



September 2-6, 2019 | Genova, Italy

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Graz University of Technology

The Faculty of Electrical and Information Engineering of Graz University of Technology is seeking to appoint a full professor of

## Power Electronics

for a tenured faculty position, tenured according to Section 98 of the Austrian University Act (§98 UG) at the Electric Drives and Machines Institute, prospectively starting on **March 1, 2020**.

For this position, we are seeking a highly qualified and scientifically well-established individual who is deeply committed to representing the field of "Power Electronics" in teaching and research.

To apply, applicants must have a doctorate (Ph.D.) in the required engineering discipline or in a closely related field from either an Austrian or an equivalent foreign university. Furthermore, we expect outstanding academic qualifications, as evidenced by a habilitation degree (venia docendi) or equivalent scientific achievements as well as several years of international work experience and management skills.

For further information as well as the mandatory application form, please visit us at:

<https://www.tugraz.at/go/professorships-vacancies>

Graz University of Technology aims to increase the proportion of women and therefore qualified female applicants are explicitly encouraged to apply. Graz University of Technology actively promotes diversity and equal opportunities. People with disabilities who have the relevant qualifications are explicitly encouraged to apply.

Applicants must use the provided application form to forward a thorough application in electronic form to [dekanat.etit@tugraz.at](mailto:dekanat.etit@tugraz.at) by no later than May 31, 2019 (email time stamp).

The Dean: Univ.-Prof. Dipl.-Ing. Dr.techn. Wolfgang Bösch, MBA

[www.tugraz.at](http://www.tugraz.at)

## 1. **EPE'19 ECCE Europe, Genova, Italy, 2-6 September 2019**

<http://www.epe2019.com>

**- Technical programme unveiled – Registration opens 23 April 2019**

### **Confirmed Keynote speakers:**

Marco Venturini, CEO of Phase Motion Control S.p.A.

**New trends in electric mobility (batteries, powertrains, etc...)**

Paolo Bordignon, Executive Vice President, R&D Coordination and Technology,  
Rongxin HUIKO Electric Technology Co., Ltd

**VSC Conversion Technology for HVDC & FACTS, State of the Art and Future Trend**

### **Monday 2 September: Tutorials:**

#### T1 (Morning): GaN Transistors as an Enabler of High-Performance Power Electronics

Miroslav Vasić, Universidad Politécnica de Madrid, Centro de Electrónica Industrial (CEI), José Gutiérrez Abascal 2, 28006 Madrid, Spain

#### T2 (Afternoon): Design of High efficiency Electric Motors and Power Electronic Drives with Wide Bandgap Devices (SiC and GaN)

Prof. Bulent Sarlioglu, PhD, Associate Professor, University of Wisconsin-Madison, USA

#### T3 (Full day): Prospects for Condition Monitoring Implementation in SiC Power MOSFETs

Dr Olayiwola Alatise, Dr Jose Ortiz Gonzalez, School of Engineering, University of Warwick, UK; Assist. Prof. Amir Sajjad Bahman, Prof. Francesco Iannuzzo, Department of Energy Technology, Aalborg University, Denmark

#### T4 (Full day): MMC-based Converters for MVDC Applications

Prof. Drazen Dujic, Dr. Alexandre Christe\*, Mr. Stefan Milovanovic, Power Electronics Laboratory – PEL, Swiss Federal Institute of Technology – EPFL, Lausanne, Switzerland, \*ABB Corporate Research Centre, Västerås, Sweden

#### T5 (Full day): Smart Battery Pack Solutions with Lithium-ion Batteries

Daniel Stroe, Remus Teodorescu, Aalborg University; Mattia Ricco, University of Bologna

#### T6 (Afternoon): Insulation and Coordination Design Steps for Medium Voltage Power Electronics Applications

Ilknur Colak – Team Leader & Project Manager – Power Electronics, Maschinenfabrik Reinhausen GmbH, Regensburg, Germany

#### T7 (Morning): Modular high frequency high voltage power supply: architectures, circuit modeling methodologies and output voltage sharing technologies

Saijun Mao; Leadrive Technology (Shanghai) Co., Ltd, China; Braham Ferreira; Delft University of Technology, The Netherlands.

