

**Colloquium on****Aerosol Process Design for Biomedics, Catalysts, Food and Gas Sensors**

by the

Particle Technology Laboratory, Institute of Energy & Process Engineering,  
Department of Mechanical & Process Engineering, ETH Zürich, Switzerland**Wednesday, 26.02.2025 @ TBA in ETH Zürich (downtown or Zentrum)**

- 8 – 8:55 Registration + April 28, 1999 Opening Lecture [Nanoparticles: Flame synthesis and applications](https://video.ethz.ch/speakers/lecture/44b5cc96-59c4-4184-a3f4-35c1bc6e03cf.html?autoplay=true) by S.E. Pratsinis, <https://video.ethz.ch/speakers/lecture/44b5cc96-59c4-4184-a3f4-35c1bc6e03cf.html?autoplay=true> (54 min)
- 8:55 – 9:00 Welcome by Prof. Andreas Güntner, Inge Herrmann and Sotiris E. Pratsinis
- 9:00 - 9:15 Give it away to keep it, Prof. Lutz Mädler, University of Bremen, Germany
- 9:15 - 9:20 Q & A
- 9:20 - 9:35 The (real) challenges of flame spray synthesis, Dr. Karsten Wegner, Parteq GmbH, Kuppenheim, Germany
- 9:35 - 9:40 Q & A
- 9:40 - 9:55 Flames, Operando Spectroscopy, Catalysis and Energy Storage – a fascinating playground, Prof. Jan-Dierk Grunwaldt, Karlsruher Institute of Technology, Germany
- 9:55 - 10:00 Q & A
- 10:00 - 10:15 Highly-Loaded Metal Catalysts for CO<sub>2</sub> Hydrogenation, Prof. Kakeru Fujiwara, Kanazawa University, Japan
- 10:15 - 10:20 Q & A
- 10:20 - 10:35 A life-successful stories with Aerosol, Molecular Sieve and Mixed Oxide Heterogeneous Catalysts, Prof. Panagiotis Smirniotis, University of Cincinnati, OH, USA
- 10:35 - 10:40 Q & A
- 10:40 - 11:10 Coffee/Tea & Croissant break with discussion**
- 11:10 - 11:25 Security of Generative Artificial Intelligence, Dr. Beat Büsler, IBM Zurich
- 11:25 - 11:30 Q & A
- 11:30 - 11:45 Nucleation of carbonaceous nanoparticles, Prof. Eirini Goudeli, The University of Melbourne, Australia
- 11:45 - 11:50 Q & A
- 11:50 - 12:05 Building Robust and Collaborative Coded, Engineering Models, Prof. J.D. Landgrebe, University of Delaware, USA & Data Delve LLC, Cincinnati, OH
- 12:05 - 12:10 Q & A

**12:10 - 1:30 Standing Lunch with discussion**

- 1:30 - 1:45 From flame-made particles to pharmaceuticals, Dr. Max Eggersdorfer & Dr. Hendrik Kammler, Novartis SA, Basel, Switzerland
- 1:45 - 1:50 Q & A
- 1:50 - 2:05 Bridging the Gap: Enhancing Clinical Translation of Oral Nanomedicines Prof. Alexandra Teleki, Uppsala University, Uppsala, Sweden
- 2:05 - 2:10 Q & A
- 2:10 - 2:25 Innovating medical materials, Prof. Inge Herrmann, University Hospital Balgrist, Zurich, EMPA Dübendorf & ETH Zürich, Switzerland
- 2:25 - 2:30 Q & A
- 2:30 - 2:45 Flame-made fractal-like nanoaggregates in biomedicine, Prof. Georgios Sotiriou, Karolinska Institutet and Stockholm University, Stockholm, Sweden
- 2:45 - 2:50 Q & A

**2:50 - 3:10 Coffee/Tea, Fruit & Desert break with discussion**

- 3:10 - 3:25 Sustainable Nanotechnology: *From designing safer and sustainable nanoparticles to making food in the outer space*, Prof. Phil Demokritou, Rutgers University, Piscataway, NJ and Harvard School of Public Health, Boston, MA, USA
- 3:25 - 3:30 Q & A
- 3:30 - 3:45 The Gas Sensing Odyssey: from Lab to Market, Dr. Jan van den Broek, Alivion AG, Zurich
- 3:45 - 3:50 Q & A
- 3:50 - 4:05 Molecular sensors from flame aerosol-derived nanoparticles, Prof. Andreas Güntner, ETH Zürich
- 4:05 - 4:10 Q & A
- 4:10 - 5:00 Closing remarks, discussion and walk to Audimax, HG F30
- 5:15 - 6:00 Final Lecture: From Aerosol Synthesis of Materials to a New (?) Kinetic Theory of Gases, Prof. Sotiris E. Pratsinis, ETH Zürich

**If you like to attend the Colloquium, could you please notify, Ms. Agnes Güntner ([agnes.guentner@ethz.ch](mailto:agnes.guentner@ethz.ch)) by Monday December 16 to plan room size and meals/drinks?**