



INTERNATIONAL MATERIALS RESEARCH MEETING IN THE GREATER REGION

*Current trends in the characterization of materials
and surface modification*

6-7 April, 2017



Saarland University, 66123 Saarbrücken

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1. Preface

Dear ladies and gentlemen,

On 6th and 7th of April 2017 took place the "International Materials Research Meeting in the Greater Region" at the Saarland University, Saarbrücken, Germany. This meeting corresponded to the 9th EEIGM International Conference on Advanced Materials Research and it was intended as a meeting place for researchers of the Greater Region as well as their partners of the different cooperation activities, like the EEIGM program, the 'Erasmus Mundus' Advanced Materials Science and Engineering Master program (AMASE), the 'Erasmus Mundus' Doctoral Program in Materials Science and Engineering (DocMASE) and the CREATE-*Network*.

On this meeting, 72 participants from 15 countries and 24 institutions discussed and exchanged ideas on the latest trends in the characterization of materials and surface modifications. Different aspects of the material research of metals, ceramics, polymers and biomaterials were presented. As a conclusion of the meeting, the new astronaut of the European Space Agency Dr. Matthias Maurer, who is an alumni of the Saarland University and the EEIGM, held an exciting presentation about his activities.

Following the publication of selected papers of the 2009 meeting in Volume 5 and 2012 meeting in Volume 31 of this journal, it is a great pleasure to present this selection of 9 articles to the readers of the IOP Conference Series: Materials Science and Engineering. The editors are thankful to all of the reviewers for reviewing the papers. Special praise is also given to the sponsors of the conference: European Commission within the program Erasmus Mundus (AMASE and DocMASE), Erasmus+ (AMASE), and Horizon2020 (CREATE-*Network*, Grant agreement No 644013): the DAAD (Alumni Program), and the German-French University (PhD-Track).

All papers published in this volume of *IOP Conference Series: Materials Science and Engineering* have been peer reviewed through processes administered by the Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.



Frank Mücklich



Dirk Bähre

2. Conference topics

➤ Current trends of materials characterization

- Microscopy
- Diffraction
- Spectroscopy
- Different techniques for characterization of material properties

➤ Surface modification

- Coatings
- Structuring techniques
- Surface functionalities
- Surface properties

3. Organization

Scientific Committee and Editors:

Frank Mücklich, Dirk Bähre, Magnus Odén, Janis Varna, Zoubir Ayadi, Marc Anglada, Jean-Françoise Pierson, David Horwat

Conference Organization:

Flavio Soldera, Nataliya Lyubenova, Nadine Kreutz, Federico Lasserre, Claudia Heß, Adrian Krüger

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Programs:



Sponsors:



4. Conference impressions



5. List of the participants

No	Surname	Name	Institution	Country
1	Acevedo	Diego	Universidad Nacional de Río Cuarto	Argentina
2	Akhtar	Farid	Luleå University of Technology	Sweden
3	Alnjiman	Fahad	University of Lorraine	France
4	Alvi	Sajid	Luleå University of Technology	Sweden
5	Andre	Stephane	University of Lorraine	France
6	Anglada	Marc	Polytechnic University of Catalonia	Spain
7	Aristizabal	Katherine	Saarland University	Germany
8	Arya	Visheet	Saarland University	Germany
9	Ayadi	Zoubir	University of Lorraine	France
10	Bähre	Dirk	Saarland University	Germany
11	Balach	Juan	Universidad Nacional de Río Cuarto	Argentina
12	Barrirero	Jenifer	Saarland University	Germany
13	Barth	Danielle	University of Lorraine	France
14	Borroto Ramirez	Alejandro	University of Lorraine	France
15	Britz	Dominik	Saarland University	Germany
16	Broering Chaar	Ana	Linköping University	Sweden
17	Chen	Yu-Hsiang	Linköping University	Sweden
18	Choquet	Patrick	Luxemburg Institute of Science and Technology	Luxemburg
19	Czerwicz	Thierry	University of Lorraine	France
20	De Melo Sanchez	Claudia	University of Lorraine	France
21	Di Stasio	Luca	University of Lorraine	France
22	El Azhari	Idriss	Saarland University	Germany
23	Fang	Shiqi	Polytechnic University of Catalonia	Spain
24	Forouzan	Farmoosh	Luleå University of Technology	Sweden
25	Funk	Frank	Saarland University	Germany
26	Gachot	Carsten	Technical University of Vienna	Austria
27	Gaddam	Raghuvier	AB Sandvik Materials Technology	Sweden
28	Giba	Alaa	University of Lorraine	France
29	Hauet	Thomas	University of Lorraine	France
30	Hemmer	Eva	University of Ottawa	Canada
31	Horwat	David	University of Lorraine	France
32	Hsu	Chia-Hui	Saarland University	Germany
33	Ismail	Mostafa	University of Oulu	Finland
34	Jamart	Brigitte	University of Lorraine - EEIGM	France
35	Kallel	Ali	University of Sfax	Tunisia
36	Kharkhan	Daria	University of Lorraine	France
37	Kheradmand	Nousha	Norwegian University of Science and Technology	Norway

38	Khurana	Kanupriya	Polytechnic University of Catalonia	Spain
39	Kreutz	Nadine	Saarland University	Germany
40	Krüger	Adrian	Saarland University	Germany
41	Leber	Andreas	Massachusetts Institute of Technology	USA
42	Lee	Juseok	Korea Institut of Science and Technology	South Korea
43	Leibenguth	Peter	Plansee SE	Austria
44	Lennart	Wallstrom	Luleå University of Technology	Sweden
45	Luo	Jiaqi	Saarland University	Germany
46	Lyubenova	Nataliya	Saarland University	Germany
47	Mateo	Antonio	Polytechnic University of Catalonia	Spain
48	Maurer	Matthias	European Space Agency	Germany
49	Mücklich	Frank	Saarland University	Germany
50	Nakamura	Leandro	Saarland University	Germany
51	Neikter	Magnus	Luleå University of Technology	Sweden
52	Nikjoo	Dariush	Luleå University of Technology	Sweden
53	Olguin	Andres	Saarland University	Germany
54	Öztürk	Utkundeniz	Polytechnic University of Catalonia	Spain
55	Pauly	Christoph	Saarland University	Germany
56	Pilloud	David	University of Lorraine	France
57	Pineda Huitron	Rosa Maria	Luleå University of Technology	Sweden
58	Ramos Moore	Esteban	Pontificia Universidad Católica de Chile	Chile
59	Rittgen	Kai	Institute for New Materials	Germany
60	Roa Rovira	Joan	Polytechnic University of Catalonia	Spain
61	Roland	Michael	Saarland University	Germany
62	Sandfield	Anna Lyn	Oregon State University	USA
63	Shing	Shika	Luleå University of Technology	Sweden
64	Soldera	Flavio	Saarland University	Germany
65	Taher	Mamoun	ABB Corporate Research Center and Ångström Laboratory	Sweden
66	Thielen	Mathias	Saarland University	Germany
67	Vitzthum	Valerie	University of Lorraine	France
68	Vuorinen	Esa	Luleå University of Technology	Sweden
69	Wang	Yong	Southwest University of Science and Technology	China
70	Weidner	Maren	Saarland University	Germany
71	Zhang	Hanzhu	Luleå University of Technology	Sweden