

Overview of 2025



Steering Committee

Prof. Dr. A. Marx (president FSU Jena),
Prof. Dr. B. Rech (scientific director HZB),
Prof. Dr. U. S. Schubert (founding director),
M. Haupt (advisory)

Board of Directors

Prof. Dr. U. S. Schubert (Chair)
Prof. Dr. Y. Lu (Spokesperson)
M. Haupt (admin. coordination),
Dr. M. Hager (elected representative)

Operational Management

Founding director: Prof. Dr. Ulrich S. Schubert
Deputy director: Prof. Dr. Yan Lu

Research



Prof. Dr. Ulrich S. Schubert	⚡	⚡	⚡	⚡	⚡
Prof. Dr. Yan Lu		⚡		⚡	⚡
Prof. Dr. Ivo Nischang	⚡				
Prof. Dr. Doreen Mollenhauer	⚡	⚡	⚡		⚡
N.N. (Sustainable Polymer Chemistry)					⚡

19 Scientists / postdocs
11 PhD students
6 Technicians

Administration

Administrative coordinator:
Maria Haupt

5 administrative employees

Associated Members

Dr. Kevin M. Jablonka (FSU Jena)
Dr. Ingo Manke (HZB)
Prof. Dr. Martin Oschatz (FSU Jena)
Juniorprof. Dr. Andrea Pannwitz (FSU Jena)
Prof. Dr. Felix Schacher (FSU Jena)
Dr. Jacob Schneidewind (FSU Jena)
Prof. Dr. Eva Unger (HZB)

CURRENT NUMBERS (DECEMBER 2025)

45 Employees from 16 nations

- 4 Professors @FSU Jena
(2026: Plus W3 Sustainable Polymer Chemistry)



Prof. Dr. Ulrich S. Schubert



Prof. Dr. Yan Lu

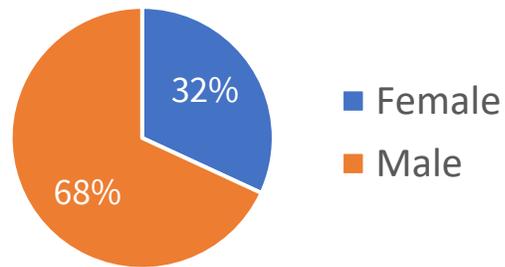


Prof. Dr. Doreen Mollenhauer

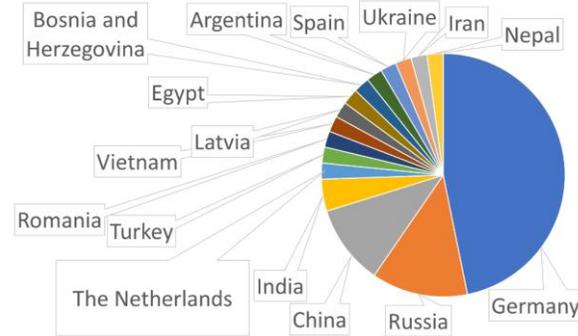


Prof. Dr. Ivo Nischang

Gender distribution



Nations



7 Associated members FSU Jena / HZB



Dr. Kevin M. Jablonka



Dr. Ingo Manke



Prof. Dr. Martin Oschatz



Jun.-Prof. Dr. Andrea Pannwitz



Prof. Dr. Felix H. Schacher



Dr. Jacob Schneidewind



Prof. Dr. Eva Unger

FACTS AND FIGURES 2025

Invest

In ~ 20 new
instruments



Third Party Income

~1.7 Mio 
14 projects

70 Publications published

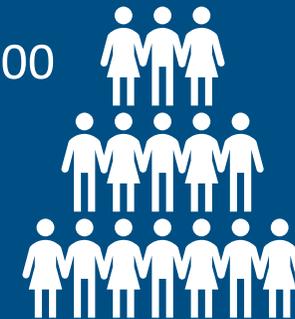


New hires: 22

Student assistants: 18

Internships: 3

Applications: ~1000



EVENTS 2025

March 31–April 4
HIPOLE Jena at Hannover Messe 2025



May 12–14
PoF IV Scientific
Evaluation (Energy) of
HZB



April 3, 2025
Girls' and Boys' Day
2025 at HIPOLE Jena



EVENTS 2025



May 21

Jacob Schneidewind's SINATRA project was chosen to be presented at the "MDR-Zukunftstag"



September 16-20
Highlights of Physics - Science Festival in Jena



July 29

Minister Christian Tischner (TMBWK) visits HIPOLE Jena as part of the HIGH-TECH Tour



EVENTS 2025

November 17
15 years of JCSM



December 10, 2025
Christmas Party!

