

**NANOCEM Consortium Spring meeting 2018**  
**April 24 – 26, 2018, Empa, Dübendorf, Switzerland**

**PROGRAMME**

***Tuesday April 24, 2018, late afternoon-evening, Empa Akademie***

**16:30-17:00**    ***Welcome coffee/tea and registration***

**From 17:00**    Welcome

17:00 – 17:30    New Members CHRYSO, Vanessa Kocaba, CHRYSO

17:30 – 19:00    Flash Poster presentation of completed partner projects and other projects, followed by Poster session and Barbecue

**3-minute Flash presentations and Posters**

• ***Completed partner projects:***

1. EPFL: Synthetic Calcium Silicate Hydrates – from synthetic synthesis to atomistic modelling and growth kinetics for early age strength and eco friendly cement & concrete, Aslam Kunhi Mohamed
2. Empa: Plastic shrinkage cracking in concrete: from mechanisms to mitigation strategies, Zhangli Hu
3. ETHZ: Long-term stable embeddable reference electrodes for concrete, Zhidong Zang
4. NTNU: Alkali distribution in ASR affected concrete, Klaartje De Weerd

• ***Other projects:***

5. ZAG: belite-sulphoaluminate clinker from secondary materials, Lea Zibret
6. U-Bourgogne: Study of nucleation and growth processes of ettringite in supersaturated diluted solutions, Estelle Poupelloz
7. NTNU: Properties of Gypsum-free Cement, Harald Justnes

**Posters**

• ***Core project***

8. Core project 11: Changes in pore structure and transport properties of low-clinker cement materials during early stages of carbonation, project ifsttar
9. Core project 14: Frost salt scaling of concrete

• ***New partner projects***

10. Univ. Leeds Performance of aged materials under extreme loading
11. Empa Hydration mechanism and properties of low-CO<sub>2</sub> cements based on magnesium hydroxycarbonates
12. ETHZ Corrosion-induced cracking of the concrete cover
13. NTNU MIKS – Microproportioning with manufactured sand
14. Bauhaus Uni. Weimar Growth and porosity of C-S-H phases – development of the ‘Sheet Growth Model’ and coupling with experimental data (<sup>1</sup>H NMR, SEM)

• ***Internal proposals:***

15. Univ. Leeds Support for EPSRC Centre for Doctoral Training in Resilient Infrastructure from Materials to Systems (RIMS)
16. PSI CemGEMS: A user-friendly web app for thermodynamic calculations of cement hydration with GEMS and Cemdata’18

**18:00-19:00**    ***Coordination meeting CP 15 “Nucleation and growth”, room NO 209, Empa NO building***

**From 19:15**                    ***Barbecue dinner***

***Wednesday April 25, 2018, morning, Empa Akademie***

**Presentations new partner projects**

- 08:30 – 08:50 Univ. Leeds: Performance of aged materials under extreme loading, Leon Black
- 08:50 – 09:10 Empa: Hydration mechanism and properties of low-CO<sub>2</sub> cements based on magnesium hydroxycarbonates, Frank Winnefeld
- 09:10 – 09:30 NTNU: MIKS – Microproportioning concrete with manufactured sand, Stefan Jacobsen
- 09:30 – 09:50 ETHZ: Corrosion-induced cracking of the concrete cover, Zhidong Zhang
- 09:50 – 10:10 Bauhaus Univ. Weimar: Growth and porosity of C-S-H phases – development of the 'Sheet Growth Model' and coupling with experimental data (1H NMR, SEM), Long Nguyen Tuan

***10:10 – 10:50 Coffee Break and poster session***

**Presentations internal proposals**

- 10:50 – 11:10 Univ. Leeds: Support for EPSRC Centre for Doctoral Training in Resilient Infrastructure from Materials to Systems (RIMS), Leon Black
- 11:10 – 11:30 PSI: CemGEMS: A user-friendly web app for thermodynamic calculations of cement hydration with GEMS and Cemdata'18, Dmitrii Kulik

**Other presentations**

- 11:30 – 11:40 Nanocem workshop «High temperature chemistry of clinker formation and performance in cement» Report, Duncan Herfort, AalborgPortland
- 11:40 – 12:10 Academic roadmap update, Karen Scrivener, EPFL

***From 12:15 Lunch and poster session/ Akademie III***

***Wednesday April 25, 2018, afternoon-evening***

- 13:30 – 15:30 Parallel meetings, Eawag Building
- Industrial Advisory Board, room B 24
- Scientific Committee, room C 24

***15:30 – 16:00 Coffee Break***

***16:00 Visit NEST building***

- 15:30 – 16:30 Steering Committee, room B24

***18:30 Bus departs from Hotel Sonnentel***

***From 19:15 Dinner in town, Restaurant Zunfthaus zur Waag, Zurich  
Address: Münsterhof 8, 8001 Zürich, Tel. 044 216 99 66***

***The bus will bring us back to the hotel around 21:30***

***Thursday, April 26, 2018, morning, Empa Akademie***

08:30 – 08:40 Feedback from Steering Committee

08:35 – 08:40 Assembly

08:40 – 09:40 Core project 11 Project Ifsttar “Carbonation” final report, Mathieu Bertin, Ifsttar

09:40 – 09:50 CASH workshop report, Barbara Lothenbach

09:50 – 10:00 Call for candidates for a Round Robin on gas diffusivity in cementitious materials, Bruno Huet, LafargeHolcim.

***10:00 – 10:30 Coffee Break***

10:30 – 11:15 Core Project 14 “Frost” report, David Wahlbom, Lund University

11:15 – 12:00 Core Project 15 “Nucleation and growth” report, Lina Bouzouaid, Univ. Bourgogne-Dijon

12:00 – 12:20 Nanocem Workshop «Development of a Force field database for cementitious systems... ccmf - towards reliable atomistic simulations – workshop report & database» report, Paul Bowen, EPFL

12:20 – 12:25 Future events

- Nanocem Consortium Autumn meeting 2018, Dublin, Ireland, Christophe Charron, Ecom-CRH
- Workshop “deterioration mechanisms”, November 2018, Fabrizio Moro, LafargeHolcim
- Hydration workshop “Tribute to Ellis Gartner”, June 2019, Switzerland, Karen Scrivener

***Consortium meeting ends after lunch***

***From 12:30 Lunch / Akademie III***

***13:30 -16:00 Coordination meeting CP 14 “Frost”, room VE 202, Empa VE Building***