

**ZHAW Collaboration  
Opportunities  
for 2019 and 2020 NMBP WP**

**Dr. Agnes Zoller  
Prof. Dr. Christian Adlhart  
Brussels, 23.10.2018**

**Let's drive sustainable  
chemistry together**

# Zurich University of Applied Sciences (ZHAW) Institute of Chemistry and Biotechnology (ICBT)



- ZHAW
  - 3000+ Employees
  - 13 000 Students
- Institute of Chemistry and Biotechnology
- Wädenswil, Zurich, Switzerland
  - 10 Centers
  - 26 Interdisciplinary research groups
  - 166 Scientists
  - 3 SPIRE Projects: ProPAT, IbD, Sharebox
  - Member in SusChem, SPIRE
  - ETP Nanomedicine, BioNanoNet Association
- Present today:
  - Prof. Christian Adlhart Head of Centre Functional Materials and Nanotechnology
  - Dr. Agnes Zoller Scientific Officer for European Research and Innovation

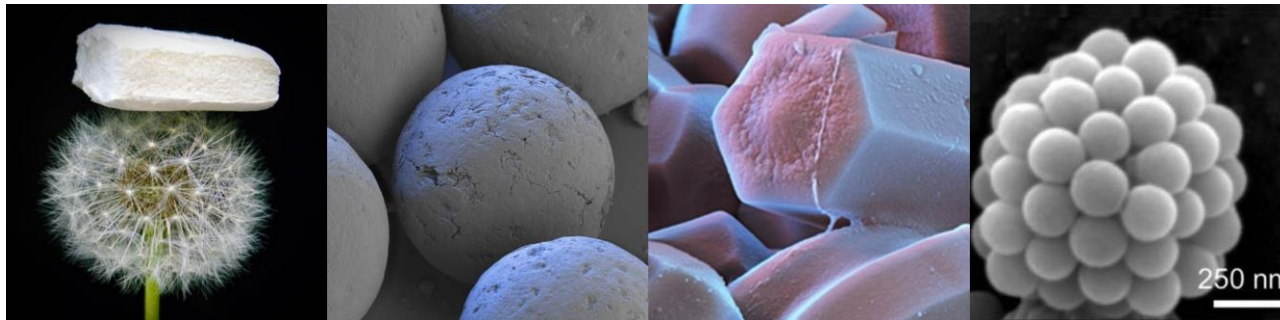


# Centers of the Institute of Chemistry and Biotechnology (ICBT)

- Analytical Chemistry
- Biochemistry and Bioanalytics
- Biocatalysis and Process Technologies (BIOTEC, SPIRE)
- Bioprocess Technology and Cell Cultivation Technique
- Functional Materials and Nanotechnology (SPIRE, NMBP)
- Industrial Chemistry and Processes (SPIRE, NMBP)
- Microbiology and Molecular Biology (BIOTEC)
- Drug Discovery and Pharmaceutical Product Development (DT-NMBP)
- Environmental Biotechnology (BBI)
- Cell Biology and Tissue Engineering (NMBP)

# Center for Functional Materials and Nanotechnology

- Filtration technology (downstream processing)
- Water treatment technologies
- Nanofiber based membranes and aerogels / also pilot scale
- Mesoporous silica, tailor made pore size and shape
- Nano-characterization technologies (standard plus BET, PDWS)
- PAT and process intensification
- SPIRE projects: ProPAT(2014), Sharebox(2015), IbD(2015)



