SCHEDULE OF PRESENTATIONS

4th International Conference on Research Frontiers in Chalcogen Cycle Science & Technology

May 28th – 29th, 2015 | Delft | The Netherlands

VENUE: Room A1A - UNESCO-IHE

Westvest 7, 2611 AX Delft
The Netherlands
Tel: +31 15 215 1840
E-mail: G16@unesco-ihe.org
### DAY 1: THURSDAY 28 MAY 2015

**Location:** A1A

#### OPENING SESSION

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>08.30-09.00</td>
<td><strong>CONFERENCE REGISTRATION + COFFEE</strong></td>
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<tr>
<td>09.00-09.20</td>
<td>Conference opening: Introduction to Chalcogen Cycles: Science and Technology</td>
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<td></td>
<td>- <strong>Prof. Piet N. L. Lens</strong> <em>(UNESCO-IHE, The Netherlands)</em></td>
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#### SESSION I: PRODUCTION, PROPERTIES & INTERACTIONS OF CHALCOGEN COMPOUNDS

Chair persons: **Prof. Eric D. van Hullebusch** and **Prof. Davide Zanonni**

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<thead>
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<th>Time</th>
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<tr>
<td>09.20-10.00</td>
<td><strong>Keynote lecture I</strong> <em>(Prof. Dionysios Dionysiou, University of Cincinnati, USA)</em></td>
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<td></td>
<td>- Transformation of contaminants of emerging concern in water using advanced oxidation</td>
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<td>nanotechnologies - towards the development of nanocatalysts with tailor-designed architecture</td>
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<td>10.00-10.20</td>
<td>Organochalcogen compounds in the development of catalysts for C–C coupling reactions</td>
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<td>- <strong>Arun Kumar, Fariha Saleem, Gyandshwar Kumar Rao and Ajai K. Singh</strong></td>
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<td>10.20-10.50</td>
<td><strong>Coffee Break + POSTER SESSIONS</strong></td>
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<tr>
<td>10.50-11.10</td>
<td>Computational study of E…N (E=Se/Te) intramolecular interactions in diaryl dichalcogenides:</td>
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<td>effect on E–E bond strength and antioxidant activity</td>
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<td>- <strong>Nisheal Michael Kaley, Arunashree Panda and Raghu Nath Behera</strong></td>
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<td>11.10-11.30</td>
<td>Role of selenium in the anaerobic digestion</td>
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<td>- <strong>Rohan Jain and Eric D. van Hullebusch</strong></td>
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<td>11:30-11:50</td>
<td>Mixed core CdS@ZnS nanocrystals: synthesis, cadmium dissolution and cancer cells management</td>
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<td>- <strong>Peter Baláž, Zdenka Buňňaková, Matej Baláž, Anna Zorkovská, Martin Kello and Ján Mojžiš</strong></td>
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<td>11.50-13.30</td>
<td><strong>LUNCH BREAK (UNESCO-IHE Restaurant)</strong></td>
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<td>13.30-14.10</td>
<td><strong>Keynote lecture II:</strong> Dr. Filip Meysman (The NIOZ Royal Netherlands Institute for Sea Research) - Electrical currents and cryptic sulphur cycling in coastal sediments</td>
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| 14.10-14.30| Extracellular production of tellurium nanoprecipitates by the photosynthetic bacterium *Rhodobacter capsulatus*  
  - Roberto Borghese, Marco Brucale, Gianuario Fortunato, Francesco Valle, Massimo Cavallini and Davide Zannoni |
| 14.30-14.50| Overview of selenium in coal ashes: speciation, leachability and its potential impact on the environment  
  - Eric D. van Hullebusch and Ajit P. Annachhatre |
| 14.50-15.20| **Coffee break + POSTER SESSIONS**                                                          |
| 14.50-15.40| Exploring the fungal protein cadre in the biosynthesis of PbSe quantum particles  
  - B. Raj Mohan, Sumit Sharma and Jaya Mary Jacob |
| 15.40-16.00| Chemical speciation of sulfur and metals in continuous stirred tank biogas reactors - Implications for cobalt and nickel bio-uptake processes  
  - Sepehr Shakeri Yekta, Ulf Skyllberg, Åsa Danielsson, Annika Björn and Bo H Svensson |
| 16.00-16.20| Adsorption of heavy metals from acid mine drainage using bottom ash  
  - Varinporn Asokbunyarat and Ajit Annachhatre |
| 16.20-16.50| **FLASH PRESENTATIONS**                                                                     |
| 16.20-16.50| 1) Theoretical investigation of glutathione peroxidase like activity of some conformationally restricted dichalcogenides  
  - Arunashree Panda and Raghu Nath Behera |
|            | 2) Effect of heavy metals on selenite bioreduction by anaerobic granular sludge  
  - Joyabrata Mal, Yarlagadda V. Nancharaiah, Eric D. van Hullebusch and Piet N. L. Lens |
|            | 3) Cu-slags: environmental stability and fate  
  - Anna Potysz, Eric D. van Hullebusch, Jakub Kierczak, Malgorzata Grybos,  
  Piet N. L. Lens and Gilles Guibaud |
|            | 4) Bioleaching of copper and gold from printed circuit boards  
  - Arda Isildar, Jack van de Vossenberg, Eldon R. Rene, Eric D. van Hullebusch and Piet N. L. Lens |
<p>| 18.30      | <strong>Conference dinner at Grand Cafe Verderop Delft (Adjacent to UNESCO IHE)</strong>               |</p>
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| 09.00-09.40 | **Keynote Lecture III (Prof. Robin Gerlach, Montana State University, USA)**  
- Biofilm-Mediated Mineral Precipitation Technology: A Journey on Experimental and Modeling Paths from the Laboratory to the Field |
| 09.40-10.00 | Nitrate-mediated microbially enhanced oil recovery (N-MEOR) from model upflow bioreactors  
- Fatma Gassara, Navreet Suri and Gerrit Voordouw |
| 10.00-10.20 | The use of hydrochar derived from sewage sludge as a low cost adsorbent for heavy metal and virus removal  
- Jae Wook Chung, Ana Spataru, Jan Willem Foppen and Piet N. L. Lens |
| 10.20-10.50 | **Coffee Break + POSTER SESSIONS** |
| 10.50-11.10 | Rogoznica lake – an extreme environment hosting specific sulfate-reducing bacterial community  
- Milan Čanković, Ines Petrić and Irena Ciglenečki-Jušić |
| 11.10-11.30 | Sulphate reduction by marine sediment hosting anaerobic oxidation of methane from Gulf of Cadiz and marine lake Grevelingen  
- Susma Bhattarai, Zita Naangmenyele, Chiara Cassarini, Graciela Gonzalez-Gill, Eldon R. Rene and Piet N. L. Lens |
| 11.30-11.50 | How sulfate respiration controls physical interactions in synthetic consortium  
- David Ranava, Audrey Soric and Marie-Thérèse Giudici-Orticoni |
| 11.50-12.10 | Biological sulfide removal from anaerobically treated domestic sewage  
- Graziella Garcia, Renata C. Diniz, Sarah K. Bicalho, Vitor Franco, Emanuel F. Brandt, Carlos A. Chernicharo and Juliana Calabria Araújo |
<p>| 12.10-13.30 | <strong>LUNCH BREAK (UNESCO-IHE Restaurant)</strong> |</p>
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<td>13.30-14.10</td>
<td><strong>Keynote lecture IV (Dr. Silvia Lampis, University of Verona, Italy)</strong> - Novel insights into biogenesis mechanisms of selenium nanoparticles in <em>Stenotrophomonas maltophilia</em> SeITE02</td>
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<td>14.10-14.30</td>
<td>Combined wheat straw-sawdust biosorption of selenium using a continuous column setup - <em>Lukas Stabel, Bram Verbinnen and Abhishek Dutta</em></td>
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<td>14.30-15.00</td>
<td><strong>Coffee break + POSTER SESSIONS</strong></td>
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**FLASH PRESENTATIONS**