NEW EQUIPMENT IN 2025

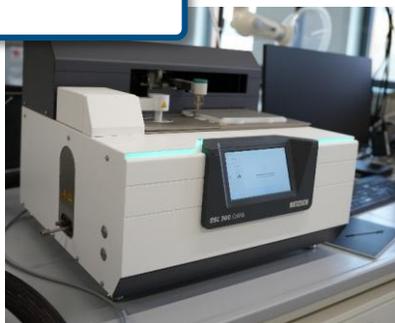
Synthesis robot



Glove boxes



DSC & TGA



Freeze drying system



Flash chromatography system



Elemental Analysis

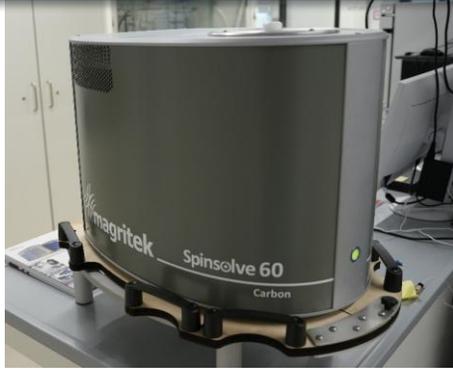
NEW EQUIPMENT IN 2025

SEC, chloroform system, 3 columns, DAD

Oxygen transmission & water-vapor transmission



2 benchtop NMRs



Thinky Mixer



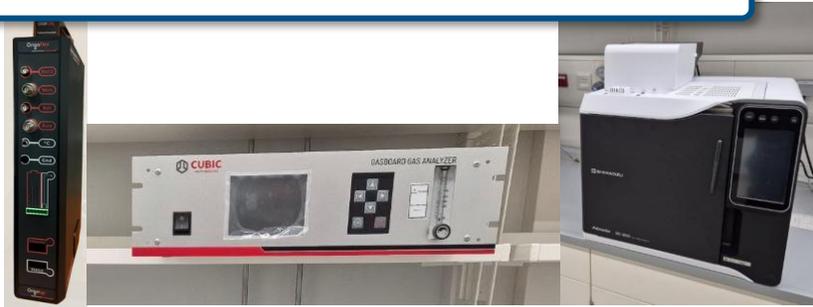
Potentiostats



Climate chamber



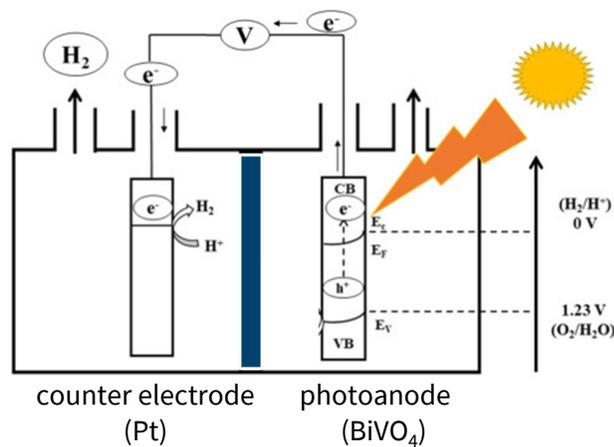
Gas chromatography for CO₂ Reduction



Emission spectrometer

