

Name:
STEFAN DOOSE



Poster Title:
Scaling methodology to describe the capacity-dependent responses during thermal runaway of lithium ion batteries

Institute and Position:
Institute for Particle Technology
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Research Associate
Battery Process Engineering

Scientific Background:

2012-2017	Studies of "Biotechnology" (Process Engineering) at Technische Universität Braunschweig, Braunschweig
2017	Master Thesis: "Zellfreie und fermentative <i>E.coli</i> -basierte Herstellung von Biopolymeren"
since August 2017	Research Associate at the Institute for Particle Technology, Battery Process Engineering

Current Research Topics:

- Safety studies of lithium-ion batteries (Projects BaSiS and BaSS)
- Mechanical and thermal Recycling of LIB in the GreenBatt Cluster (Project LOWVOLMON)

Publications:

In progress:

- [1] Kwade, Arno et al.; Milling and classification as important process steps for the circular production of lithium batteries; KONA Powder and Particle Journal; 2021
- [2] Doose, S. et al.; Scaling methodology to describe the capacity-dependent responses during thermal runaway of lithium ion batteries

Published:

- [1] Brochure: Recycling of Lithium-Ion Batteries; VDMA Verlag GmbH; Frankfurt am Main; 2021; ISBN 978-3-947920-11-2; Link: https://www.vdma.org/c/document_library/get_file?uuid=479ae54b-5b43-cfff-df4f-f359e79c8eb5&groupId=34570
- [2] Doose, S.; Mayer, J.K.; Michalowski, P.; Kwade, A. Challenges in Ecofriendly Battery Recycling and Closed Material Cycles: A Perspective on Future Lithium Battery Generations. *Metals* 2021, 11, 291. DOI: <https://doi.org/10.3390/met11020291>
- [3] Michaelis, Sarah et al., Roadmap Batterie-Produktionsmittel 2030 - Update 2020; VDMA Verlag GmbH, Frankfurt am Main; 2021; Link: https://battprod.vdma.org/documents/7411591/59580810/VDMA%20Batterieproduktion_Roadmap_2020_final_1610705214701.pdf/71d468a2-6981-41ab-b20b-b5d8c001fa9a
- [4] Doose, S.; Haselrieder, W.; Kwade, A. Effects of the Nail Geometry and Humidity on the Nail Penetration of High-Energy Density Lithium Ion Batteries. *Batteries* 2021, 7, 6. DOI: <https://doi.org/10.3390/batteries7010006>
- [5] Doose, S.; Mayer, J.; Kwade, A., Aktuelle Trends in der Batterieentwicklung u. die sich daraus ergebenden Herausforderungen für das Recycling, Thomé-Kozmiensky, E.; Holm, O.; Friedrich, B.; Goldmann, D. (Hg.) (2020): *Recycling und Sekundärrohstoffe*, Bd.13 Nietwerder: Thomé-Kozmiensky Verlag GmbH (Recycling und Rohstoffe, 13).
- [6] Diekmann, Jan; Doose, Stefan; Weber, Svenja; Münch, Swantje; Haselrieder, Wolfgang; Kwade, Arno (2020): Development of a New Procedure for Nail Penetration of Lithium-Ion Cells to Obtain Meaningful and Reproducible Results. In: *J. Electrochem. Soc.* 167 (9), S. 90504. DOI: [10.1149/1945-7111/ab78ff](https://doi.org/10.1149/1945-7111/ab78ff).