

WORKSHOP | OCTOBER 19TH, 2017

NEXT GENERATION BATTERIES

WORKSHOP ON HIGH-THROUGHPUT RESEARCH PLATT-
FORM AND PROPOSAL WRITING TOWARDS
BATTERY MATERIALS CALLS



PROGRAM

9.00 Welcome and opening

Overview of funding opportunities

9.15 Fraunhofer IZM and TUB activities in battery materials research Micro batteries and High throughput testing

Dr. Robert Hahn, Fraunhofer IZM

Electrophoretic deposition

Dr. A. Kyeremateng, TU Berlin

Novel, alternative systems: Al-ion and RTILs

Dr. Giuseppe Elia, TU Berlin

10.00 Coffee Break

10.15 Introduction of the attendees each attendee can present 10-15 minutes long presentation (max. 5 slides)

12.00 Lunch and Lab Tour

13.00 Discussion of project ideas, cooperations and proposal outlines

16.00 Coffee Break

16.15 Lab Tour and Discussion

17.00 End

Don't miss the social event on 18.10. at 7 p.m. in Prenzlauer Berg!

REGISTRATION

www.izm.fraunhofer.de/battery-workshop

Please register by October 4th 2017 at the latest.

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PARTICIPATION FEE

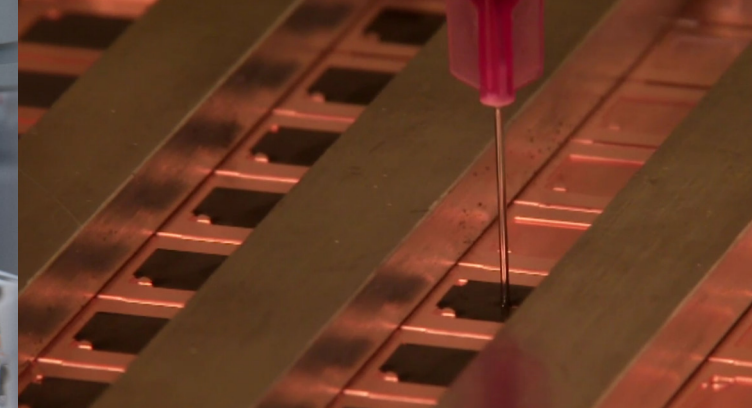
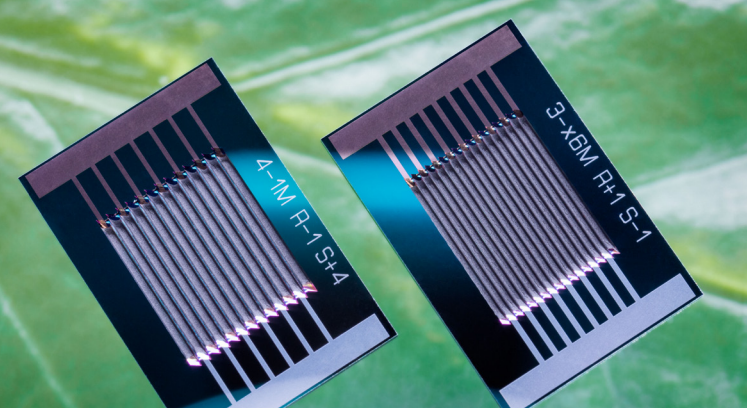
400.00 euro per person, incl. proceedings and buffet and social event

VENUE

Fraunhofer Institute for Reliability and Microintegration IZM
Gustav-Meyer-Allee 25 | 13355 Berlin

In cooperation with:





TUTORIAL PROFILE

This one-day proposal preparation workshop, to be held 19.10.2017 in the premises of Fraunhofer IZM, is aiming at forthcoming H2020 calls for cooperative projects in the field of materials development for electrified vehicle and stationary batteries, bilateral French-German calls and national funded projects.

Besides proposing one concrete configuration including novel electrodes and solid electrolytes, the workshop will discuss the electrochemical micro test cell array technology developed at Fraunhofer IZM together with TU Berlin as a high throughput and combinatorial test method for battery materials research. This method will be further developed towards an open hardware and software platform for the entire EU battery community.

Prospects from all over Europe are invited to contribute to pre-written draft proposal outlines including EU calls; Fraunhofer IZM initially offers to lead one proposal.

MAIL GOALS ADDRESSED

Develop an open combinatorial and high throughput testing (HTT) platform in the field of battery materials research. The platform is to be used for electrode/ electrolyte development. Novel technologies are developed to fabricate electrode and electrolyte composition spreads distributed over the cell array.

In addition, partners are sought for novel deposition methods, novel battery geometries, measurement protocols and simulations. Standardization of such test devices is also of interest.

FURTHER TOPICS

Materials Development

Ceramic and polymer electrolytes for lithium ion batteries
Stabilized lithium anodes (core shell, nanocapsules) for solid state batteries

Cathode materials: high-voltage materials and coatings to stabilize the cathode/electrolyte interface

Mass fabrication consideration

Deposition and fabrication aspects

Among various deposition methods electrophoretic deposition (EPD) of lithium battery electrode materials and solid-state electrolytes will be highlighted as a suitable alternative to overcome the limitations of today's isostatic pressing approach for solid state batteries and improve layer homogeneity and interfaces.

Advanced analytics and in-situ testing

An inventory of analytics will be made, and specifically adapted array designs will be developed for such individual measurement purposes. Contributions are invited.

Numerical simulation and modelling

Understanding interfaces

Simulation of the EPD process

Simulation and numerical evaluation of HTT measurements

Cell simulation

Further Aspects

Environmental aspects are recycling as well as standardization and regulations also have to be considered for successful battery materials development.