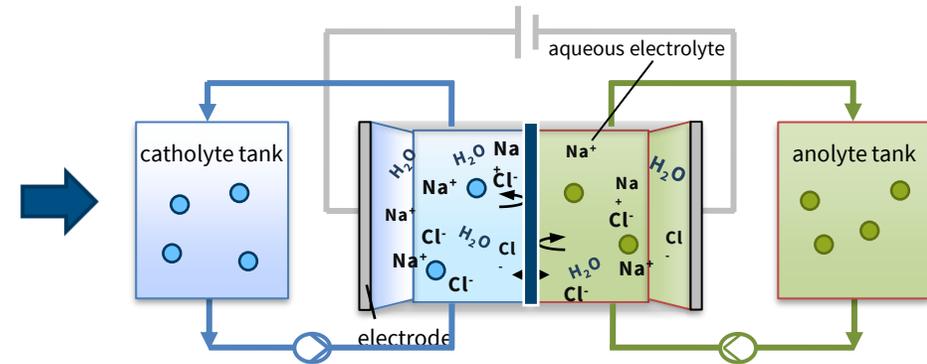
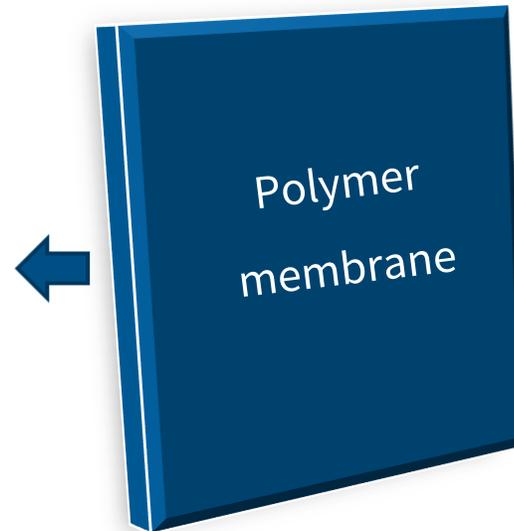


TAB RESEARCH UNIT: FLUORINE-FREE POLYMER MEMBRANES FOR PHOTOELECTROLYSIS AND REDOX FLOW BATTERIES (SANS-F)



Photoelectrochemical cell

- Oxidation of glycerol
- Hydrogen evolution



Redox flow battery

Research groups: U. S. Schubert, Y. Lu, F. H. Schacher, M. Favaro

Outlook to 2026

EQUIPMENT PLANNED TO ARRIVE IN 2026

Batteries

- Formulation platform
- Redox flow test cells
- RFB characterization & prototype test stand
- Electrochemical workstation

