Y. J. Lee, F. J. Brieler, U. Sazama, S. König, **M. Fröba**, University of Hamburg & The Hamburg Centre for Ultrafast Imaging, Germany, ***Phase behavior of confined water in nanoporous organosilica hybrid materials with a periodically modulated surface polarity***
11.20 *L2*	**M. Kehrer**, J. Duchoslav, T. Stehrer, D. Stifter, Johannes Kepler University Linz & Fronius International GmbH, Thalheim bei Wels & Competence Center for Electrochemical Surface Technology, Wiener Neustadt, Austria, ***Surface Analytical Study of Polymers Functionalized with a Novel Cold Atmospheric Pressure Plasma Jet***

11.40 *L3*	**J. Buchsbaum**, C. Militzer, W. A. Goedel, TU Chemnitz, Germany, ***Characterization of Titanium Phosphate Deposited with Atomic Layer Deposition from Titanium Tetrachloride and Triethyl Phosphate***
12.00 *L4*	**P. Dill**, F. Pachel, W. A. Goedel, TU Chemnitz, Germany, ***Multilayers on reinforcement fiber fabrics with ALD***
12.20 *L5*	M. Ravankhah, H. Bettermann, **M. Getzlaff**, University of Düsseldorf, Germany, ***Melting processes of deposited 3d metal alloy nanoparticles***
12.40	LUNCH BREAK
14.00 *Inv3*	**C. Danzer**, University of Jena, Germany, ***First Conference on Solid State Analysis - Pros and Cons in Organizing a Conference in GDR 1975*** *(Lecture dedicated to the 20th jubilee of the conference)*
Inv4	**M. Grasserbauer**, TU Wien, Austria, ***Memories are made of this: Scientific relations in the times of the Cold War*** *(Lecture dedicated to the 20th jubilee of the conference)*
14.45	PRESENTATIONS OF EXHIBITORS
15.10	POSTER SESSION, EXHIBITION, COFFEE
16.30 *L6*	**S. Kayser**, A. Pirkl, J. Zakel, A. Franquet, V. Spampinato, IONTOF Gmbh, Germany & MCA, IMEC, Belgium, ***Hybrid SIMS: New possibilities for advanced semiconductor structure analysis with Self-Focusing SIMS***

16.50 *L7* — B. Bruckner, M. Moro, D. Primetzhofer, **P. Bauer**, Uppsala University, Sweden & Johannes Kepler University Linz, Austria, ***How quantitative is thin film analysis by RBS?***

17.10 *L8* — **D. Primetzhofer**, Uppsala University, Sweden, ***A comprehensive approach in ex- and in-situ materials characterization using ion beams: The National Accelerator Research Infrastructure at Uppsala University***

17.30 *L9* — **V. Takáts**, E. Bodnár, T. Fodor, M. Soha, J. Hakl, K. Vad, Hungarian Academy of Sciences, Debrecen, Hungary, ***Investigation of diffusion on atomic scale by low energy ion scattering spectroscopy***

17.50 *L10* — **L. Volgger**, P. Frank, P. Imrich, H. Hutter, TU Wien & Infineon Technologies Austria AG, Villach, Austria, ***Methane Flooding for Enhanced Nitrogen Detection with ToF-SIMS***

18.10 — END

Tuesday, July 2, 2019

8.30 *Inv5*	**J. Martins**, Martin Luther University Halle, Germany, ***Nanotomographic X-ray imaging for materials science***
9.05 *Inv6*	**M. Seifert**, IFW Leibniz Institute for Solid State and Materials Research, Dresden, Germany, ***Characterization of Advanced Material Systems for High Temperature Sensor Devices***
9.40 *L11*	**D. Bleiner**, L. Juha, C. Menoni, J. Rocca, Swiss Federal Laboratories for Materials & Technology (EMPA), Dübendorf, Switzerland & University of Zurich, Switzerland & Czech Academy of Sciences, Czech Republic & Colorado State University, Fort Collins, USA, ***Microanalysis with Tabletop Soft X-ray Lasers***
10.00 *L12*	**J. Brenner**, J. Prost, K. Hradil, S. Budnyk, AC2T research GmbH & TU Wien, Austria, ***Strategy for the establishment of a high capacity X-ray source in Austria for the use in materials science***
10.20 *L13*	**S. Schulze**, M. Gruschwitz, H. Schletter, C. Tegenkamp, TU Chemnitz, Germany, ***Analysing the subsurface structure of epitaxial graphene grown by sublimation on SiC(0001) using EELS and EDX in the High Resolution Scanning Transmission Electron Microscope***
10.40 *L14*	**M. Sütel**, W.-D. Müller, T. Zimmermann, A. Schwitalla, Charité Universitätsmedizin, Berlin, Germany, ***C-reinforced PEEK as particle carrier for EDX analysis of solid samples***
11.00	PRESENTATIONS OF EXHIBITORS
11.15	EXHIBITION, COFFEE

