MATERIALS CHAIN INFOMAIL

InfoMail 1/2018 April 16, 2018

Dear Materials Chain colleagues,

subsequent to our last members' assembly on March 9, 2018, we would like to thank you all for attending our meeting and for those of you who missed it, we would like to briefly summarize Materials Chain's latest activities and to give you a short overview of what is to come soon for the Materials Chain flagship program.

We closed 2017 with good news from our first joint proposal: The Materials Chain successfully won the ideas competition from the DFG, earning a young scientists funding program. Within the **EXPLORE Materials Chain (EXMAC)** program, 30 junior researchers are enabled to invite international postdocs to their respective campuses for a two-week's stay and promote the Ruhr Area and Germany for further collaborations.

Other achievements are the renewal of research project TRR80: From Electronic Correlations to Functionality, now running until the end of 2021 and the successful application of **9 proposals** (including state and EU funding) with participation of Materials Chain members.

Since our last Infomail in 2017, we had the pleasure to welcome **16 new members** to the Materials Chain initiative. Names and links to their personal websites can be found below in alphabetical order.

The **trend study** initiated to identify major future trends in materials science and the most substantial research topics to come has been concluded. The study identified six topics that match the Materials Chain's strengths in research the best and comments on their adaptability and relevance for society in the future. The six topics are: surfaces and interfaces (incl. nano), nano-2-giga: steel, concrete & cement, circular value creation and resource efficiency, materials science for the production of the future, quantification and prediction in materials design, and materials for novel electronics.
Now it is our turn to **use the study's findings** and to identify in a joint discussion between members and coordination team the Materials Chain's role in the future and to position ourselves.
In case you are interested in a detailed report on the study's findings and procedure, please do not hesitate to contact us via mc@uaruhr.de.

We look forward to a productive and eventful year 2018 for the Materials Chain flagship program with many activities highlighting our strong network and our common research strength! 2018's main event for our initiative will be the **2nd Materials Chain International Conference (MCIC 2018)**, featuring **12 leading invited speakers** (see below for further information, deadlines, etc.) and hopefully all of you! Registration for the conference is now open and you will find the call for abstracts attached to this email.

Best regards,
Your Materials Chain Coordinators
(Ralf Drautz, Axel Lorke, Wolfgang Tillmann)

UPCOMING Events

April 18, 2018
Ladungstransfer, Spintransport und Energiedissipation in Heterostrukturen auf Femtosekunden-Zeitskalen
KOLLOQUIUM, University Duisburg-Essen

April 19, 2018
Synthese von antimikrobiellen Polymer-Antibiotika-Konjugaten und Konjugat-Netzwerken
Talk, TU Dortmund University

April 20, 2018
Materials Design in Practice: Atomistic Simulations in Science and Industry
KOLLOQUIUM, University Duisburg-Essen

More…

Please feel free to download the Materials Chain Logo for usage on your own website.

New members

Ulf-Peter Apfel, Inorganic Chemistry, RUB

Marc-Alexander Aßmann, Experimental Physics, TU Do

Daniel Balzani, Institute of Mechanics, RUB

Roland Böhmer, Experimental Physics, TU Do

Mirko Cinchetti, Experimental Physics, TU Do

Dina Fattakhova-Rohlfing, Institute of Energy and Climate Research, UDE/FZ Jülich

Sulamith Frerich, Institute of Thermo and Fluid Dynamics, RUB

Hamad ul Hassan, ICAMS, RUB

Martin Hoffmann, Microsystem Technology, RUB

Aleksander Kostka, Institute for Materials, RUB

Martina Müller, Experimental Physics, DELTA, TU Do

Axel Rosenhahn, Analytical Chemistry, RUB

Barbara Saccá, Bionanotechnology, UDE

Christina Sengstock, Surgical research, University Clinic Bergmannsheil Bochum

Björn Sothmann, Theoretical Physics, UDE

Napat Vajragupta, ICAMS, RUB

2nd Materials Chain International Conference (MCIC 2018)

Important Deadlines

Abstract Submission:
Until June 30, 2018

Registration:
Until October 26, 2018

The second international conference organized by UA Ruhr's flagship program Materials Chain will take place from **November 12-14, 2018** at **Ruhr-Universität Bochum's Convention Centre**.
The following international guest speakers will present their current research in Materials Science associated with the four core research areas of the Materials Chain:

Functional and Structural Characterization:
Dr Robert Kostecki, Lawrence Berkeley National Laboratory, USA
Professor Michael Moody, University of Oxford, UK
Professor Aaron Stebner, Colorado School of Mines, Golden, USA

Modelling and Simulation:
Professor Esteban Busso, LEM ONERA, Palaiseau, France
Professor Stefano Curtarolo, Duke University, Durham, USA
Professor Olle Eriksson, Uppsala University, Sweden

Processing and Synthesis:
Professor Evelyn Hu, Harvard, Cambridge, USA
Professor Olli Ikkala, Aalto University, Finland
Professor Jeffrey Snyder, Northwestern, Evanston, USA
Professor Ichiro Takeuchi, University of Maryland, College Park, USA

Production Engineering:
Professor Niels Bay, Technical University Denmark, Copenhagen, Denmark
Professor Hans-Jürgen Maier, Leibniz Universität Hannover, Germany

Abstract Submission

As the conference is organized along the four research hubs of the Materials Chain, contributions submitted should be related to the scope of one of them. Presentation formats are **contributed talks or posters**. We will try to comply with the authors' preference, but depending on the number of submissions we may advise some authors to change from contributed talk to poster.

Publication Highlights

Illumination-induced nonequilibrium charge states in self-assembled quantum dots
Valentin, S.R. and Schwinger, J. and Eickelmann, P. and Labud, P.A. and Wieck, A.D. and Sothmann, B. and Ludwig, A., PHYSICAL REVIEW B, Volume: 97, 045416 (2018)

Shape-Dependent Dissolution and Cellular Uptake of Silver Nanoparticles
Graf, C. and Nordmeyer, D. and Sengstock, C. and Ahlberg, S. and Diendorf, J. and Raabe, J. and Epple, M. and Köller, M. and Lademann, J. and Vogt, A. and Rancan, F. and Rühl, E., LANGMUIR, Volume: 34, Pages: 1506-1519 (2018)

On femtosecond laser shock peening of stainless steel AISI 316
Hoppius, J.S. and Kukreja, L.M. and Knyazeva, M. and Pöhl, F. and Walther, F. and Ostendorf, A. and Gurevich, E.L., APPLIED SURFACE SCIENCE, Volume: 435, Pages: 1120-1124 (2018)

See all publications