

Thursday, 21 February 2019

09:00 Registration

10:00 Welcome Address

G. Sextl, Fraunhofer ISC, Würzburg/D

CHEMISTRY, MATERIALS AND PROCESSES FOR ELECTRONICS

Chairs: P. Kirsch, Merck KGaA, Darmstadt/D; D. Scheschkewitz, Universität Saarland, Saarbrücken/D

10:10 PLENARY LECTURE

Atomic layer deposition: From molecules to solids, structures and devices
J. Bachmann¹; ¹ Universität Erlangen-Nürnberg, Erlangen/D

10:55 Nano-films in microchip metallization – not easy to deal with

D. Mayer¹; A. Klipp¹; A. Fluegel¹; ¹ BASF SE, Ludwigshafen/D

11:25 Coffee Break and Poster Viewing

12:00 High performance Si-based nanopowders for energy storage applications

J. Lyubina¹; B. Frings¹; A. Höfler¹; S. Bade¹; ¹ Evonik Resource Efficiency GmbH, Hanau/D

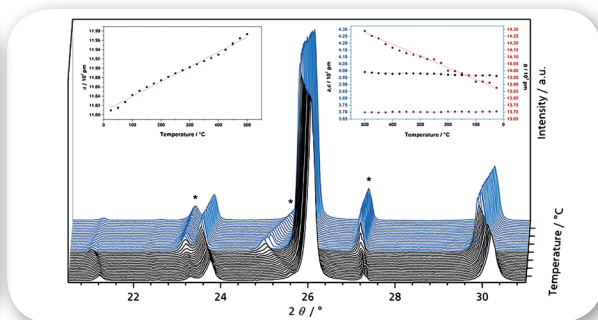
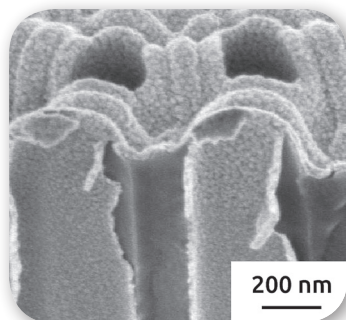
12:30 TANDEM LECTURE

New industrially applicable syntheses to organometallic vapor deposition precursors – an academic/industrial approach

R. Karch¹; J. Sundermeyer²; W. Schorn¹; A. Frey¹; ¹ Umicore AG & Co. KG, Hanau/D; ² Philipps-Universität Marburg/D

13:15 Lunch Break and Poster Viewing

45 min. 30 min. 20 min.

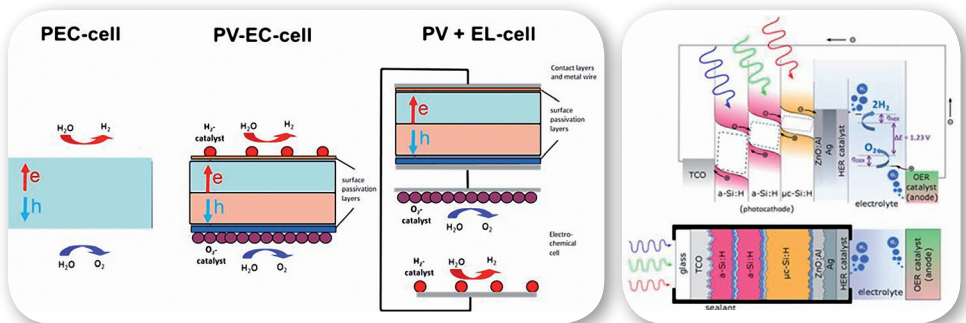


Thursday, 21 February 2019

ADVANCED CHARACTERIZATION METHODS

Chairs: M. Fröba, Universität Hamburg/D

- 14:45
In-situ X-ray powder diffraction investigations during reactions between solid and gas phase
B. Albert¹; J. Steffan¹; L. Totzauer¹; ¹ TU Darmstadt/D
- 15:15
Novel in-situ electron microscopy solutions: capabilities and applications
M. Mosig¹; ¹ Protochips, Morrisville, NC/USA
- 15:45
Emission monitoring during laser remote processing
E. Schade¹; C. Schult¹; G. Mäder¹; M. Wöllner²; A. Klotzbach¹; S. Kaskel²; ¹ Fraunhofer IWS, Dresden/D; ² TU Dresden, Fraunhofer IWS, Dresden/D
- 16:05
Coffee Break and Poster Viewing
- 16:35
Inorganic artificial leaves for photoelectrochemical H₂ production: surface and interface science issues
W. Jägermann¹; ¹ TU Darmstadt/D
- Chair: K. Schierle-Arndt, BASF SE, Ludwigshafen/D*
- 17:05
SPECIAL LECTURE
Brexit – A „How to“-Guide
A. Meister¹; ¹ Verband der Chemischen Industrie e.V., Frankfurt am Main/D
- 17:35
POSTER PARTY
- 20:00
End of the First Day



