

7th International Energy and Sustainability Conference 2018

# Technical Challenges of Energy Transition

May 17 and 18, 2018 at TH Köln (Germany) in cooperation with Farmingdale State College (USA)

incorporating the XXVIII. German-Polish Scientific Seminar 2018 in cooperation with Warsaw University of Technology

# **CIRE**

Cologne Institute for Renewable Energy

Technology Arts Sciences TH Köln

# Chairpersons Message

The 7th International Energy and Sustainability Conference (IESC 2018) offers you an excellent opportunity to share your work and to get an update on renewable energy and energy efficiency. This conference, initiated by the Farmingdale State College, State University of New York (SUNY), will be organized in cooperation with IEEE.

The topics range from renewable energy, grid infrastructure, energy storage, energy efficiency, energy management to smart energy. As in previous conferences, your paper will be reviewed by an experienced scientific committee and we aim to publish selected papers in IEEE-eXplorer.

For the second time, this conference will take place in Cologne at the Technische Hochschule Köln (TH Köln). The TH Köln is the largest university of applied sciences in Europe. Cologne with around 1,000,000 citizens is the largest city in western Germany and is known for »media« and »innovation«. The city's program »Smart City Cologne« aims for a sustainable future by supporting a number of projects. But, if you climb the tower of the Cologne cathedral, you can still see a large row of power plants fired with lignite, polluting the environment and increasing the carbon foot print of western Germany. Even though 30 % of electricity in Germany is produced from renewables, there is enough work to do, especially, on a global level. We invite you to join us to find solutions for a world based on 100 % renewable energy.

We are looking forward to meet you in Cologne on May 17 and 18, 2018.

Ulf Blieske (TH Köln– University of Applied Sciences) Marjaneh Issapour (Farmingdale State College)



### **Conference Venue**

TH Köln – University of Applied Sciences Betzdorfer Straße 2 50679 Köln

#### **Conference Fee**

If registered until March 15, 2018: € 120,00 If registered until May 10, 2018: € 200,00 Students (present their student ID): € 50,00 Fees cover admission to all sessions, invitation to all coffee breaks, lunches

# supported by





#### **STEPs**

Sustainable Technologies and Computational Services for Environmental and Production Processes













# Poster Presentation Competition

Join Cologne Institute for Renewable Energy at TH Köln – University of Applied Sciences for its Seventh Annual International Energy and Sustainability Conference (IESC). Undergraduate, Graduate, and High School students are invited to participate in the poster presentation competition.

Abstract Submission Deadline: January 15, 2018

## **Important Dates:**

Conference	May 17 and 18, 2018
Notification of Final Paper Acceptance	June 30, 2018
Final Paper Submission	May 17, 2018
Deadline for Author Registration	May 10, 2018
Poster Presentation Submission Deadline	April 30, 2018
Notification of Abstract Acceptance	March 1, 2018
Abstract Submission Deadline	January 15, 2018

# Call for Papers

Topics of interest include, but are not limited to, the following:

# Renewable Energy Technologies for Electricity production

- Photovoltaics
- Wind Power
- Hvdro Power
- Use of Bioenergy
- Geothermal Power
- Tidal Power
- Solar Thermal Power

# Renewable Energy for Thermal Production

- Solar Thermal Systems
- Heat Pump Systems
- Combined Heat and Power Systems
- Use of Waste Heat
- Sewage Heat Recovery

## **Grid Infrastructure**

- Electricity Transmission Grids
- Electricity Distribution Grids
- District Heating Grids
- Natural Gas Grids
- Water Supplies
- Sewage Systems

## **Energy Storage Technologies**

- Electricity Storage in Batteries, Pumped Hydro, Potential Energy Storage, Supercaps, Coils, etc.
- Thermal Energy Storage (sensible heat storage, latent heat storage, thermochemical heat storage, cold storage)
- Chemical Energy Storage

## **Cross-Sectoral Applications**

- Power-to-Heat
- Power-to-Gas
- Power-to-Liquid
- Power-to-Chemicals
- · Electro-Mobility
- Fuel Cell Cars
- Gas Driven Mobility

## **Energy Management**

- Energy Supply Side Management
- Energy Demand Side Management
- Energy Audit Management
- Feed-in Tariffs
- Financing Schemes for Renewables

### **Smart Grids**

- Smart Metering
- Smart Grid Control
- SCADA
- Cyber Security
- Building Management Systems

## **Energy Efficiency in...**

- Buildings
- Green Buildings
- Mobility
- Recycling Aspects
- Industry

### Other

- Water Management
- Waste Management
- Environmental Management
- Environmental impacts of renewable energy
- Policy
- Education

### Call for Papers / Registration

Prospective authors are invited to submit original technical papers for oral and poster presentation at the conference. Excellent papers will be published in IEEE Xplore.

Please register through the website: www.th-koeln.de/iesc2018