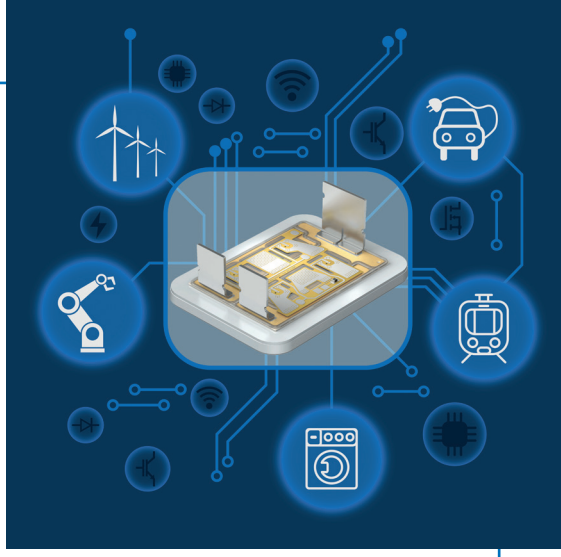
Call for Papers

CIPS 2022

12th International Conference on Integrated Power Electronics Systems



Picture: Sarah Rugen + (center module) Semikron

March, 15 – 17, 2022, Berlin, Germany

Conference focus

In the next decades, power electronic system development will be driven by energy saving systems, intelligent energy management, power quality, system miniaturization and high reliability. Monolithic and hybrid system integration will comprise advanced device concepts including wide bandgap devices, new packaging technologies and the overall integration of actuators/drives (mechatronic integration).

CIPS is consequently focused on the following main aspects:

- **assembly and interconnect technology for power electronic devices and converters**
- **integration of hybrid systems and mechatronic systems with high power density**
- **systems‘ and components‘ operational behaviour and reliability**

Basic technologies for integrated power electronic systems as well as upcoming new important applications will be presented in interdisciplinary invited papers.

In 2022 the successful story of CIPS will continue as the conference‘s focus is today more important than ever – increasing functionality, energy efficiency and system reliability while decreasing cost.

We invite all engineers and scientists coming from industry and academia engaged in power electronics-related

- system development
- component development
- reliability engineering
- basic and applied research

to share their research and technical achievements joining CIPS 2022 .

Conference topics

Applications are wide spread over areas such as

- transportation: automotive, railway, aircraft
- power electronics in the grid, in particular for renewable energy: wind, solar ...
- drives and power supplies

1. **Components to be integrated**
   - advanced silicon devices and monolithic integration
   - wide bandgap devices and monolithic integration
   - gate drivers
   - passive components
   - sensors and actuators
2. **General aspects of packaging**
   - system and component packaging
   - assembly concepts, embedded power, 3D integration
   - new materials and interconnects
   - additive manufacturing
   - high voltage insulation
   - design for high temperature applications
   - cooling concepts
   - interface materials
   - multidomain CAD (electrical, thermal, mechanical, chemical) as design tool
3. **Power packages and modules**
   - bare chip packaging
   - discrete semiconductor packages
   - hermetic semiconductor packages
   - power semiconductor modules
   - heterogeneous integration, power system-in-package
4. **System and application aspects**
   - mechatronic systems and their applications
   - integration of power electronics into electric machines
   - challenges of fast switching on circuit/system level - winding insulation, bearing currents, earth leakage, touch current, ...
   - integration with sensors and actuators
   - overall system optimisation
5. **Reliability and availability**
   - reliability requirements, mission profiles
   - robustness validation, physics of failure, failure analysis
   - modelling and simulation of lifetime
   - intelligent reliability testing
   - prognostics and health management
   - fault tolerant designs and applications
6. **Clean switching, electromagnetic compatibility (EMC)**
   - parasitics and interferences; design for low inductance, coupling capacity
   - electrodynamically optimised design
   - optimised control through driving scheme filters

Please select the most appropriate topic for your contribution. The other topics are possible examples. Please submit your contribution even if you can not find the appropriate topic for your contribution. All interesting contributions are welcome!

www.cips.eu

VDE ETG

Call for Papers

Experts from industry and research institutes wishing to present results of their recent research are cordially invited to submit a paper. Accepted papers will be presented in either oral or poster sessions.