11.35 *L15*	P. Frank, S. Hummel, J. Sattelkov, R. Winkler, S. Andany, G. E. Fantner, H. Plank, **C. H. Schwalb**, GETec Microscopy GmbH, Wien, Austria & Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland & TU Graz, Austria, ***In-Situ Correlative AFM/SEM/FIB analysis of FIB-treated samples***
11.55 *L16*	**A. Brodyanski**, M. W. Klein, R. Merz, M. Smaga, T. Beck, M. Kopnarski, Institute of Surface and Thin Film Analytics, IFOS, Kaiserslautern & TU Kaiserslautern, Germany, ***Material response to severe tribological loading: comparative studies of case-hardened 16MnCr5 steel and high manganese HSD 600 TRIP steel***
12.15 *L17*	**R. Haubner**, J. Zbiral, A. Bleier, H. Hutter, K. Wieland, B. Lendl, M. Sauer, A. Foelske, TU Wien, Austria, ***Investigation of "milk spots" on silver coins***
12.35	LUNCH BREAK
14.00 *Inv7*	**M. Rhode**, BAM – Bundesanstalt für Materialforschung und –prüfung, Berlin, Germany, ***Hydrogen in weld joints - an underestimated risk ? - Utilization potential of gas analytics versus safety of welded components***
14.35	PRESENTATIONS OF EXHIBITORS
15.00	POSTER SESSION, EXHIBITION, COFFEE
16.20 *L18*	**H. Paulus**, J. Flock, T. Lostak, K.-H. Müller, E. Pappert, M. Schülke, Fachhochschule Südwestfalen & thyssenkrupp Steel Europe AG, Duisburg, Germany, ***Hydrogen Analysis on Steels by Thermal Desorption Analysis TDA***

16.40 *L19* **C. Commenda**, voestalpine Steel GmbH, Linz, Austria, ***The Correlative Microstructure Analysis of Advanced High Strength Steels***

17.00 *L20* **J. Duchoslav**, Johannes Kepler Universität Linz, Austria, ***Structural and chemical changes of ZnMgAl coating surfaces induced by atmospheric pressure plasma***

17.20 *L21* **M. Arndt**, W. Gaderbauer, J. Duchoslav, N. Klingner, H. Groiß, D. Stifter, voestalpine Stahl GmbH, Linz, Austria & Johannes Kepler Universität Linz, Austria & Institut für Ionenstrahlphysik und Materialforschung, Ionenstrahlzentrum, Dresden, Germany, ***Analysis of the oxide formation on press hardening steel with zinc coating***

17.40 *L22* **D. Leidlmair**, T. Greunz, J. Duchoslav, B. Strauß, D. Stifter, Johannes Kepler Universität Linz & CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Wiener Neustadt & voestalpine Stahl GmbH, Linz, Austria, ***Elemental and chemical depth profiling of organic coatings on steel with XPS***

18.00 END

Wednesday, July 3, 2019

8.30 *Inv8*	**A. G. S. Parkinson**, TU Wien, Austria, ***Single-Atom Catalysis: An Atomic-Scale View***
9.05 *Inv9*	**M. Brandstetter**, RECENDT Research Center for Non-Destructive Testing GmbH, Linz, Austria, ***Non-destructive chemical imaging of materials utilizing mid-infrared spectroscopy***
9.40 *L23*	**B. Lendl**, B. Baumgartner, J. Hayden, G. Haselmann, J. Loizillon, D. Gross, D. Eder, TU Wien, Austria, ***Porous Metal Oxides combined with IR Spectroscopy: Trace Analysis, Adsorption Processes and Catalytic Reaction Monitoring***
10.00 *L24*	S. Trautner, N. Huber, W. Spendelhofer, J. Lackner, **J. D. Pedarnig**, Johannes Kepler University Linz & KRAIBURG Austria GmbH & Co. KG, Geretsberg, Austria, ***Application of Laser-induced breakdown spectroscopy (LIBS) to the analysis of tyre rubber material from industrial production***
10.20 *L25*	D. Vogt, T. Vogt, **C. Vogt**, TU Freiberg, Germany, ***Speciation of light elements in energy raw materials by ETV-ICP-OES***
10.40	EXHIBITION, COFFEE
11.00 *L26*	**C. Schwarzinger**, Johannes Kepler Universität Linz, Austria, ***Application of LA-ICP-MS in Gemmology***
11.20 *L27*	**W.-D. Müller**, A. Drews, B. Pein, C. Schöpf, Charité Universitätsmedizin, Berlin, Germany, ***Corrosion stability of dental alloys assessed by combination of electrochemical and ICP-MS measurement***

