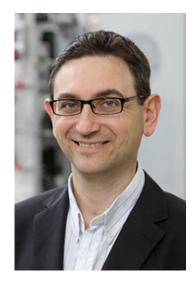
ENGINEERING for our FUTURE!

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Reliable, Flexible, and Efficient Energy Conversion via Solid Oxide Cells

Solid Oxide Cells based on ceramic electrolytes are very efficient high-temperature electrochemical devices which can be used reversibly. On the one hand, fuels are converted into electricity (fuel cell mode) or on the other hand, excess electricity enables to electrolyze water vapor or carbon dioxide to synthesize fuels and basic chemicals (hydrogen, carbon monoxide). After a general overview on this emerging technology, including materials and processing techniques, recent results on fuel flexibility (including biogas, not only pure hydrogen) and reliability (long life-time achieved through mitigation of degradation processes) will be presented.

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02-04/2013; 10/2015:	Guest professor, Tokyo Institute of Technology, Japan
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