Synthesis

- Microwave
- H-cube
- UV-cube
- High temperature oven
- 3D printing

Computing

- GPU servers
- Computing software

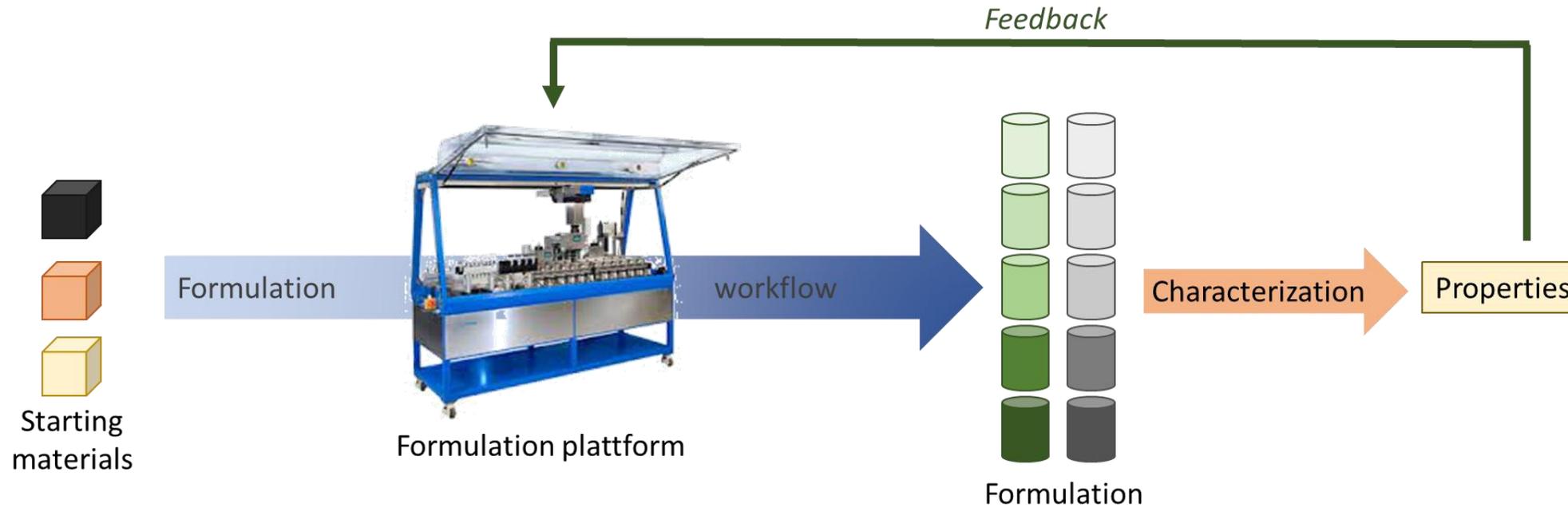
Characterization

- Scale & titrator for elemental analysis
- Mechanical surface analysis platform
- Analytical ultracentrifuge



FORMULATION PLATFORM

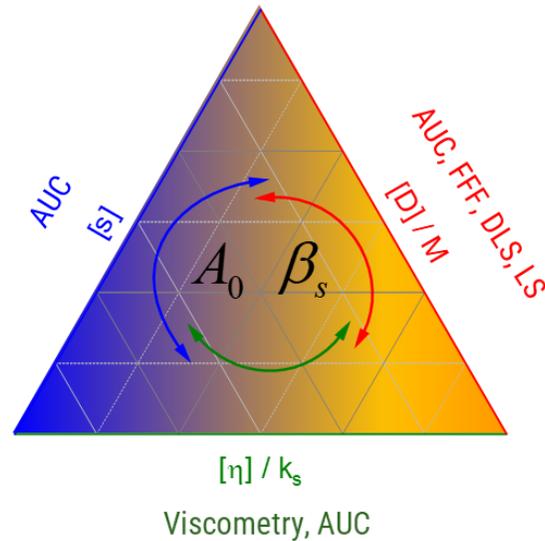
Thüringer Aufbaubank – Infrastructure: Formulation platform
(PIs from HIPOLE Jena: Jablonka, Lu, Schubert)





ANALYTICAL ULTRACENTRIFUGE FOR THE CHARACTERIZATION OF POLYMERS FOR ENERGY APPLICATIONS (ZENTRIPOLE)

- Life sciences
- Stealth polymers
- Polymer-protein conjugates
- (An-)isotropic micelles, nanoparticles
- Drug delivery systems



- Energy application
- Redoxactive polymers
- Polymer templates
- Liposomes, nanoparticles
- Inks