11.40 *L28* **S. Wagner**, C. Roschitz, J. Santner, J. Irrgeher, M. Puschenreiter, T. Prohaska, Montanuniversität Leoben & University of Natural Resources and Life Sciences, Vienna (BOKU), Austria, ***The potential of passive solute imaging techniques to study the spatio-temporal degradation of metals on the example of magnesium***

12.00 *L29* **M. Weiss**, H. Riedl, P. H. Mayrhofer, J. Fleig, A. Limbeck, TU Wien, Austria, ***Laser based elemental analysis of multilayer systems***

12.20 LUNCH BREAK

13.30 *Inv10* **J. Stähler**, Fritz Haber Institute, Berlin, Germany, ***Taming ZnO: Following the many pathways of optical excitations in a recalcitrant material from femto- to microseconds***

14.05 *L30* **N. Dadivanyan**, G. Nénert, M. A. Carpenter, W. Zhang, P. Shiv Halasyamani, Malvern Panalytical GmbH, Kassel, Germany & Malvern Panalytical B. V., Almelo, Netherlands & University of Cambridge, UK & University of Houston, USA, ***Pure gyrotropic ferroelastic phase transition in $PbSrGe_{1-x}Si_xO_4$ ($x = 0$ and 0.1)***

14.25 *L31* **A. Moros**, M. Ortino, S. Löffler, M. Alekseev, A. Tsapleva, P. Lukyanov, I. M. Abdyukhanov, V. Pantsyrny, B. Bordini, A. Ballarino, S. C. Hopkins, M. Stöger-Pollach, J. Bernardi, M. Eisterer, A. A. Bochvar, TU Wien, Austria & High-Technology Research Institute on Inorganic Materials, Moscow, Russia & CERN, Geneva, Switzerland, ***Investigation of homogeneity in superconducting prototype Nb_3Sn wires: correlating microstructural and superconducting properties***

14.45 *L32* **S. Pfeiffer**, J. Bernardi, M. Stöger-Pollach, T. Baumgartner, M. Ortino, M. Eisterer, M. Sumption, X. Xu, X. Peng, A. Ballarino, S. C. Hopkins, TU Wien, Austria & The Ohio State University, Columbus, USA & Fermi National Accelerator Laboratory, Batavia, USA & Hyper Tech Research Incorporated, Columbus, USA & CERN, Geneva, Switzerland, ***Performance Enhancement of Nb_3Sn Superconductors for Future Particle Accelerators***

15.05 *L33* **S. Löffler**, M. Bugnet, L. Pardini, G. Biddau, N. Gauquelin, S. Lazar, E. Assmann, K. Held, C. Draxl, U. Kaiser, G. A. Botton, P. Schattschneider, TU Wien, Austria & University of Lyon, France & McMaster University, Hamilton, Canada & HU Berlin, Germany & EMAT, Antwerp, Belgium & Thermo Fisher Scientific, Eindhoven, Netherlands & Infineon Technologies Austria AG, Villach, Austria & Ulm University, Germany, ***Real-Space Mapping of Electronic Orbitals***

15.25 EXHIBITION, COFFEE

15.45 *L34* **A. Fian**, N. Schalk, R. Lorenz, C. Mitterer, JOANNEUM RESEARCH Forschungsgesellschaft mbH, Weiz, Austria & Montanuniversität Leoben, Austria & ESTEC - European Space Research and Technology Centre, Noordwijk, Netherlands, ***Chemical Analysis of Refractory Metal Compound Thin Films by Angular Resolved XPS***

16.05 *L35* N. Michler, M. Jablonska, N. Teuscher, U. Hirsch, **A. Heilmann**, Fraunhofer Institute for Mechanics of Materials IMWS, Halle, Germany, ***Surface Analysis of Silver Nanoparticle assemblies on reverse osmosis polymer membranes: Correlation between morphology, optical properties and electrochemical antifouling performance***

