

## HANDS-ON WORKSHOP FOR STUDENTS

### LEARN HOW TO PRINT AND CHARACTERIZE Batteries

On Tuesday, March 24 (co-located with LOPEC 2020 – the leading trade fair and most important congress for the printed electronics industry) the OE-A Working Group Education offers hands-on training in printed batteries.



#### Details at a glance

- **Date: March 24, 2020** – co-located with LOPEC
- **Venue:** Munich University of Applied Sciences, Lothstr. 34, G 0.32
- **Fees:** Free of charge for students (proof must be provided)
- **Number of attendees:** maximum 15

The workshop program includes lectures on ink formulation and printing methods, as well as fundamentals of printed batteries and their characterization. During lab time you will learn the basics of printing and curing various functional layers, as well as characterize your self-made battery.

#### Lecturers

- Prof. Dr. Ulrich Moosheimer – Munich University of Applied Sciences
- Prof. Dr. Jan Bernards – Fontys University of Applied Sciences
- Prof. Dr. Sébastien Sanaur – Centre Microélectronique de Provence
- Dr. Wolfgang Schmidt – Felix Schoeller Holding
- Mr. Martin Krebs – Varta Microbattery GmbH

Please register with Prof. Dr. Ulrich Moosheimer ([ulrich.moosheimer@hm.edu](mailto:ulrich.moosheimer@hm.edu)) by February 28, 2020.



A working group within



## HANDS-ON WORKSHOP FOR STUDENTS

### Printing of Batteries

Tuesday, March 24, 2020

Munich University of Applied Sciences

### Preliminary Agenda

8:30	Welcome	Prof. Dr. Jan Bernards
8:35	Introduction to the OE-A	Prof. Dr. Jan Bernards
8:50	Lecture: Screen Printing	Prof. Dr. Ulrich Moosheimer
9:10	Lecture: Introduction to Batteries	Mr. Martin Krebs
9:50	Lab safety	Prof. Dr. Ulrich Moosheimer
10:00	Coffee break	
10:15	Lecture: Introduction to printed electronics Parallel Group 1 - Lab: Printing of nano silver	Dr. Wolfgang Schmidt
11:00	Lab: Characterization of printed layers	All
11:15	Lecture: Inks – electrochemical properties Parallel Group 2 - Lab: Printing of carbon	Prof. Dr. Sébastien Sanaur
12:00	Lunch	
13:00	Lab: Characterization of printed layers	All
13:15	Lecture: Printed batteries Parallel Group 3 - Lab: Printing of anode	Mr. Martin Krebs
14:00	Lab: Characterization of printed layers	All
14:15	Lecture: Roadmap of printed electronics Parallel Group 4 - Lab: Printing of cathode	Prof. Dr. Ulrich Moosheimer
15:00	Coffee break	
15:15	Lab: Characterization of printed layers	All
15:30	Lab: Applying the electrolyte and lamination	All
16:00	Lab: Pick and Place of LEDs	All
16:45	Refreshments & Closing	All
17:00	Finish	

For more information and reservation, please contact:

Prof. Dr. Ulrich Moosheimer (Email: [ulrich.moosheimer@hm.edu](mailto:ulrich.moosheimer@hm.edu))