

Organisational Information

Sign up at: www.ecpe.org/events

Registration Deadline:

17 June 2026

Participation Fee:

€ 720,- * for industry
€ 525,- * for universities/institutes
€ 180,- * for students/PhD student
(limited spaces; copy of students ID required)

* plus VAT

- The on-site participation fee includes dinner, lunches, coffee/soft drinks and digital proceedings. The reduced (PhD) students fee includes all except for dinner (can be booked for an extra fee of € 50,-*)
- The online participation includes remote access via the meeting software Webex and digital proceedings.
- Digital proceedings will be provided by download link latest one day before start of the event. A printed handout is available on request.
- Upon receipt of registration confirmation via e-mail you are signed-up for the event. The invoice will be sent via email.
- Three participants from each ECPE member company free of charge. Allocation in sequence of registration.
- 10% discount on university/institute fee for participants from ECPE competence centres.
- Further information (hotel list and maps) will be provided after registration and can be found on the ECPE web page.
- Cancellation policy: Full amount will be refunded in case of cancellation upon to 2 weeks prior to the event. After this date 50 % of the fee is non-refundable (replacement is possible).
- We reserve the right to cancel the event or offer it as an online-only event if the minimum number of participants is not reached.

Organisational Information

Organiser ECPE e.V.
Ostendstrasse 181
90482 Nuremberg, Germany
www.ecpe.org

Technical Chair Prof. Ziwei Ouyang,
Technical University of Denmark

Prof. Jens Friebe,
University of Kassel

Prof. Alexander Stadler,
University of Applied Science Coburg

Dr. Stefan Weber,
TDK Electronics AG

Technical Contact Dr. Chris Gould, ECPE e.V.
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Venue University of Kassel
Department 16 Elektrotechnik/Informatik
Lecture Hall 1603
Wilhelmshöher Allee 71-73
34121 Kassel
or online via Webex



Source Photo : @Sascha Mennel
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Cluster
Leistungselektronik

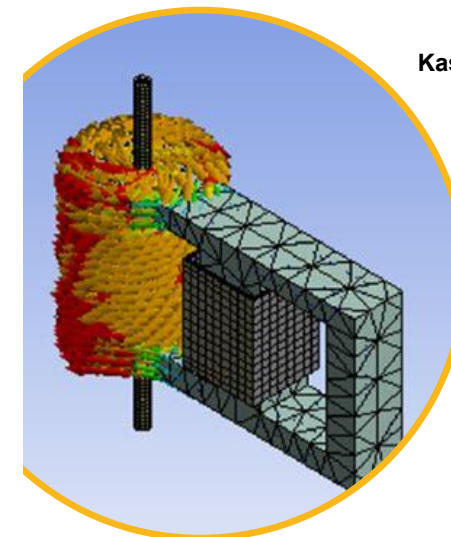


European Center for
Power Electronics e.V.

Draft Programme Flyer

ECPE / Cluster Hybrid Workshop

Design, Technology, Simulation and Application Aspects of Magnetic Components in PE



Kassel, Germany / hybrid
23 – 24 June 2026

ECPE Hybrid Workshop

Design, Technology, Simulation and Application Aspects of Magnetic Components in PE

23 – 24 June 2026
Kassel, Germany / hybrid

The increased use of wide bandgap devices in power electronic converters enables higher switching frequencies, miniaturisation of passive components and reduced switching losses. This push towards higher energy densities has led to more pressure placed on the volume and thermal constraints of the magnetic components used for energy storage, isolation and filtering, requiring the development/selection of advanced materials and construction processes, as well as optimised design of the magnetic path, winding arrangements and cooling strategy. Modelling and simulation techniques of electrical, mechanical and thermal parameters are now crucial to evaluate improved designs in advance of manufacture, especially for applications where a high level of integration is required.

This workshop aims to address these challenges by bringing together experts from industry and research, in order to present and discuss the wide range of topics at both component and application levels. The speakers will provide an update on the newest advances and, through discussions, jointly identify opportunities for further developments.

The workshop is aimed at a wide range of audience from beginners looking for an overview of the state-of-art of this challenging field, to experienced practitioners looking for the latest developments in materials and techniques of design, construction and modelling.

The workshop is chaired by:

Prof. Ziwei Ouyang,
Technical University of Denmark (DK)

Prof. Jens Friebe,
University of Kassel (DE)

Prof. Alexander Stadler,
University of Applied Science Coburg (DE)

Dr. Stefan Weber
TDK Electronics AG (DE)

All presentations and discussions will be in English.

Draft Programme

Tuesday, 23 June 2026

08:30 Registration / Webex started

09:00 Welcome, Opening
Chris Gould, ECPE e.V. (DE)

Introduction & Overview of Challenges for Future Magnetic Design

09:10 Keynote: Challenges, Opportunities and Trends for Magnetics Design
Ger Hurley, National University of Ireland (IE)

Fast Switching, High Frequency & Implications on Designs/Materials

10:00 TBD
TBD

10:30 Challenges for the Design of Low-power Transformers
Farnaz Davani, TDK Electronics AG (DE)

11:00 Coffee Break

11:30 Insulation Design of Medium-Frequency Transformers
Bastian Korthauer, ETH Zurich (CH)

12:00 Winding Insulation Failures and Analysis due to High-Frequency and High dV/dt Stress
Prof. A. Claudi, Kassel Uni/CRW Engineering (DE)

12:30 Tour of Labs and Lunch

Modelling, Simulation and A.I. for Magnetics

14:15 A.I. for Magnetics Design & Characterisation
Wilmar Martinez, KU Leuven (BE)

14:45 Thermal Simulation Techniques and Physical Principles in 3D FEM with Experimental Validation
Juris Vencels, Trafalo (LV)

15:15 Software Tools for Magnetics
TBD

15:45 Coffee Break

16:15 Optimisation of Magnetics
TBD

Magnetics for Datacentres

16:45 Recent Developments in Data Centre Power for AI Engines
Cian O'Manutha / Yi Dou, Tyndall National Institute (IE)

17:15 Planar Matrix Transformers – A Key Enabler of Efficient Power Delivery in Next-Generation A.I. Datacentres
Kamran Gul Raja, ST Microelectronics / DTU Denmark (DK)

17:45 End of First Day

19:30 Dinner

Draft Programme

Wednesday, 24 June 2026

08:45 Webex started

Applications

09:15 Keynote: TBD
Peter Zacharias, University of Kassel (DE)

10:00 Planar Magnetics for a 22kW On-board Charger
Stefan Hoffmann, Fraunhofer IZM (DE)

10:30 Challenges of Designing Transformers for Dual Active Bridge Systems
Marcin Kacki, Hitachi Energy (PL)

11:00 Coffee Break

11:30 Medium Voltage Solid State Transformers
TBD

12:00 Controllable Magnetics
Jens Friebe, University of Kassel (DE)

12:30 Integrated Magnetics-Technology in DAB
Daniel Benner, STS: Spezial-Transformatoren-Stockach (DE)

13:00 Lunch

Trends in Magnetic Materials

14:00 Nanocrystalline Materials for Medium-frequency Magnetic Components – Perspectives and Challenges
Hongbo Zhao, Aalborg University (DK)

14:30 New Developments and Trends in Ferrites
Michael Schmidhuber, Sumida (DE)

15:00 New Developments in Materials for Powder Cores
TBD

15:30 Final Discussion

16:00 End of Workshop