16.25 *L36*	**A. Foelske**, M. Sauer, TU Wien, Austria, ***Probing of ionic liquid/solid interfaces over macroscopic distances using X-ray photoelectron spectroscopy***
16.45 *L37*	**J. Willner**, F. Horak, M. Schreiner, A. Limbeck, TU Wien & Academy of Fine Arts Vienna, Austria, ***Characterisation and Classification of Imperial Roman Silver Coinage using Laser Induced Breakdown Spectroscopy***
17.05	FINAL DISCUSSION, CLOSING
17.25	END
	DEPARTURE FOR CONFERENCE DINNER

POSTERS

The best posters will be awarded with money prizes sponsored by

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P1 R. Hesse, **R. Denecke**, University of Leipzig, Germany, ***UNIFIT 2019 – the Improved Spectrum Processing Analysis and Presentation Software for XPS, AES, XAS and RAMAN Spectroscopy***

P2 R. Hesse, **R. Denecke**, University of Leipzig, Germany, ***UNIFIT 2020 – the Improved Spectrum Processing Analysis and Presentation Software for XPS, AES, XAS and RAMAN Spectroscopy***

P3 **O. Selyshchev**, O. Beier, S. Gerullis, B. S. M. Kretzschmar, T. Tölke, A. Pfuch, B. Grünler, T. I. Madeira, D. R. T. Zahn, TU Chemnitz & INNOVENT e.V. Technology Development, Jena, Germany, ***Valence band and core-levels X-ray photoemission spectroscopy study on plasma-induced CVD, combustion CVD, and DC magnetron sputtered TiO_2 thin films***

P4 **I. Milekhin**, O. Beier, S. Gerullis, B. S. M. Kretzschmar, T. Tölke, A. Pfuch, B. Grünler, T. I. Madeira, D. R. T. Zahn, TU Chemnitz & INNOVENT e.V. Technology Development, Jena, Germany, ***Infrared vibrational spectroscopy study of TiO_2 thin films deposited by plasma-induced, combustion chemical vapour deposition and magnetron sputtering***

P5 **M. Gruschwitz**, H. Schletter, S. Schulze, I. Alexandrou, R. Egoavil, C. Tegenkamp, TU Chemnitz, Germany & ThermoFisher Scientific, Eindhoven, Netherlands, ***The microscopic structure of ballistic graphene nanoribbons***

P6 **A. Lumetzberger**, A. P. Hinterreiter, J. Duchoslav, C. Unterweger, S. Breitenbach, C. Fürst, D. Stifter, Johannes Kepler University Linz & Wood K plus – Kompetenzzentrum Holz GmbH, Linz, Austria, ***Raman and AFM investigations of cellulose based carbon fibers***

P7 **M. Heckert**, S. Enghardt, M. Liebschner, J. Bauch, TU Dresden, Germany, ***Multi energy X-ray computed tomography***

P8 **A. Bergner**, B. Stripe, X. Yang, S. Seshadri, R. Qiao, J. Gelb, D. Want, S. Lewis, W. Yun, LOT-QuantumDesign GmbH, Darmstadt & Sigray, Inc., Concord, USA, ***Bridging the performance gap between lab based X-ray techniques with synchrotron beamlines: chemical, valence state & structural imaging***

P9 **C. Gottschalk**, S. Praetz, W. Malzer, B. Kanngießer, C. Vogt, TU Freiberg & Institute of Optics and Atomic Physics, Berlin, Germany, ***Characterization and speciation of cerium reference materials for XANES-spectroscopy on a laboratory setup***

P10 D. A. Motz, **C. Gottschalk**, J. Henniges, C. Schlesiger, S. Praetz, W. Malzer, B. Kanngießer, C. Vogt, Leibniz University Hannover & TU Berlin & Institute of Optics and Atomic Physics, Berlin & TU Freiberg, Germany, ***Development of reference materials for X-ray near edge spectroscopy at a laboratory setup***

P11 **H. Paulus**, J. Flock, T. Lostak, K.-H. Müller, E. Pappert, M. Schülke, Fachhochschule Südwestfalen, Soest & thyssenkrupp Steel Europe AG, Duisburg, Germany, ***TDMS and CGHE Investigations on Steel Samples for the Characterization of Hydrogen***

P12 **S. Strobl**, R. Haubner, TU Wien, Austria, ***Carbon diffusion in the ductile cast iron / iron couple produced by Damascus technique***

