Two defenses in one day: Thomas Stöcker and Jörg Exner defended their doctoral theses

Congratulations!

On October 18, 2018, Thomas Stöcker and Jörg Exner consecutively defended their doctoral theses. Prof. Paul Fuierer from New Mexico Institute of Mining and Technology (Socorro, NM, USA) was the second examiner and travelled to Germany especially for these both defenses. Special thanks to the members of the evaluation committees to make these two doctoral examinations in one day possible.

The research work for both dissertations was conducted at the Department of Functional Materials at the University of Bayreuth. Dr. Stöcker's thesis "Delafossites for thermoelectric energy conversion at high temperatures" (German original title "Delafossite für die thermoelektrische Energiewandlung bei hohen Temperaturen") focused on the synthesis and the thermoelectric properties of Delafossites ($CuFeO_2$). The related project "Thermo-Oxide-Power" was funded by the Federal Ministry of Education and Research (BMBF).

Dr. Stöcker already published parts of his thesis in peer-reviewed journals. Examples are:

T. Stöcker, J. Exner, M. Schubert, M. Streibl, R. Moos: Influence of Oxygen Partial Pressure during Processing on the Thermoelectric Properties of Aerosol-Deposited $CuFeO_2$, *Materials*, **9**, 227 (2016), doi: 10.3390/ma9040227

T. Stöcker, R. Moos: Effect of Oxygen Partial Pressure on the Phase Stability of Copper-Iron Delafossites at Elevated Temperatures, *Materials*, **11 (**2018), doi: 10.3390/ma11101888

From left to right: Prof. Glatzel, Prof. Fuierer, Dr. Stöcker, Prof. Moos, and Prof. Danzer

Dr. Exner's thesis "Aerosol deposition of functional ceramics for novel applications in the field of sensor technology and energy conversion" (German original title "Aerosolbasierte Kaltabscheidung von Funktionskeramiken für neuartige Anwendungen im Bereich der Sensorik und Energiewandlung") examined a novel spray coating method for ceramic films taking place completely at room temperature. Two projects "Materials World Network: 2-Dimensional Ion Conducting Bismuth Vanadates for Electrochemical Devices" funded by the German Research Foundation (DFG) in conjunction with the National Science Foundation (NSF) and "Oxidationsstabile und katalytisch aktive Werkstoffe für atmende thermo-elektrochemische Energiesysteme (ForOxiE²)" funded by the Bavarian Research Foundation (BFS) were involved.

Dr. Exner also published large parts of his thesis in peer-reviewed journals. Examples out of many are:

J. Exner, M. Schubert, D. Hanft, J. Kita, R. Moos: How to treat powders for the room temperature aerosol deposition method to avoid porous, low strength ceramic films, *J. Eur. Ceram. Soc.*, **39**, 592-600 (2019), doi: 10.1016/j.jeurceramsoc.2018.08.008

J. Exner, G. Albrecht, D. Schönauer-Kamin, J. Kita, R. Moos: Pulsed Polarization-Based NO_x Sensors of YSZ Films Produced by the Aerosol Deposition Method and by Screen-Printing, *Sensors*, **17**, 1715 (2017), doi: 10.3390/s17081715

J. Exner, M. Schubert, D. Hanft, T. Stöcker, P. Fuierer, R. Moos: Tuning of the electrical conductivity of $Sr(Ti,Fe)O_3$ oxygen sensing films by aerosol co-deposition with Al_2O_3, *Sens. Actuators, B*, **230**, 427–433 (2016), doi: 10.1016/j.snb.2016.02.033

J. Exner, P. Fuierer, R. Moos: Aerosol Codeposition of Ceramics: Mixtures of Bi_2O_3-TiO_2 and Bi_2O_3-V_2O_5, *J. Am. Ceram. Soc.*, **98**, 717–723 (2014), doi: 10.1111/jace.13364

J. Exner, P. Fuierer, R. Moos: Aerosol deposition of (Cu,Ti) substituted bismuth vanadate films, *Thin Solid Films*, **573**, 185–190 (2014), doi: 10.1016/j.tsf.2014.11.037

From left to right: Prof. Jess, Prof. Moos, Dr. Exner, Prof. Fuierer, and Prof. Glatzel