2. Utilizing the fluorescence amenability of biogenic PbSe quantum particles for the efficient cadmium (Cd\(^{2+}\)) ion sensing in solution - *Jaya Mary Jacob and B. Raj Mohan*

3. Strategy of COD degradation of wastewater from food industrial process - *Nguyen Van Than and Wolfgang Pfeiffer*

4. Effect of selenite on fungal biofilm architecture determined from oxygen concentration gradients - *Erika J. Espinosa-Ortiz, Ellen Lauchnor, Eldon R. Rene, Brent Peyton, Robin Gerlach and Piet N. L. Lens*

**VIDEO PRESENTATION**: Performance and microbial community structure in response to the different sulfide/nitrate loading ratios in the integrated simultaneous desulfurization and denitrification process - *Cong Huang, Qian Liu, Youkang Zhao, Ye Yuan, Jizhong Zhou, Zhiling Li and Aijie Wang*

**15.50-16.00** | **POSTER AND FLASH PRESENTATION AWARDS & CLOSURE OF THE G16 CONFERENCE** (Eldon R. Rene & Piet N. L. Lens, UNESCO-IHE) |
PG01: Application of organosulphur compound in stabilization of transition metal nanoparticles: development of catalytically active and recyclable palladium NPs
- Satyendra Kumar, Arun Kumar and Ajai Kumar Singh

