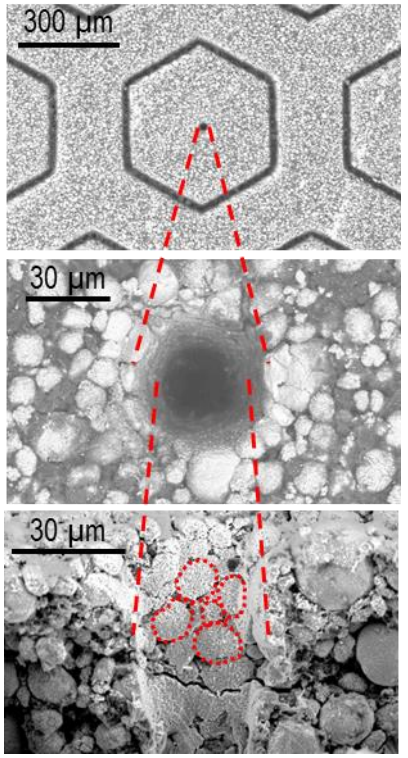
Laser Engineering of Surfaces, Interfaces, and Nanomaterials for Lithium-Ion Batteries

W. Pfleging, Y. Sterzl, U. Rist, C. Reinhold,
N. Straßburger, A. Meyer, P. Zhu
Institute for Applied Materials, Karlsruhe Institute of Technology, Germany

- A wide variety of laser processes are increasingly being used in battery manufacturing
- 3D battery concept realized by structuring and printing of micro- and nanomaterials
- Successful implementation of upscaling concepts for ultrafast laser structuring of electrode materials
- Improving electrochemical performance in terms of high-power operation, fast charging, and battery life
- Introduction of new material and electrode design concepts for next generation batteries



Ultrafast laser structured thick-film cathode