Please submit a pdf formatted abstract in English with a length of two pages including figures, tables & references showing summary, motivation, approach and results. The paper should be headed by title, authors' names and affiliations.

Please register your paper using the EDAS online registration at www.cips-conference.de. If you have already a personal account, please login with your username and password. Otherwise first create a new account, and then register your paper.

Paper Review

A two-stage review process will be applied:

1. The Technical Program Committee will review the abstracts and decide upon the acceptance.
2. Each full paper will be reviewed by peer reviewers. It shall be
   - within conference scope
   - fulfilling the requirements regarding clarity, presentation, innovation and possible realisation
   - readable in the proper format as defined by IEEE.

If this would not be the case, the author will be requested to send a revised paper for further review.

Please note:

- After acceptance, the authors are asked to submit the full paper with a length of up to 6 pages for publication.
- The proceedings will be published by VDE Verlag; presented papers will in addition be available on IEEE Xplore®.
- Papers previously presented and published in the Conference Proceedings of CIPS can be considered for publication in IEEE Transactions on Power Electronics when improved with additions beyond the conference paper, which needs to be referenced, cf. Guidelines for Manuscript Submission to IEEE Transactions on Power Electronics.
- By submitting your full paper we assume that you have accepted the copyright-statement: www.vde.com/typing-instructions.
- After the conference, the presentations will be made available for all participants on a password protected file server.

Chairs

General Chairs	**Leo Lorenz**, ECPE e.V. **Thomas Harder**, ECPE e.V.
Technical Chairs	**Andreas Lindemann**, Otto-von-Guericke-University Magdeburg **Nando Kaminski,** University of Bremen
Honorary Chairs	**Dieter Silber**, University of Bremen **Eckhard Wolfgang**, ECPE e.V.

Important Dates

Deadline Abstract Submission **31.08.2021**
Notification of preliminary Acceptance 16.10.2021
Full Paper Submission Deadline..... **30.11.2021**
Notification of Acceptance Full Paper 13.01.2022
Final Paper Submission Deadline (if modifications required) . **22.01.2022**
Notification of Acceptance Final Paper for publication . 12.02.2022
Deadline for authors registration 19.02.2022
Conference start..... **15.03.2022**

Organised by

VDE
Association for Electrical, Electronic & Information Technologies

VDE is one of the largest technical and scientific associations in Europe with more than 32 000 members.

www.vde.com/en/

ECPE
ECPE European Center for Power Electronics e.V.

The industry-driven research network for power electronics in Europe with more than 200 member organisations is promoting research, education, training and public relations in power electronics.

www.ecpe.org

Conference venue

Mercure Hotel MOA Berlin
Stephanstrasse 41
10559 Berlin
www.hotel-moa-berlin.de

Discover Berlin

Berlin is a city of both, the past and the future, – managing to perfectly combine old Prussian traditions and the pulsating trends of a modern metropolis. Historical landmarks, such as the Reichstag (House of Parliament), Brandenburg Gate, the Red Town Hall, the Fernsehturm (television tower) have a story to tell. Additionally numerous parts of the city such as the 'Unter den Linden' boulevard, Alexanderplatz, Museum Island, Potsdamer Platz with the Sony-Center or the Hackeschen Höfe (boutique courtyards) attract tourists from every part of the world.

Contact

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Sign up for the Exhibition!

The CIPS Conference will be accompanied by an exhibition which is well appreciated from the conference delegates. It gives all attendees and exhibiting companies enough space for networking. Don't miss the chance to book your space on time.

Details at:
www.cips.eu