ENERGY STUDIES INSTITUTE
National University of Singapore

**ESI Seminar**

# Integrated Energy Systems Analysis to Support A More Sustainable, Secure and Resilient Energy Future

**Dr. Peter Burgherr, Head Technology Assessment Group (TAG), Paul Scherrer Institut, Switzerland and PI Future Resilient Systems (FRS), Singapore-ETH Centre (SEC), Singapore.**

**Wednesday, 25 July 2018**
**3:00 pm to 5:00pm**
**ESI Conference Room**
**29 Heng Mui Keng Terrace**
**Block A, #10-01, Singapore 119620**

Please send us your name, organization and email address via the ESI website here.
For enquiries, please contact Ms. Jan Lui at 6516 2000.

## Synopsis

In his talk, Peter will first present an overview of the overarching analytical framework for integrated assessment of energy technologies and scenarios developed and implemented at the Paul Scherrer Institut (PSI), followed by a short overview on ongoing project activities, which are enriched with selected results, conclusions and recommendations. In the second part he will focus on the comparative risk assessment of accidents in the energy sector, and its relevance in the broader context of sustainability, energy security, critical infrastructure protection and resilience, with a focus on ongoing research activities within the Future Resilient Systems (FRS) program. The last part comprises a short introduction on energy economic modeling followed by selected highlights, thus providing a link to the envisaged collaboration with the Energy Studies Institute in Singapore within FRS II.

## About the Speaker

Dr. Peter Burgherr joined the Paul Scherrer Institut (PSI) as a risk analyst in 2001. Since August 2008 he leads the inter-disciplinary Technology Assessment group of the Laboratory for Energy Systems Analysis, which carries out integrated assessments of energy systems to support the complex decision-making processes towards a sustainable energy future. Since 2014 he also manages a risk group on “Assessing and Measuring Energy Systems Resilience” within the Future Resilient Systems (FRS) program of the Singapore ETH Centre (SEC). Finally, he is in charge of the activities on “Future Supply of Electricity” within the Swiss Competence Center for Energy Research – Supply of Electricity.

His primary research interest is the comparative analysis of accident risks in the energy sector, and its relevance in the broader context of sustainability, resilience, energy security and critical infrastructure protection. He is also the primary responsible for PSI’s database Energy-Related Severe Accident Database (ENSAD), which is the world's largest database on severe accidents in the energy sector. He initiated the development of the Energy Infrastructure Attack Database together with the Center for Security Studies at ETHZ, and subsequent collaborations with the Energy Policy Institute Chicago, Harris School of Public Policy, University Chicago. Furthermore, he is strongly involved in the sustainability assessment of current and future energy technologies, including their evaluation with Multi-Criteria Decision Aiding techniques.

He regularly presents his work at international conferences and meetings, publishing in peer-reviewed scientific journals, contributing to books, and various other publications. As part of his duties, he is also engaged in the supervision of students at different levels (PhD, MSc, BSc, interns), and lectured at the Swiss Federal Institute of Technology, University of Geneva, Zurich University of Applied Sciences, Lucerne University of Applied Sciences and Arts, NATO School Oberammergau, and KINGS (Busan, South Korea).

He holds a doctoral degree in environmental sciences from ETH Zurich, and MSc and BSc degrees in biology from ETH Zurich.