

## Session 4: «Designing Smart and Sustainable Urban Isles»

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**EXPO 2017**  
• Future Energy •  
Astana Kazakhstan

# Institute of Computational Physics ICP

Hanna Sotnikova, June 2017

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- History
  - 1994: Project team «Numerical modelling of the Sensor- and actuator systems»
  - 2002: «Center for Computational Physics», Institute level since 2007
- 3 locations in Winterthur, Switzerland
- Management
  - Director of the institute  
Dr. Andreas Witzig



# Teamleaders / area of expertise



Gernot Boiger	Jürgen Schumacher	Lorenz Holzer	Thomas Hocker	Beat Ruhstaller	Nils Reinke
4 employees	6 employees	2 employees	4 employees	13 employees	5 employees
Multiphysics-modelling	Elektrochemical cells and microstructures		Organic electronics and photovoltaics		Sensor and measuring systems

# Industrial partners



Multiphysics-  
modelling

Elektrochemical  
cells and  
microstructures

Organic  
electronics and  
photovoltaics

Sensor and  
measuring  
systems

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SIMULATION

# COMPANIES




Hoval





# PROJECTS

SOLEDA: Solar Energy Systems Design Using Advanced Learning Aids (development of new post-graduate Diploma course in solar thermal and photovoltaic energy at Egyptian Universities in collaboration with European partners)  

SHINE: Solar Heat Integration Network (consortium of six Universities and five companies from six different European countries, assisting 13 PhD students in district heating, industrial processes and new storage systems) 

RETAC: Renewable Energy Training And Certificate (certified know-how transfer project in China)  

SMARTGRID: partner ETH Zürich, financed by Bundesamt für Energie and Swisselectric Research 

SOLAR COOLING: partner Institut für Solartechnik SPF, financed by Kommission für Technologie und Innovation KTI 


POWER-HEAT COGENERATION: partner Fachhochschule Nordwestschweiz, financed by Kommission für Technologie und Innovation KTI 




# UNIVERSITIES

ZHAW (Zürcher Hochschule für Angewandte Wissenschaften) 

ETH Zürich (Smartgrid, Bundesamt für Energie) 

Fachhochschule Nordwestschweiz (Power-Heat Cogeneration, KTI) 

Universität Innsbruck (Prof. Wolfgang Streicher) 

Universität Kassel (Prof. Klaus Vajen, Prof. Ulrike Jordan) 


SERC, Högskolan Dalarna 

Danmarks Tekniske Universitet DTU (Prof. Simon Furbo, Dr. Elsa Andersen) 

SUPSI (Scuola Universitaria Professionale della Svizzera Italiana) 

Politecnico di Torino (Prof. Gian Vincenzo Fracastoro, Dr. Marco Simonetti) 

Universidad Diego Portales, Santiago de Chile (Prof. José Miguel Cardemil) 

Guangxi University (Dr. Chen Ziqian) 



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**25<sup>th</sup>/26<sup>th</sup> August, 2017**  
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