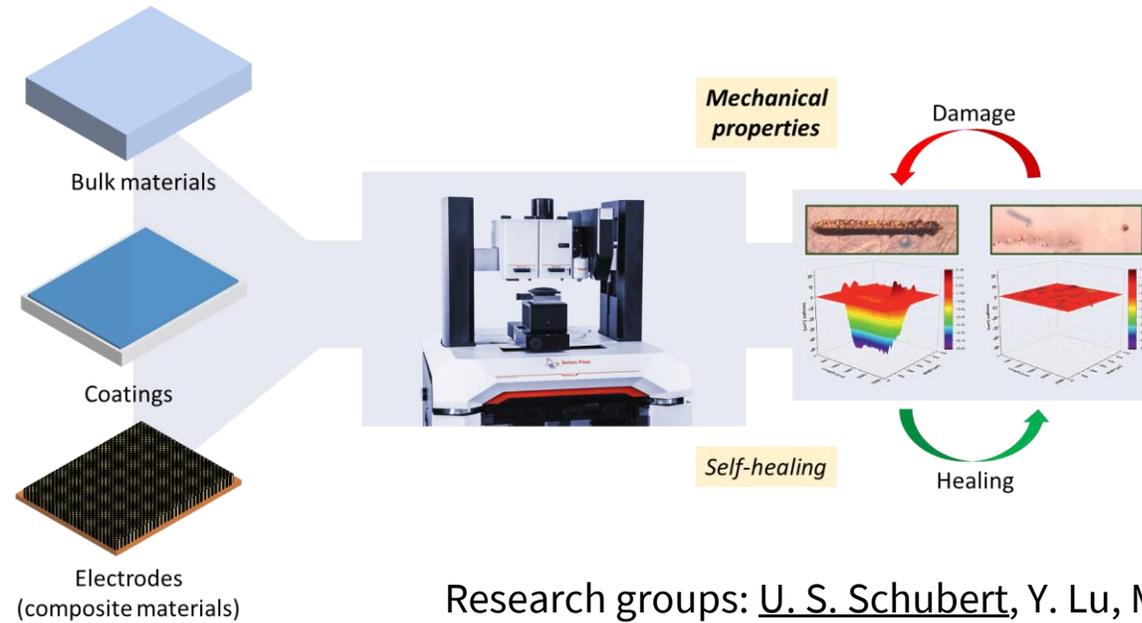


Research groups: I. Nischang, U. S. Schubert, Y. Lu, A. Pannwitz





MECHANICAL SURFACE ANALYSIS PLATFORM FOR MATERIALS FOR ENERGY STORAGE AND CONVERSION (NANO SCRATCH TESTER)

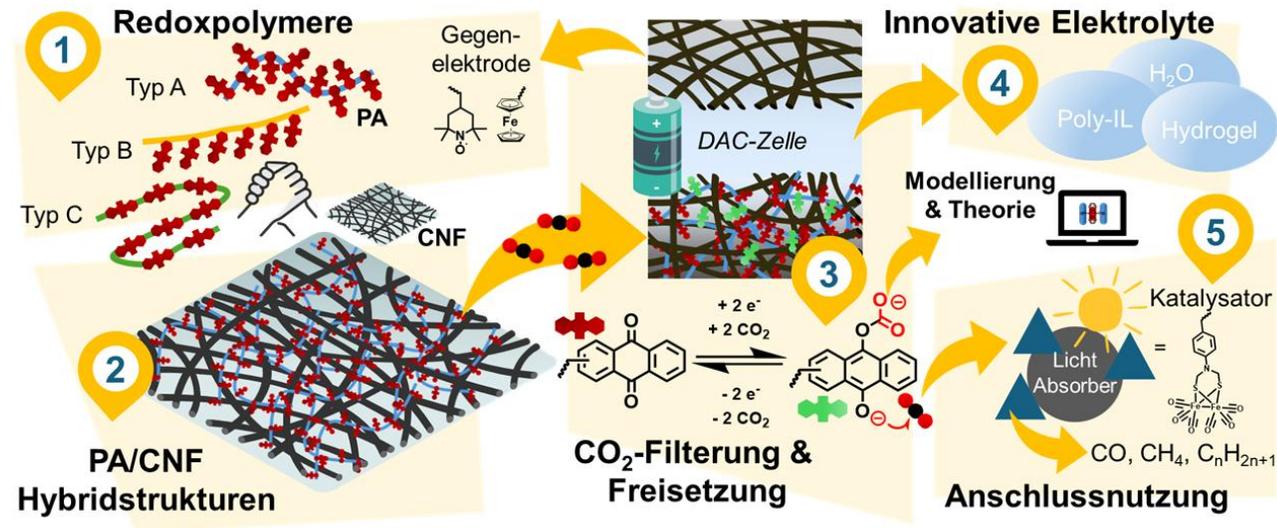


Research groups: U. S. Schubert, Y. Lu, Martin D. Hager,
F. H. Schacher, D. Mollenhauer





TAB RESEARCH UNIT: SELECTIVE ELECTROCHEMICAL SWING ADSORPTION OF CARBON DIOXIDE FROM AIR AT NANO-STRUCTURED POLYMER-CARBON-HYBRIDMATERIALS (POLYCAPTURE)