#### T8 (Full day): Model Predictive Control of Power Converters: Principle, Design and Applications

Ralph Kennel, Department of Electrical and Computer Engineering, Technical University of Munich, Munich, Germany; José Rodríguez, Faculty of Engineering, Universidad Andres Bello, Santiago, Chile ; Tomislav Dragičević, Department of Energy Technology, Aalborg University, Aalborg, Denmark; Mateja Novak, Department of Energy Technology, Aalborg University, Aalborg, Denmark; Tobias Geyer, ABB Corporate Research, Baden-Dättwil, Switzerland

### **Tuesday 3 September:**

LS1a: Topic 1: Wide Bandgap Devices

LS1b: Topic 2: Modular Multilevel Converters (MMC)

LS1c: Topic 6: DC Grids: Protections and Control

LS1e: Topic 4: Machine and Drive System Design and Modelling

LS2a: Topic 1: Silicon Power Devices

LS2b: Topic 2: Advanced Power Converter Topologies (APC)

LS2c: Topic 6: DC Grids: Modelling and Operation  
LS2e: Topic 4: High-Performance Control of Drive Systems

DS1a: Topic 1: Passive Components  
DS1b: Topic 1: Active Devices and Components (Wide Bandgap and Other New Materials)  
DS1c: Topic 2: Hard & Soft Switching Techniques  
DS1d: Topic 2: Advanced Power Converter Topologies I  
DS1e: Topic 3: Measurements and Control: Other Topics  
DS1f: Topic 4: Electrical Machines  
DS1g: Topic 4: Adjustable Speed Drives  
DS1h: Topic 6: Power Electronics in Transmission and Distribution Systems  
DS1i: Topic 6: HVDC & FACTS  
DS1j: Topic 10: Data Analysis, Artificial Intelligence, and Communication Issues

#### Industrial Forum

Wide Bandgap components: GaN

Marine Transportation

#### **Wednesday 4 September:**

LS3a: Topic 1: Reliability  
LS3b: Topic 2: Converter Design and Optimization (CDO)  
LS3c : Topic 3: Standard and Advanced Control Techniques for Power Converters (part I)  
LS3d: Topic 7: Wireless Power Supply  
LS3e: Topic 5: Photovoltaics  
LS4a: Topic 1: Passives  
LS4b: Topic 2: Dual Active Bridge Converters (DAB)  
LS4c :Topic 3: Standard and Advanced Control Techniques for Power Converters (part II)  
LS4d: Topic 7: Power Supplies  
LS4e: Topic 4: High-Performance Drive Systems

DS2a: Topic 1: Active Devices and Components (Si)  
DS2b: Topic 1: System Integration, Packaging & Thermal Management  
DS2c: Topic 1: Reliability  
DS2d: Topic 2: Advanced Power Converter Topologies II  
DS2e: Topic 2: Advanced Power Converter Topologies III  
DS2f: Topic 3: Standard and Advanced Control Techniques for Power Converters I  
DS2g: Topic 3: Application of Control Methods  
DS2h: Topic 4: High Performance Drives, Robotics  
DS2i: Topic 5: Wind Energy Systems  
DS2j: Topic 7: Power Supplies  
DS2k: Topic 7: Contactless Power Supplies and Wireless Power Transfer  
DS2l: Topic 9: Industry Specific Energy Conversion and Conditioning Technologies

#### Industrial Forum

Wide Bandgap components: SiC: "From the high end niche to the main stream – cranking up the volume"

Speakers confirmed:

- John Palmour of Cree/Wolfspeed
- Thomas Neyer of ON Semiconductors
- Speakers from STM, Mitsubishi, and more

Moderator: Prof. Nando Kaminski, University of Bremen, Germany

IEEE WG P2004: „Recommended Practice for Hardware-in-the-Loop (HIL) Simulation Based Testing of Electric Power Apparatus and Controls“

Chair: Michael Steurer; Florida State University, Tallahassee, FL, USA;

Co-Chair: Georg Lauss, Austrian Institute of Technology, Vienna, Austria;

Secretary: Blake Lundstrom, National Renewable Energy Laboratory, Golden, CO, USA;

#### **Thursday 5 September:**

LS5a : Topic 3: Estimation and Control Methods Applied to Electrical Systems  
LS5b: Topic 5: Wind Power  
LS5c: Topic 2: DC/DC Converters (DCDC)

LS5d: Topic 6: Grids Monitoring and Stability  
 LS5e: Topic 8: Wireless Charging  
 LS6a : Topic 3: Measurements Techniques & Sensors  
 LS6b: Topic 5: Storage and Grid  
 LS6c: Topic 9: Industry Specific Energy Conversion and Conditioning Technologies  
 LS6d: Topic 6: Special Session on SCCER-Furies  
 LS6e: Topic 8: Industrial Power Converters for Electric Vehicles

DS3a: Topic 2: Advanced Power Converter Topologies IV  
 DS3b: Topic 2: EMC Issues Including HF Phenomena  
 DS3c: Topic 3: Standard and Advanced Control Techniques for Power Converters II  
 DS3d: Topic 3: Standard and Advanced Control Techniques for Power Converters III  
 DS3e: Topic 3: Estimation and Identification Methods; Sensorless Control  
 DS3f: Topic 5: Solar Energy Systems  
 DS3g: Topic 5: Other Renewable Energy Systems, Energy Harvesting; Energy Storage  
 DS3h: Topic 6: Micro-Grids  
 DS3i: Topic 6: Other Grid Issues  
 DS3j: Topic 8: Power Converters for Electric Vehicles  
 DS3k: Topic 8: Electric Vehicle Propulsion Systems and their Energy Storage

#### **Friday 6 September : Technical visits**

##### Phase and Motion Control S.p.A. – Genova

Leading the Innovation in Dynamic Motion, Torque and Position Control for Automation: e.g., extra high torque density motor, high efficiency, high power density submersible pm motors for under water propulsion....