PG02: Strategy of COD degradation of wastewater from food industrial process
- Nguyen Van Than and Wolfgang Pfeiffer

PG03: Development of catalytically active and recyclable palladium nanoparticles using organochalcogen compounds having secondary amine functional groups as stabilizers
- Pratibha, Satyendra Kumar, Arun Kumar, Seema Pathak and Ajai Kumar Singh

PG04: Kinetics of anaerobic microbial assemblages from acid sulfate soil for methane formation
- Nusara Sinbuathong, Pramote Sirirote, Raju Khun-anake, Boonsong Sillapacharoenkul, Warawut Chulalaksananukul and Suphang Chulalaksananukul

PG05: Indole based (S,C,E) (E = S / Se / N) type unsymmetrical pincer ligands: use of palladacycle in catalysis
- Pratibha Sharma, Mahabir P. Singh, Arun Kumar, Seema R. Pathak and Ajai Kumar Singh

PG06: Effect of selenite on fungal biofilm architecture determined from oxygen concentration gradients
- Erika J. Espinosa-Ortiz, Ellen Lauchnor, Eldon R. Rene, Brent Peyton, Robin Gerlach and Piet N. L. Lens

PG07: Indole motif based (N,C,E) (E = S/Se) type unsymmetrical pincer ligands: palladacycle and their catalytic implication in Heck coupling and allylation of aldehydes
- Mahabir P. Singh, Arun Kumar and Ajai Kumar Singh

PG08: Selective copper recovery from hazardous Zn-metallurgical purification residue
- Manivannan Sethurajan, David Huguenot, Piet N. L. Lens, Heinrich A. Horn, Luiz H. A. Figueiredo and Eric D. van Hullebusch

PG09: Selenate bioreduction in the presence of nitrate and sulfate
- Lea Chua Tan, Yarlagadda V. Nanchaaraih, Eric D. van Hullebusch and Piet N.L. Lens

PG10: Selenate reduction by bacterial strains isolated from anaerobic granular sludge
- Shrutika L. Wadgaonkar, Yarlagadda V. Nanchaaraih, Giovanni Esposito and Piet N. L. Lens

PG11: Cu-slags: environmental stability and fate
- Anna Potysz, Eric D. van Hullebusch, Jakub Kierczak, Malgorzata Grybos, Piet N. L. Lens and Gilles Guibaud

PG12: Effect of heavy metals on selenite bioreduction by anaerobic granular sludge
- Joyabrata Mal, Yarlagadda V. Nanchaaraih, Eric D. van Hullebusch and Piet N. L. Lens
Scientific committee

- Aijie Wang (Harbin Institute of Technology, China)
- Ajit Annachatre (Asian Institute for Technology, Thailand)
- Bo Svensson (Linkoping University, Sweden)
- Christian Kennes (University of La Coruña, Spain)
- Claus Jacob (Saarland University, Germany)
- Davide Zannoni (University of Bologna, Italy)
- Derek Lovley (University of Massachusetts, USA)
- Eldon Rene (UNESCO-IHE, The Netherlands)
- Eric van Hullebusch (Universiy Paris-Est, France)
- Erkan Sahinkaya (Istanbul Medeniyet University, Turkey)
- Eugênio Foresti (Universidade de São Paulo, Brazil)
- Filip Meysman (NIOZ, The Netherlands)
- Fons Stams (Wageningen University, The Netherlands)
- Gerard Muyzer (University Amsterdam, The Netherlands)
- Gijs Du Laing (University Gent, Belgium)
- Giovanni Esposito (University Cassino, Italy)
- Herman Kramer (TUDelft, The Netherlands)
- Jaakko Puhakka (University of Eastern Finland, Finland)
- John Lloyd (University of Manchester, UK)
- Jos Vink (Deltares, The Netherlands)
- Kai Finster (Aarhus University, Denmark)
- Kannan Pakshirajan (IIT Guwahati, India)
- Karel Keesman (Wageningen University, The Netherlands)
- Norbert Jordan (HZDR Dresden-Rossendorf, Germany)
- Paul Mason (Utrecht University, The Netherlands)
- Piet Lens (UNESCO-IHE, The Netherlands)
- Robin Gerlach (Center for Biofilm Engineering, USA)
- Ronald Oremland (US Geological Survey, USA)
- Venkata Yarlagadda (UNESCO-IHE, The Netherlands)

Local organizing committee

- Lea Chua Tan
- Shrutika L. Wadgaonkar
- Susma Bhattarai
- Chantal Groenendijk