

## Press release

### **SEMIKRON Foundation and ECPE honour Prof. Dr. Johann Walter Kolar and Dr. Johann Miniböcke with the Innovation Award**



- **The award honours the outstanding innovation on ‘Multiple-Interleaved Triangular-Current-Mode Converters’. With their work the researchers have pushed the borderline of efficiency and power density of PFC stages.**
- **The SEMIKRON Young Engineer Award goes to to Mr Benjamin Zeller for his contributions to the development of a high-efficient and high volume 65W power supply on a PC mainboard.**

**Nuremberg, Germany, May 23, 2014.** The SEMIKRON Foundation and the ECPE European Centre for Power Electronics e.V. jointly honoured Prof. Dr. Johann Walter Kolar, Power Electronic Systems Laboratory, ETH Zurich, Switzerland and Dr. Johann Miniböck, M-PEC Power Electronics Consulting, Austria with the SEMIKRON Innovation Award 2014 at the PCIM 2014 for their outstanding innovation on ‘Multiple-Interleaved Triangular-Current-Mode Converters’.

The SEMIKRON Young Engineer Award goes to Benjamin Zeller, Fujitsu Technology Solutions in Augsburg, Germany for his contributions to the development of a high-efficient and high volume 65W power supply on a PC mainboard. The key element was to design a very efficient transformer with an excellent coupling and a low primary leakage inductance. This innovation has shown that it is possible to bring back added value to Europe also in the cost-sensitive PC market by introducing a high level of integration on the board.

With these awards, the SEMIKRON Foundation and the European ECPE Research Network honour outstanding innovations in projects, products, prototypes, services and innovative concepts in the field of power electronics.

**Innovation award for pushing the borderline of efficiency and power density of PFC stages.**

“The researchers from... Power Electronic Systems Laboratory, ETH Zurich, Switzerland and M-PEC Power Electronics Consulting, Austria have developed a new circuit concept and topology based on a parallel arrangement of multiple interleaved half-bridge switching stages which are operated in triangular current mode (MI-TCM principle)“, said Bettina Heidenreich-Martin, member of the SEMIKRON Foundation Board, during the award ceremony. “With their outstanding innovation on ‘Multiple-Interleaved Triangular-Current-Mode Converters the researchers have pushed the borderline of efficiency and power density of PFC stages“, explains Heidenreich-Martin.

In total, there were 26 applications and submissions for the two SEMIKRON awards, 6 of which have been nominated for the Young Engineer Award as well. The winner among the young researchers is Mr Benjamin Zeller, Fujitsu Technology Solutions in Augsburg, Germany for his contributions to the development of a high-efficient and high volume 65W power supply on a PC mainboard. Besides the overall efficiency a special focus was put on achieving a high efficiency at light load conditions e.g. in system idle state. The key element was to design a very efficient transformer with an excellent coupling and a low primary leakage inductance. “This innovation has shown that it is possible to bring back added value to Europe also in the cost-sensitive PC market by introducing a high level of integration on the board.“, says Prof. Dr. Leo Lorenz, President of ECPE, who presented the SEMIKRON Young Professional Award on behalf of the SEMIKRON foundation.

“One of the key objectives for the ECPE European Centre for Power Electronics is to foster and support research and education in the field of power electronics“, says Lorenz. “The industry-led ECPE network, with its 70 members, currently includes 70 European universities and research institutes as so-called Competence Centres. I welcome the support for young researchers in the field of power electronics, and want to express my thanks to SEMIKRON Foundation for issuing the awards”.



Photo: (left to right) Bettina Heidenreich-Martin, Prof. Dr. Leo Lorenz .....

### **About the „SEMIKRON Innovation Award“ and the „SEMIKRON Young Engineer Award“**

The SEMIKRON Innovation Award honours outstanding innovations in projects, prototypes, services and innovative concepts in the field of power electronics in Europe. The foundation honours innovations that generate a high potential social benefit and improve energy efficiency, preservation of resources, sustainability and environmental protection.

The award ceremony is held annually during the “PCIM Europe” power electronics show in Nuremberg, Germany. The laureates are elected in cooperation with the ECPE European Centre for Power Electronics. The main award is endowed with 10,000 Euro. There is also a young engineer award, endowed with 3,000 Euro, that goes to young researchers under 30 years of age in the field of power electronics.

The laureates are elected by an independent jury of renowned research and industry representatives. Applications are available for individuals and development teams. Applicants are required to outline the innovation they created and its expected social benefit.

### **About the SEMIKRON Foundation:**

The SEMIKRON Foundation was founded on December 4, 2010, by owners of the SEMIKRON Group. Equal founders are the daughters of Peter Martin, the SEMIKRON owner and managing director of many years, who passed away in 2008. With the founding act, the founders intended to live up to their responsibility being the owners of a family-owned medium industry business and to contribute to their company’s “Corporate Social Responsibility”.

The purpose of the SEMIKRON Foundation is to bundle and extend the charitable activities operated by the owners of the SEMIKRON Group. In particular, the humanitarian projects initiated by Mr. Peter Martin, and supported by the Mali Martin Care e.V. charity are to be continued. These projects support children and people in need all over the world. Over the past 10 years, Mali Martin Care e.V. has donated more than one million Euro to humanitarian projects for children and young adults, mostly in Brazil (projects “Centro Social” and “Lar do Menor”). In addition, the foundation supports research projects and innovations in the field of power electronics. For more information, please visit: [www.semikron-stiftung.com](http://www.semikron-stiftung.com).



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