P13 Witold Precht, **Czesław Krewski**, TU Koszalin, Poland, ***Friction free, hard and super-hard carbon-based coating for industrial application***

P14 **M. Weiss**, D. Wipp E. Povoden-Karadeniz, A. Limbeck, TU Wien, Austria, ***LA-ICP-MS depth profiling of micro-alloyed steels***

P15 **C. Herzig**, J. Franck, A. K. Opitz, J. Fleig, A. Limbeck, TU Wien, Austria, ***Application of online-laser ablation of solids in liquid (LASIL) for analytical characterisation of complex metal oxide (CMO) thin films***

P16 **S. Grünberger**, S. Eschlböck-Fuchs, J. Hofstadler, A. Pissenberger, H. Duchaczek, J. D. Pedarnig, Johannes Kepler University Linz & voestalpine Stahl GmbH, Linz, Austria, ***Chemical imaging and analysis of metals by optical emission spectroscopy methods LIBS and LA-SD-OES***

P17 J. Irrgeher, **D. Bandoniene**, B. Bookhagen, J. Gonzalez, C. Opper, C. Koeberl, U. Pitha, B. Scharf, T. Prohaska, Montanuniversität Leoben, Austria & University of Vienna, Austria & German Federal Institute for Geosciences and Natural Resources (BGR), Berlin, Germany & Applied Spectra, Inc., Fremont, USA & Natural History Museum Vienna, Austria & University of Natural Resources and Life Sciences, Vienna, Austria, ***Technology-critical elements (TCEs): Source characterization and assessment of environmental exposure***

P18 M. Soha, M. Braun, V. Takáts, J. Hakl, T. Fodor, A. Braun, I. Szabo, M. Haslinger, M. Gocyla, J. John, **K. Vad**, Hungarian Academy of Sciences, Debrecen, Hungary & University of Debrecen, Hungary & IMEC, Leuven, Belgium, ***Investigation of ppb-level surface contamination of n-type silicon solar cells***

P19 **K. Varmuza**, P. Filzmoser, M. Hilchenbach , J. Kissel, O. Stenzel, S. Merouane, J. Paquette, K. Hornung, H. Cottin, N. Fray, R. Isnard, C. Engrand, C. Briois, L. Thirkell, P. Modica, Y. Langevin, D. Baklouti, A. Bardyn, S. Siljeström, J. Silén, J. Rynö, H. Lehto, R. Schulz, TU Wien, Austria & Max Planck Institute for Solar System Research, Göttingen, Germany & Universität der Bundeswehr München, Neubiberg, Germany & Université Paris Est Créteil et Université Paris Diderot, Créteil, France & Université Paris Sud, Université Paris-Saclay, Orsay, France & Université d'Orléans et du CNES, Orléans, France & Carnegie Institution of Washington, Washington, USA & Research Institute of Sweden, Stockholm, Sweden & Finnish Meteorological Institute, Helsinki, Finland & University of Turku, Piikkiö, Finland & European Space Agency, Noordwijk, Netherlands, ***Cometary particle surfaces – characterized by chemometric evaluation of secondary ion mass spectra***

P20 **S. Schwarz**, J. Bernardi, M. Stöger-Pollach, S. Löffler, TU Wien, Austria, ***Analytical Transmission electron microscopy for investigations of metals***

P21 **E. Rauchenwald**, M. Lessiak, R. Weissenbacher, J. Zalesak, J. Keckes, S. Schwarz, R. Haubner, TU Wien & Boehlerit GmbH & Co. KG, Kapfenberg & Montanuniversität Leoben & Austrian Academy of Sciences, Leoben, Austria, ***TEM characterisation of chemical vapour deposited AlHfN and AlZrN coatings***

P22 **M. Ostermann**, K. Wieland, B. Lendl, J. Bernardi, R. Haubner, TU Wien, Austria, ***Characterization of nano grained WC powders produced by direct carburization of $WO_2(OH)_2$***

P23 **L. Brunnbauer**, A. Limbeck, TU Wien, Austria, ***Polymer classification in structured samples using laser induced breakdown spectroscopy (LIBS)***

P24 **L. Kronlachner**, C. Herzig, J. Franck, J. Fleig, A. Limbeck, TU Wien, Austria, ***Signal quantification strategies for LA-ICP-MS data***

P25 **J. F. Cappa**, C. Carsote, E. Badea, M. Schreiner, Academy of Fine Arts Vienna, Austria & National Museum of Romanian History, Bucharest, Romania & National Research & Development Institute for Textiles and Leather, Bucharest, Romania & University of Craiova, Romania, ***Influence of environmental changes on the degradation of historical parchment***