##### IIT (Italian Institute of Technology) – Genova

Robotics, Nanomaterials, Lifetech, Computational Sciences

##### ASG Superconductors SpA

Design, development, production, installation and testing of superconductive and resistive magnetic systems, cryogenic systems, resonance cavities, superconducting solenoids and coils, magnets for cyclotrons and components for made-to-measure applications, from design to production to the complete test of systems and magnets.

**- Exhibition : Plan your participation: check for updated information at <http://www.epe2019.com>**

*Already confirmed:*

##### Contributors:

- ABB SpA Marine & Ports
- MONT-ELE
- NIDEC INDUSTRIAL SOLUTIONS
- Phase Motion Control S.p.A.
- Plexim GmbH
- Poseico SpA
- Rohde & Schwarz

##### Exhibitors:

- |                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| • COMER s.r.l.                                    | • OMICRON Lab                              |
| • dSpace                                          | • OPAL - RT Europe                         |
| • ECPE European Center for Power Electronics e.V. | • PCIM Europe                              |
| • EGSTON Power Electronics GmbH                   | • PEM (Power Electronics Measurements) Ltd |
| • EUROCONTROL SpA                                 | • Powersys                                 |
| • HIOKI Europe GmbH                               | • RGM SpA                                  |
| • imperix ltd                                     | • Typhoon HIL                              |
| • Mathworks – Speedgoat GmbH                      | • Yokogawa                                 |
| • Mersen                                          | • ZES Zimmer Electronic Systems GmbH       |

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- Hotels : make sure to book your room on time to enjoy the best possible rate:

<https://www.cbgenova.it/en/events-57/epe-2019-ecce-europe.html>

## 2. ECPE: Calendar of Events 2019

Date	Location	Event	Topic
5 – 6 June 2019	Bremen, Germany	ECPE Workshop	<a href="#">Humidity and Condensation in PE Systems - Degradation Mechanisms and Lifetime Modelling</a> Chairmen: Prof. N. Kaminski (University of Bremen), M. Piton (Alstom)
3 – 4 July 2019	Leinfelden- Echterdingen (near Stuttgart Airport), Germany	ECPE Workshop	<a href="#">Availability of Power Electronics by Fault-Tolerant Designs for Automotive and Aircraft</a> Chairmen: Prof. E. Wolfgang (ECPE), Prof. V. Pickert (Newcastle University), Dr. W. Wondrak (Daimler)
9 – 10 July 2019	Nuremberg, Germany	ECPE Tutorial	<a href="#">Thermal Engineering of Power Electronic Systems - Part I: Thermal Design and Verification</a> Chairman: Prof. U. Scheuermann (Semikron)
15 – 16 Octobre 2019	Nuremberg, Germany	ECPE Tutorial	<a href="#">Thermal Engineering of Power Electronic Systems - Part II: Thermal Management and Reliability</a> Chairman: Prof. U. Scheuermann (Semikron)

For the information about ECPE Workshops and Tutorials, please visit the ECPE website [www.ecpe.org](http://www.ecpe.org)

## 3. Future EPE ECCE Europe and Technically Sponsored Conferences

### 2019:

- ICPE 2019 – ECCE Asia, 27 - 31 May 2019 Busan, Korea (South)  
<http://www.icpe2019.org/>
- CIGRE Aalborg 2019 - International Symposium, 4 - 7 June  
<https://cigreaalborg2019.dk/>
- EMR'19 Summer School, 17 - 19 June 2019, Lille, France  
<http://www.emrwebsite.org/>
- LDIA 2019, 1 - 3 July 2019 at MICROCITY EPFL Neuchatel, Switzerland  
<https://ldia2019.epfl.ch/>
- PhD Summer School Mont-Soleil, 12 - 16/17 August 2019  
<http://www.societe-mont-soleil.ch/summer-phd-school-mont-soleil.html>
- SLED 2019, Torino, 9 - 10 September 2019  
<https://attend.ieee.org/sled-2019/>
- EPE 2019 ECCE EUROPE, 2 - 6 September 2019, Genova, Italy  
<http://www.epe2019.com/>
- Power electronics Ee2019, Novi Sad, October 23 - 26, 2019  
[www.dee.uns.ac.rs](http://www.dee.uns.ac.rs)

### 2020:

EPE 2020 ECCE EUROPE, 7-11 September 2020, Lyon, France

### 2021:

EPE 2021 ECCE EUROPE, 6-10 September 2021, Ghent, Belgium

### 2022:

EPE 2022 ECCE EUROPE, 5-9 September 2022, Hanover, Germany

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