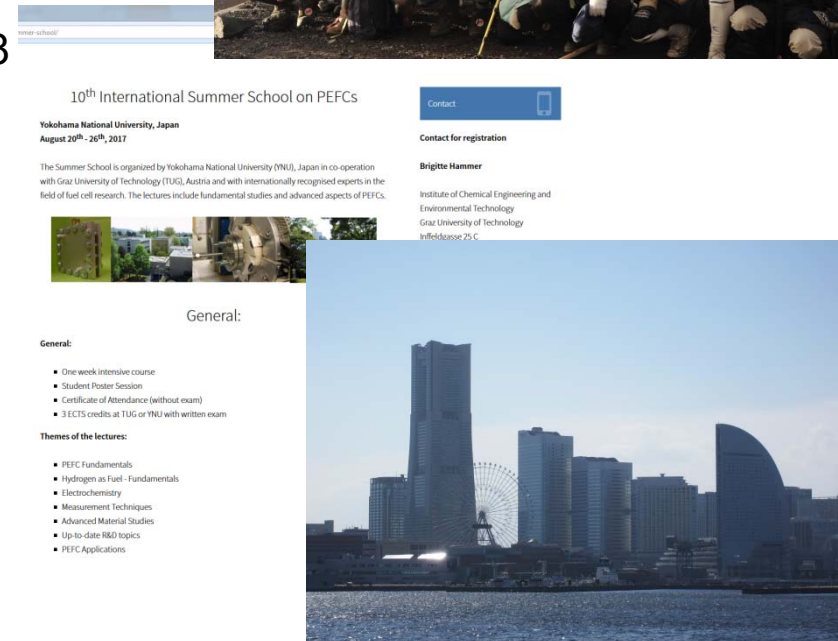


11th International Summer School on Advanced Studies of Polymer Electrolyte Fuel Cells, TU Graz, Austria

- Organized in co-operation between **TU Graz** and **Yokohama National University** and internationally recognized experts as lecturers in the field of fuel cell research.
www.ceet.tugraz.at/fuelcells
- Lectures:**
Tuesday 21st – Saturday 25th August 2018
- Workshop:**
Thursday 23. August 2018
- 3 ECTS with written exam.

For administrative issues please contact
Mrs Brigitte Hammer brigitte.hammer@tugraz.at

10th International Summer School on PEFCs

Yokohama National University, Japan
August 20th - 26th, 2017

The Summer School is organized by Yokohama National University (YNU), Japan in co-operation with Graz University of Technology (TUG), Austria and with internationally recognised experts in the field of fuel cell research. The lectures include fundamental studies and advanced aspects of PEFCs.

Contact for registration
Brigitte Hammer
Institute of Chemical Engineering and Environmental Technology
Graz University of Technology
Inffeldgasse 25 C


General:

General:

- One week intensive course
- Student Poster Session
- Certificate of Attendance (without exam)
- 3 ECTS credits at TUG or YNU with written exam

Themes of the lectures:

- PEFC Fundamentals
- Hydrogen as Fuel - Fundamentals
- Electrochemistry
- Measurement Techniques
- Advanced Material Studies
- Up-to-date IRD topics
- PEFC Applications



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www.ceet.tugraz.at/fuelcells
- **Lectures: 26. - 31. August 2019**
- **Workshop (oral & poster): half day**
- **3 ECTS:** with written exam.

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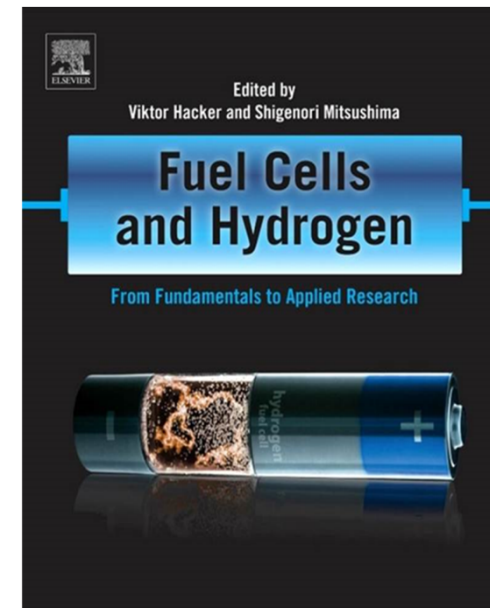
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***Fuel Cells and Hydrogen
From Fundamentals to Applied Research***

Viktor HACKER, Shigenori MITSUSHIMA (eds.)

[ISBN: 9780128114599](https://doi.org/10.1016/B978-0-12-811459-9),
Elsevier, 19.07.2018

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Toyota to bring latest technologies, Toyota Production System to support mobility at the Olympic and Paralympic Games Tokyo 2020



Anschubfinanzierung 2018 (M. Kienberger): Carbonsäure-Isolierung aus Prozessströmen der Kraft – Zellstofffabrik

- Bridge-Projekt, ohne Auflagen, 09/2018 – 08/2021.
- Projektpartner: Mondi, TU Graz 265.000€.
- Isolierung von Carbonsäuren aus Prozessströmen der Papier- und Zellstofffabrik mit dem Ziel höherwertige Produkte herzustellen.
- Produkt-Beispiel = Polymilchsäure als erneuerbarer Rohstoff für den Fahrzeugbau (Bio-Plastik).
- Derzeit im Recovery-Boiler verbrannt.

FoE-relevante Themen der Arbeitsgruppe „Prozesstechnik & Gemischthermodynamik“

Industrie 4.0 für die Verfahrenstechnik

- Optimale Nutzung historischer Messdaten mit Datenfiltern, Identifizieren von Schlüsselgrößen.
- Anlagenmodellierung auf Grundlage statist. Modelle, neuronaler Netzwerke, Gauß-Prozess-Regression oder Support-Vector-Machines
- Simultane Optimierung mehrerer Anlagenteile mit evolutionären Optimieralgorithmen.
- Optimierung zur umfassenden Berücksichtigung mehrerer Einflussgrößen auf die Fahrweisen verfahrenstechnischer Anlagen ermöglichen



Weiterentwicklung Treibstoff-Surrogate

- Surrogat: Ersatzmischung, bestehend aus wenigen (5-10) Komponenten mit denselben Eigenschaften wie 100 Komponenten Ausgangsmischung.
- Anwendung: Simulationen der innermotorischen Verbrennung, Abgasnachbehandlung, Verifizierung am Prüfstand

BUILDING A LOW-CARBON, CLIMATE RESILIENT FUTURE: NEXT-GENERATION BATTERIES



- LC-BAT-1-2019: Strongly improved, highly performant and safe all solid state batteries for electric vehicles (RIA)
- LC-BAT-2-2019: Strengthening EU materials technologies for non-automotive battery storage (RIA)
- LC-BAT-3-2019: Modelling and simulation for Redox Flow Battery development (RIA)
- LC-BAT-4-2019: Advanced Redox Flow Batteries for stationary energy storage (RIA)
- LC-BAT-5-2019: Research and innovation for advanced Li-ion cells (generation 3b) (RIA)
- LC-BAT-6-2019: Li-ion Cell Materials & Transport Modelling (RIA)
- LC-BAT-7-2019: Network of Li-ion cell pilot lines (CSA)