

## // ELECTRODES FOR HIGH ENERGY BATTERIES

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**RWTH**AACHEN  
UNIVERSITY

### HINTERGRUND

RWTH Aachen University

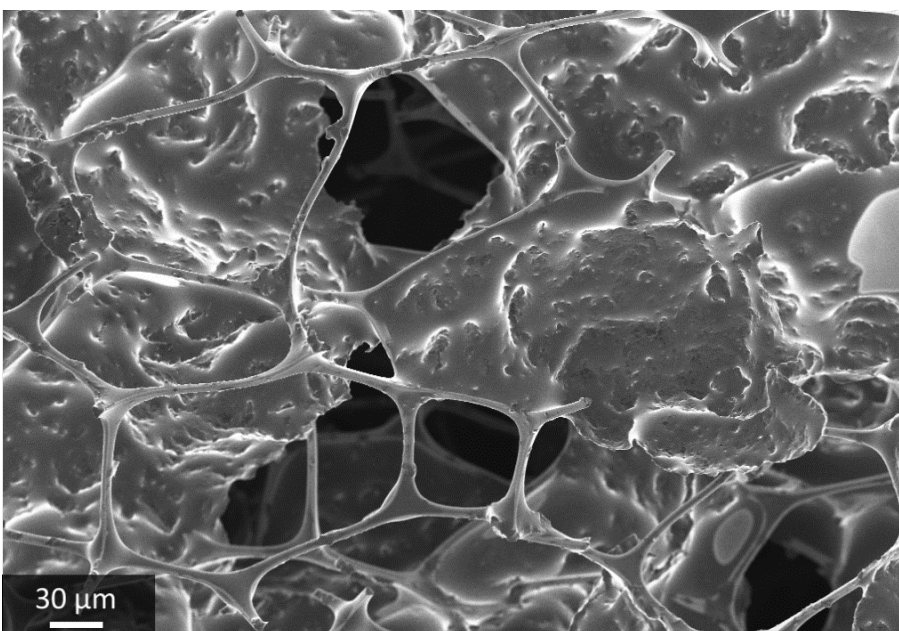
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### LÖSUNG

With the aim of an optimized reaction interface, dispersion electrodes were developed as part of an experimental investigation of Li-O<sub>2</sub> batteries. By directly mixing a conductive cathode active material with a liquid electrolyte, a dispersion is produced that can be used as a functional electrode in batteries. The mixture is absorbed by a substrate, which at the same time enables the transport of electricity and substance in relatively thick electrodes. In contrast to conventional solid-state electrodes, which are wetted with electrolyte, the electrochemically active interface of a dispersion electrode can be maximized via the mixing ratio of solid and liquid. Using the example of Li-O<sub>2</sub> batteries, the proof of concept was provided that gas diffusion electrodes can also function without a rigid or elaborately produced pore structure.

### CATEGORIES

//Elektrochemie



### VORTEILE

- Simple process control (without additional solvents or binders)
  - Material selection and mixing ratio can be adjusted
  - Transferable to other electrochemical systems (e.g. electrochemical reactors, electrolyzers)
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### ANWENDUNGSBEREICHE

electrochemistry

batteries

fuel cells

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### SERVICE

- European patent application pending, US patent application pending and German patent application pending
- Proof of concept

RWTH Aachen University is looking for partners for patent exploitation and research partners for development cooperation.

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