

## Energy harvesting with ceramic thermoelectric generators

### Sophie Bresch defended her doctoral thesis

#### Congratulations!

Sophie Bresch defended her doctoral thesis about “Oxide ceramic materials and films for thermoelectric multilayer generators” (German original title: “Oxidkeramische Werkstoffe und Folien für thermoelektrische Multilayergeneratoren”) on Monday, April 25<sup>th</sup>, 2022.

Special thanks to Prof. Dr. Robert Vaßen from the Institute of Energy and Climate Research of the Forschungszentrum Jülich for his support as the second examiner!

The research work for his dissertation was conducted at the Bundesanstalt für Materialforschung und -prüfung (BAM) in close collaboration with the Department of Functional Materials in Bayreuth.

Dr. Bresch already published several parts of her thesis in peer-reviewed journals.

S. Bresch, B. Mieller, P. Mrkwitschka, R. Moos, T. Rabe: Glass-ceramic composites as insulation material for thermoelectric oxide multilayer generators, *Journal of the American Ceramic Society*, **105**, 2140-2149 (2022), doi: 10.1111/jace.18235

S. Bresch, B. Mieller, D. Schönauer-Kamin, R. Moos, T. Reimann, F. Giovannelli, T. Rabe: Influence of pressure and dwell time on pressure-assisted sintering of calcium cobaltite, *Journal of the American Ceramic Society*, **104**, 917-927 (2021), doi: 10.1111/jace.17541

S. Bresch, B. Mieller, D. Schönauer-Kamin, R. Moos, F. Giovannelli, T. Rabe: Influence of pressure assisted sintering and reaction sintering on microstructure and thermoelectric properties of bi-doped and undoped calcium cobaltite, *Journal of Applied Physics*, **126**, 075102 (2019), doi: 10.1063/1.5107476

S. Bresch, B. Mieller, F. Delorme, C. Chen, M. Bektas, R. Moos, T. Rabe: Influence of Reaction-Sintering and Calcination Conditions on Thermoelectric Properties of Sm-doped Calcium Manganate  $\text{CaMnO}_3$ , *Journal of Ceramic Science and Technology*, **9**, 289-300 (2018), doi: 10.4416/JCST2018-00017

S. Bresch, B. Mieller, C. Selleng, T. Stöcker, R. Moos, T. Rabe: Influence of the calcination procedure on the thermoelectric properties of calcium cobaltite  $\text{Ca}_3\text{Co}_4\text{O}_9$ , *Journal of Electroceramics*, **40**, 225-234 (2018), doi: 10.1007/s10832-018-0124-3



The evaluation board and the candidate.

From left to right: Prof. Schafföner, Prof. Vaßen, Dr. Bresch, Prof. Moos, and Prof. Brüggemann