Picture source: W. Jägermann, TU Darmstadt/D

Friday, 22 February 2019

SUSTAINABLE INORGANIC MATERIALS

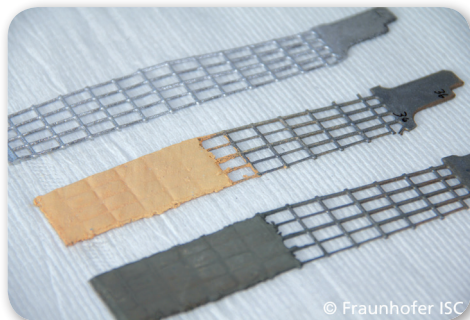
Chairs: S. Kaskel, TU Dresden/D; K. Schierle-Arndt, BASF SE, Ludwigshafen/D

- 09:00 **Advanced functional recycling of high performance rare earth permanent magnets**
O. Gutfleisch^{1,2}; J. Gassmann²; ¹ TU Darmstadt/D; ² Fraunhofer IWKS, Hanau/D
- 09:30 **Closing the loop – why recycling is crucial to secure a sustainable metals supply for clean technologies**
C. Hagelüken¹; ¹ Umicore AG & Co. KG, Hanau/D
- 10:00 **DISPLAY – upscale of material recovery from display applications and printed circuit boards**
S. Grieger¹; K. Bokelmann¹; W. Benner¹; ¹ Fraunhofer IWKS, Alzenau/D
- 10:20 **POSTER AWARDS**
- 10:35 **Coffee Break and Poster Viewing**

SUSTAINABLE INORGANIC MATERIALS

Chairs: S. Kaskel, TU Dresden/D; K. Schierle-Arndt, BASF SE, Ludwigshafen/D

- 11:10 **Syntheses in ball mills – mechanochemical pathways towards inorganic materials**
L. Borhardt¹; ¹ TU Dresden/D
- 11:40 **Lead-acid batteries – dinosaur or energy storage of the future?**
J. Settelein¹; ¹ Fraunhofer Institute for Silicate Research ISC, Würzburg/D
- 12:10 **Closing remarks**
G. Sextl, Fraunhofer ISC, Würzburg/D
- 12:15 **End of the programme**
Possibility to have lunch at DECHEMA at own costs



