

Battery Modeling workshop – 2021

September 2021, Belgium

About the workshop

Workshop focuses on modeling frameworks for battery technologies at multiple length scales coupled with thermal, electrochemical and lifetime models; This workshop will provide the participants with insight to various types of modeling techniques and their application for process and cost optimization.

Workshop is designed for

- New technology startups
- AI/ML enthusiasts
- Battery designers
- Energy storage/Power R&D engineers
- Energy storage supplier
- Academic researchers
- Automotive industry manager
- Other industry member

Key benefits -

- ↻ Introduction to key modeling techniques for battery applications
- ↻ Guidelines on model to design battery
- ↻ Learning process optimization through modeling
- ↻ Application of machine learning and artificial intelligence in battery technology

Fees & Registration (Copy of ID is required)

Industrial participation: €1,000 + VAT

Academic participation: € 750 + VAT

Online participation: € 500 + VAT

10% discount for 2+ group attendees. The number of participants is limited. The registration fee includes hard copy print out of all workshop presentations, lunch, refreshments and excludes dinner.

Workshop location

Ransbeekstraat 310, 1120 Brussels

Program topics

Technology overview – Cell design – Modelling techniques (Cell → module → pack) – Multiphysics & Thermal model – Data driven techniques – System modelling – Optimization – State of health – Hands-on

Workshop Highlights

An opportunity to learn, extend your expertise and implement your knowledge to design novel battery models, to be safe and more efficient for next generation batteries.

Schedule

8:30 – 8:45	Registration desk
8:45 – 9:00	Welcome note
9:00 – 9:45	Equivalent circuit model
9:45 – 10:30	Multi-physics model
10:30 – 10:45	Coffee break & networking
10:45 – 11:30	Lifetime modeling - Calendar fading and cycle fading
11:30 – 12:15	Extrapolation techniques and sensitivity analysis
12:15 – 1:00	Lunch
1:00 – 1:30	Introduction to software (Hands-on)
1:30 – 2:45	Building up an ECM model: Parameter extraction
2:45 – 3:00	Coffee break & networking
3:00 – 4:15	Battery lifetime model: State of health
4:15 – 4:45	Summary & conclusions

Day 2: Program agenda

8:30 – 8:45	Coffee & Refreshment
8:45 – 9:30	1D & 3D thermal modeling cell to module and pack level
9:30 – 10:30	Thermal management system modeling (active & passive cooling)
10:30 – 10:45	Coffee break & networking
10:45 – 11:30	Recent advances with data-driven approach
11:30 – 12:15	Material discovery for next-generation battery materials
12:15 – 1:00	Lunch
1:00 – 1:30	Introduction to software (Hands-on)
1:30 – 2:45	How to estimate battery performance by multiphysics model?
2:45 – 3:00	Coffee break & networking
3:00 – 4:15	How to optimize battery operating conditions by thermal model?
4:15 – 4:45	Wrap-up (Summary & conclusions)

Enquires & Assistance: Please visit our website for more information <https://abeegroup.com/>