



## Condensed Matter Physics and Chemistry (CMPC) Workshop on "Nanoscale Materials - Structure and Properties"

**21-22 February 2019**

**Bldg. 1b, Room 4a/b**

This workshop will present research from invited speakers and the activities of the research association Condensed Matter Physics and Chemistry (CMPC) at PETRA III and our collaborators from universities and research institutes. CMPC members include the teams of the PETRA III beamlines P02.1, P07-DESY, P08, P21.1 as well as scientists and engineers from the technical infrastructure and sample environment groups.

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### PROGRAMME Thursday, 21 February 2019

|   |  |                       |  |
|---|--|-----------------------|--|
| 12:55   | Welcome  | Oliver Seeck          | DESY Hamburg                           |
| <b>Nanoconfinement session (chaired by Milena Lippmann)</b>   |  |                       |  |
| 13:00   | Experimental observation of crystal-liquid coexistence in slit-confined non-polar fluids                   | Milena Lippmann       | DESY Hamburg                           |
| 13:30   | In-situ studies of Electrodeposition within Confined Nanopores   | Gary Harlow           | Lund University                        |
| 14:00   | High energy diffraction on anisotropically shaped metal halide perovskite nanoparticles in tubular pores   | Bert Nickel           | Ludwig-Maximilians-Universität München |
| 14:30   | Controlling optical properties and molecular self-assembly of a discotic liquid crystal in nanoconfinement | Kathrin Sentker       | Universität Hamburg                    |
| <b>15:00-15:45</b>  | <b>Discussions &amp; Coffee break</b>  |                       |  |
| <b>Energy materials and catalysts session (chaired by Alexander Schökel)</b>                          |  |                       |  |
| 15:45   | In situ/Operando XRD study of a Reversible PtO <sub>x</sub> Formation at the Pt/YSZ interface              | Sergey Volkov         | DESY Hamburg                           |
| 16:15   | Operando XRD of supported nanoparticles during catalytic reactions   | Vedran Vonk           | DESY Hamburg                           |
| 16:45   | Operando study of Zn <sub>4</sub> Sb <sub>3</sub>  | Lasse Rabøl Jørgensen | Aarhus University                      |
| <b>Crystallization and nanoparticles session (chaired by Ann-Christin Dippel and Michael Wharmby)</b> |  |                       |  |
| 17:15   | Synthesizing Metastable 2D layers in Confined Geometries By Design: The Need for in-situ monitoring        | Dave Johnson          | University of Oregon                   |
| <b>17:45-18:30</b>  | <b>Discussions &amp; Poster session</b>  |                       |  |
| <b>19:00</b>  | <b>Conference dinner (in the DESY Bistro, Bldg. 9a)</b>  |                       |  |

**PROGRAMME Friday, 22 February 2019****Crystallization and nanoparticles session (chaired by Ann-Christin Dippel and Michael Wharmby)**

|                    |   |                        |                                      |
|--------------------|---|------------------------|--------------------------------------|
| 09:00              | Observing trends of the Group 13 prenucleation clusters   | Ida Gjerlevsen Nielsen | Aarhus University                    |
| 09:30              | Combining in-situ HERFD-XANES and total X-ray scattering to catch the full picture of cobalt oxide nanoparticle formation in solution | Lukas Grote            | Universität Hamburg                  |
| 10:00              | New Nanostructure from X-ray total scattering: In situ studies of mechanisms in material formation                                    | Kirsten M. Ø. Jensen   | University of Copenhagen             |
| <b>10:30-11:30</b> | <b><i>Discussions &amp; Coffee break (with sandwiches)</i></b>  |                        |                                      |
| 11:30              | Formation dynamics on Nanocrystals: Cation exchange reactions and nucleation/growth studies   | Cristina Palencia      | Universität Hamburg                  |
| 12:00              | Electrochemical synthesis and phase transformation of thiourea precursor for copper sulphide  | Abhisakh Sarma         | DESY Hamburg                         |
| 12:30              | What happens in solution during wet chemical synthesis of solid materials?  | Huayna Terraschke      | Christian-Albrechts-Universität Kiel |
| <b>13:00-13:30</b> | <b><i>Discussions</i></b>   |                        |                                      |
| 13:30              | Summary and closing remarks   | Oliver Seeck           | DESY Hamburg                         |
| <b>13:35</b>       | <b><i>End of workshop</i></b>   |                        |                                      |