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POSTER PROGRAMME

- P01 **Tailoring catalytic properties of copper manganese oxide nanoparticles (Hopcalites-2G) via flame spray pyrolysis**
K. Wegner¹; S. Kaskel¹; ¹ TU Dresden/D
-
- P02 **Synthesis and characterization of composite hydrogel Poly (Glycidyl methacrylate-co-methacrylic anhydride) / MCM-41 and application to the absorption of methylene blue**
Z. Cherifi¹; B. Boukoussa¹; R. Meghabar¹; ¹ University of Oran/F
-
- P03 **Fabrication and characterization of platinum interdigitated electrodes using nanoimprint lithography**
L. Galle¹; F. Wisser²; J. Grothe¹; S. Kaskel¹; ¹ TU Dresden/D; ² French National Centre for Scientific Research, Lyon/F
-
- P04 **Nanoimprint lithography of nanoporous carbon precursors for all-solid-state micro-supercapacitors**
S. Lochmann¹; J. Grothe¹; S. Kaskel¹; ¹ TU Dresden/D
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- P05 **Triggering unconventional functional properties of ceramics by sustainable sintering methods**
S. Mascotto¹; B. Kayaalp¹; K. Klauke¹; M. Biesuz²; A. Iannaci²; V. Sglavo²; M. D'Arienzo³; S. Lee⁴; W. Jung⁴; ¹ University of Hamburg/D; ² University of Trento/I; ³ University of Milano Bicocca/I; ⁴ KAIST - Korea Advanced Institute of Science and Technology, Daejeon/ROK
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- P06 **Towards 3D analysis of interconnects: a fs-laser ablation mass spectrometry approach**
A. Cedeño López¹; P. Moreno-García¹; P. Broekmann¹; V. Grimaudo¹; M. Tulej¹; R. Wiesendanger¹; R. Lukmanov¹; P. Wurz¹; A. Riedo²; ¹ University of Bern/CH; ² Leiden University/NL
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- P07 **Reassessing Pauling's Rules**
J. George¹; D. Waroquiers¹; D. Di Stefano¹; G. Rignanesi¹; G. Hautier¹; ¹ Université Catholique de Louvain, Louvain-la-Neuve/B
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- P08 **APPTec – a new generation of spray pyrolysis technology to produce advanced materials**
T. Jähner¹; M. Jacob¹; ¹ Glatt Ingenieurtechnik GmbH, Weimar/D
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- P09 **Porous carbon materials by nanocasting for metal air batteries**
A. Schierz¹; D. Nettelroth¹; T. Heinemeyer¹; P. Behrens¹; ¹ Leibniz Universität Hannover/D
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- P10 **Surface modification of nanoporous titania coatings for dental application**
S. Zailskas¹; P. Abendroth¹; A. Winkel²; M. Stiesch²; P. Behrens¹; ¹ Leibniz Universität Hannover/D; ² Medizinische Hochschule Hannover/D
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- P11 **Metal-organic frameworks as selective sensing materials**
M. Schulz¹; A. Gehl¹; S. Zimmermann¹; A. Schaate¹; ¹ Leibniz Universität Hannover/D

POSTER PROGRAMME

- P12 **Catalytic decomposition of ammonium nitrate over transition metal oxides supported on TiO₂**
M. Liebau¹; W. Suprun¹; R. Gläser¹; ¹ Universität Leipzig/D
-
- P13 **Design of the optimum mix of fly ash based geopolymer using Taguchi method**
G. Moutaoukil¹; S. Alehyen¹; M. Taibl¹; ¹ Ecole normale supérieure, Rabat/MA
-
- P14 **Investigation on the mechanisms of additives in the active material of stationary lead-acid batteries**
P. Wulfert-Holzmann¹; J. Settelein¹; G. Sextl¹; ¹ Fraunhofer ISC, Würzburg/D
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- P15 **Reactions of GeCl₂-dioxane with the Thiolate LiSC(SiMe₃)₃ – from activation of THF to insertion of GeCl₂ molecules into S-C bonds**
T. Kunz¹; C. Schrenk¹; A. Schnepf¹; ¹ Eberhard Karls Universität Tübingen/D
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- P16 **Investigation on the compatibility of LATP and various cathode materials for the application in all-solid-state batteries**
M. Rumpel¹; W. Maier¹; W. Stracke¹; A. Flegler¹; G. Sextl¹; ¹ Fraunhofer Institute for Silicate Research ISC, Würzburg/D
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- P17 **Wet-chemical synthesis of aluminum nanoparticles for the formation of aluminides**
T. Klein¹; G. Kickelbick¹; ¹ Saarland University, Saarbrücken/D
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- P18 **Synthesis of self-healing inorganic-organic nanocomposites by the incorporation of iron oxide nanoparticles in organic polymers**
B. Oberhausen¹; G. Kickelbick¹; ¹ Universität des Saarlandes, Saarbrücken/D
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- P19 **Pseudomorphic transformation for the synthesis of nanoporous titanosilica phases with hierarchical porosity**
P. Funnemann¹; F. Brieler¹; D. Enke²; M. Fröba¹; ¹ Universität Hamburg/D; ² Universität Leipzig/D
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- P20 **Production of iron oxide particles (fine-grained powder) by Pulsation Reactor Technology**
M. Ommer¹; T. Khalil¹; R. Günther¹; T. Rensch¹; ¹ IBU-tec advanced materials AG, Weimar/D
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- P21 **Synthesis and characterization of germanium nanoparticles**
V. Slynchuk¹; A. Schnepf¹; ¹ Eberhard Karls Universität Tübingen/D
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- P22 **Enzyme immobilization within metal organic framework for bioassay applications**
G. Güner^{1,2}; D. Duranoğlu¹; G. Brenner-Weiß²; F. Kirschhöfer²; M. Franzreb²; ¹ Yıldız Technical University (YTÜ), Istanbul/TR; ² Karlsruhe Institute of Technology (KIT)/D