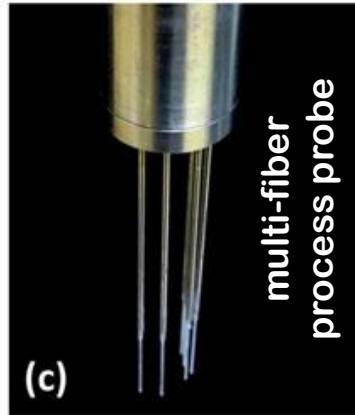
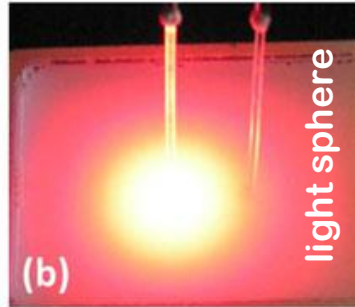
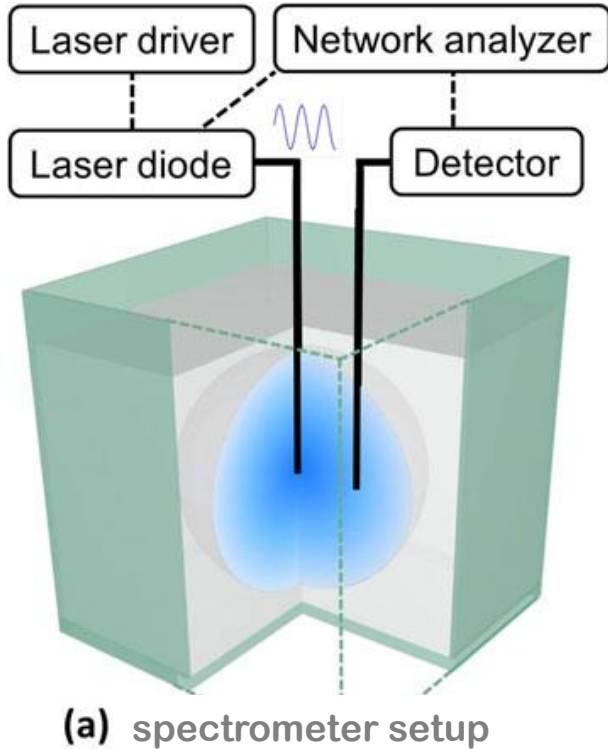
# List of Calls 2019 - ALL

- DT-NMBP-03-2019: Open Innovation Test Beds for nano-enabled surfaces and membranes (IA)
- DT-NMBP-08-2019: Real-time nano-characterization technologies (RIA)
- DT-NMBP-12-2019: Sustainable Nano-fabrication (CSA)
- BIOTEC-02-2019: Boosting the efficiency of photosynthesis (RIA)
- CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)
- CE-SPIRE-04-2019: Efficient integrated downstream processes (IA)
- CE-NMBP-25-2019: Photocatalytic syntheses (RIA)
- CE-SC5-04-2019: Building a water-smart economy and society

## From other WPs

- DT-BG-04-2018-2019: Sustainable European aquaculture 4.0:nutrition and breeding
- SFS-23-2019: Integrated water management at the small agriculture catchment
- BBI-2018-SO2-R3: Introduce new technologies to make pulping operations more resource-efficient

# Project Ideas for DT-NMBP-08-2019: Photon Density Wave Spectroscopy



## Inline PAT applications

- Zeolite synthesis
- Wet milling of pigments

- Real-time monitoring of highly turbid liquid dispersions
- Determination of particle and droplet sizes without dilution or calibration

*Chem. Eng. Technol. 2018, 41, No. 6, 1139–1146*



# List of Calls 2020 CE-SPIRE

- CE-SPIRE-01-2020: Industrial symbiosis (IA)
- CE-SPIRE-07-2020: Recovery of industrial water, thermal energy and substances contained therein (IA)
- CE-SPIRE-08-2020: Improved Industrial Processing using novel high-temperature resistant materials (RIA)
- CE-SPIRE-09-2020: Making the most of mineral waste, by-products and recycled material as feed for high volume production (IA)
- CE-SPIRE-10-2018: Efficient recycling processes for plastic containing materials (IA)

# List of Calls 2020 DT-NMBP, NMBP, BIOTEC

- DT-NMBP-04-2020: Open Innovation Test Beds for bio-based nano-materials and solutions (IA)
- DT-NMBP-05-2020: Open Innovation Test Beds for functional materials for building envelopes (IA)
- DT-NMBP-06-2020: Open Innovation Test Beds for nano-pharmaceuticals production (IA)
- DT-NMBP-11-2020: Open Innovation Test Beds for Materials Modelling (IA)
- NMBP-16-2020: Safe by design, from science to regulation: behaviour of multi-component nanomaterials (RIA)
- NMBP-17-2020: Regulatory science for medical technology products (RIA)
- BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors (IA)
- NMBP-21-2020: Custom-made biological scaffolds for specific tissue regeneration and repair (RIA)
- DT-NMBP-23-2020: Next generation organ-on-chip (RIA)



# Contact us!



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