P26 **D. Jembrih-Simbürger**, Z. Siketić, N. Marković, I. Bogdanović Radović, Academy of Fine Arts Vienna, Austria & Rudjer Bosković Institute, Zagreb, Croatia & Technical University of Denmark, Roskilde, Denmark, ***MeV-ToF-SIMS: a surface sensitive method for the analysis of modern and contemporary art paints***

P27 **L. Pagnin**, L. Brunnbauer, R. Wiesinger, A. Limbeck, M. Schreiner, Academy of Fine Arts Vienna & TU Wien, Austria, ***Multispectral Investigations as a tool to characterize UV-light Degradation of Modern Art Materials***

SOCIAL PROGRAM

Sunday, June 30, 2019

REGISTRATION WITH WELCOME RECEPTION

16.00 - 20.00 h at the venue

sponsored by

Wednesday, July 3, 2019

HEURIGENABEND (Traditional Viennese Wine Tavern)

Departure: 17.55 h from the venue

sponsored by

Regarding cultural activities in Vienna and tickets please contact Verkehrsbüro Business Travel GmbH (see page 5).

GENERAL INFORMATION

Registration for Conference, Welcome Reception and Heurigenabend with enclosed form (also available at ***http://fka20.at***) until **June 19, 2019** preferably by e-mail to:

Prof. Dr. Gernot Friedbacher,
Institut für Chemische Technologien und Analytik,
TU Wien,
Getreidemarkt 9/164-IAC,
A-1060 Wien
E-mail: gernot.friedbacher@tuwien.ac.at

Conference Fees:

Members of organizing institutions	€ 240,–
All other participants	€ 290,–
Students (with confirmation)	€ 100,–

INVOICE WILL BE MAILED AFTER REGISTRATION

Room Reservation:

Online through the conference website ***http://fka20.at***.

Further information:
Sandrina Sinko / Miriam Aichberger
Verkehrsbüro Business Travel GmbH
Lasallestraße 3, A-1020 Wien
Phone: +43 1 58800 517 or 511
Fax: +43 1 58800 520
E-mail: fka20@vb-mice.at
Homepage: www.vb-mice.at

Poster Presentation

For each poster 2 boards (94 cm wide, 186 cm high) are available. The boards are connected to each other and rest directly on the floor. Thus, the total area of 188 cm x 186 cm should be used in 2 parts considering a minimum margin of appr. 2 cm. Posters are attached with double-sided tape. All posters should remain mounted on the boards throughout the whole conference. Authors should be present at their poster during the poster sessions (see program).

The best posters will be awarded with money prizes sponsored by

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Projection of Lectures

Lectures should be prepared as Powerpoint presentations. All Powerpoint files must be transferred from your USB stick to the Windows Notebook provided in the lecture hall before the session of your presentation.

TOF-SIMS Workshop

The TOF-SIMS workshop will be held on **Sunday, June 30, 2019, 13 – 17 h** prior to the reception with registration for the conference. Participation is included in the conference fee.

Meeting point for the workshop is the venue of the conference, Technische Universität Wien, Wiedner Hauptstraße 8-10, A-1040 Wien at 13 h.

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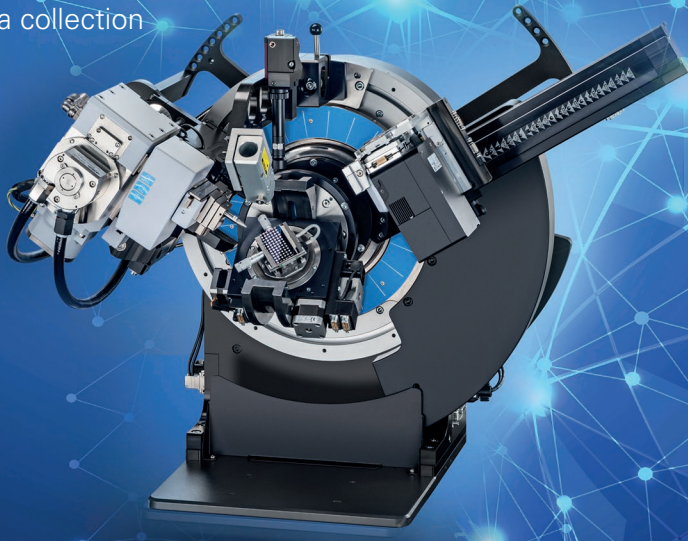

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