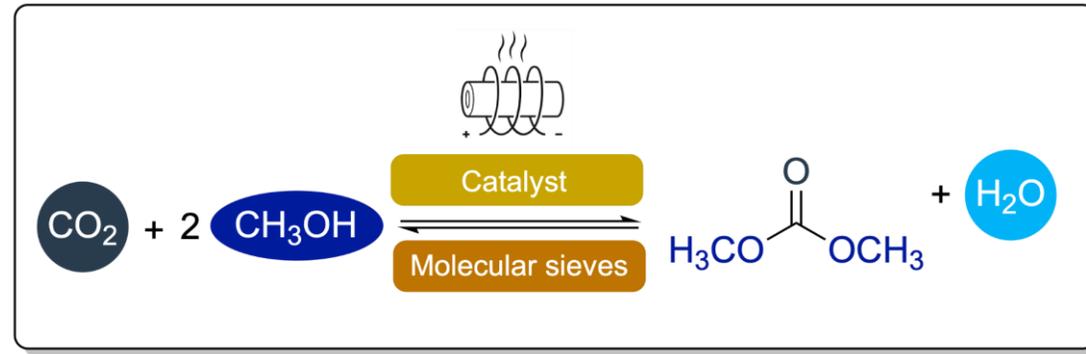


Research groups: M. Oschatz, D. Mollenhauer, U. S. Schubert, F. H. Schacher, A. Pannwitz





INDUCTIVELY HEATED CATALYSTS FOR THE EFFICIENT PRODUCTION OF PURE DIMETHYLCARBONATE FROM CO₂ (INDICO₂)



Partners:



EVENTS 2026



April 20-24
Hannover Messe 2026

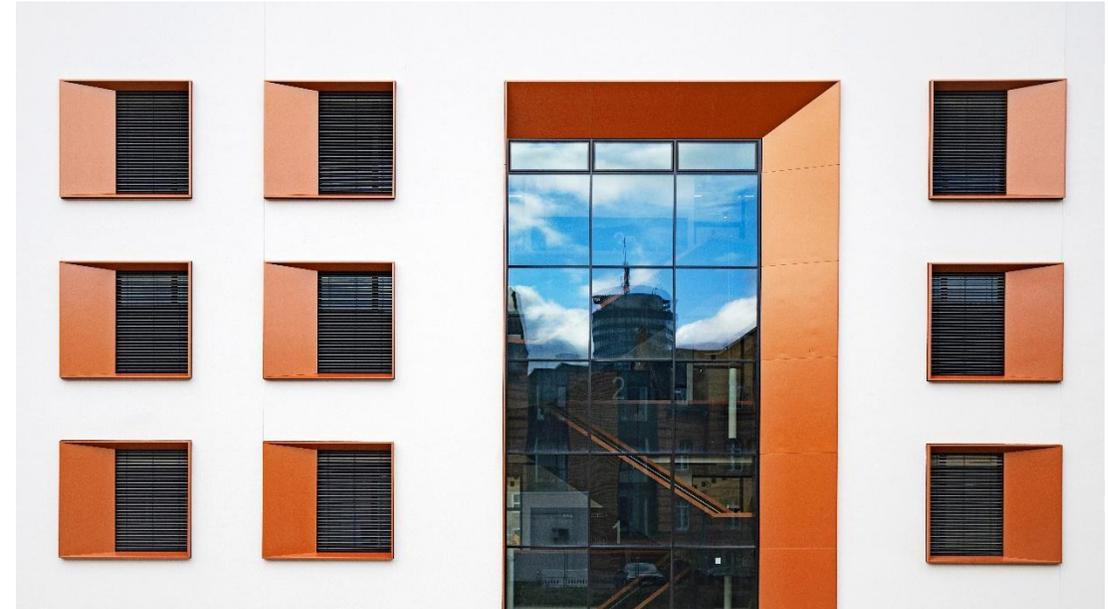
October 5-7
Organic Battery Days

April 23
Girls' and Boys' Day

November 20
Long Night of Science

HIPOLE JENA FIVE-YEAR PERSPECTIVE – GENERAL

- Ramp-up phase until 2028
- Goal: 6 professorships, 80 employees,
> 8 Mio. € annual budget
- Additional office and lab space in “lab2fab” building
(from 2027, 325 m²)
- HIPOLE Jena will develop to a world leading
institute in the field of polymers
for energy applications
- POF-V integration of polymer expertise
of HIPOLE Jena



HIPOLE JENA FIVE-YEAR PERSPECTIVE – SCIENTIFIC

- High-throughput experimentation and data science/AI to accelerate research (vision: “Self-driving labs”) and to identify new promising materials
- Sustainable materials for energy storage systems and circularity
- Detailed understanding of materials and devices (*operando* analysis)
 - *E.g.*: Synchrotron-Analytical Ultracentrifugation (AUC) combination
- Polymer-based batteries as alternatives to LIBs (from small to large systems)

