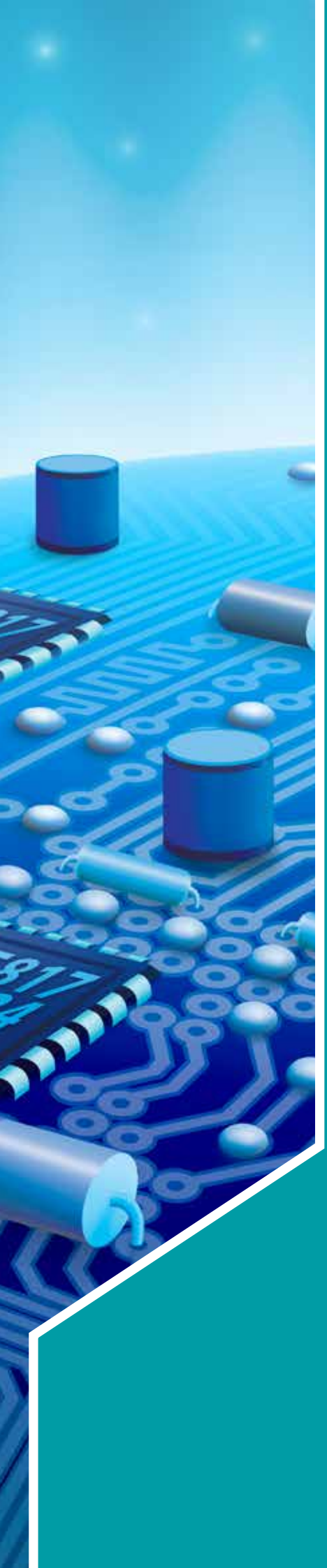

RI.SE

# SCAPE 2019

International Wide-BandGap Power Electronics Applications Workshop

## 12-14 May 2019, Stockholm, Sweden

## Workshop Programme

13–14 May

SiCPC

# Workshop SCAPE 2019

## 13-14 May 2019, Radisson Blu Royal Park Hotell

### Monday 13 May

| | |
|---|---|
| **08:30 - 09:00** | Registration & coffee |
| **09:00** | **Mietek Bakowski, RISE:** *Welcome* |
| *Strategic Initiatives* | |
| **09:10** | **Peter Rechberger, ECPE:** *ECPE WBG Roadmap - lead applications for SiC and GaN* |
| **09:30** | **Peder Bergman, Linköping University:** *Presentation of PECTA - speeding-up effectivisation of energy conversion* |
| **09:50** | **Alistair McGibbon, UK Catapult programme:** *Supporting industrial R&D in wide bandgap power electronics applications* |
| **10:10 - 10:50** | Coffee & Exhibition |
| **Key Note** | |
| **10:50** | **Enrico Zanoni, University of Padova:** *Recent advancements in the technology and reliability of power Gallium Nitride devices for switching applications* |
| *SiC & GaN Devices* | |
| **11:20** | **John Palmour, Wolfspeed:** *SiC MOSFETs Poised for Adoption in Automotive Markets* |
| **11:40** | **Ignazio Lizama, ROHM Semiconductor:** *SiC MOSFETs in Low-Inductive SMD Package with driver Source* |
| **12:00** | **Martin Domeij, On Semiconductor:** *Rugged 1200 V SiC MOSFETs for automotive applications* |
| **12:20 - 14:00** | Lunch & Exhibition |
| **14:00** | **Juan Colmenares, Infineon :** *Silicon Carbide CoolSiC™ semiconductor products - revolution to rely on* |
| **14:20** | **Eugen Wiesner, Mitsubishi Electric:** *SiC Power Modules and their applications* |
| **Applications** | |
| **14:40** | **Nicola Mingirulli, Robert Bosch:** *SiC in Automotive Drivetrain Application* |
| **15:00 - 15:20** | Coffee & Exhibition |
| **15:20** | **Martin Lindahl, Bombardier Transportation Sweden:** *Investigation of Overvoltage On Motor Terminal Due to Fast Switching with Silicon Carbide* |
| **15:40** | **Thord Nilson, Inmotion Technologies:** *Evaluation of performance of WBG (and Si) components for inverter applications* |
| **16:00** | **Kenneth Andersson, QRTECH:** *5kW PFC Vienna rectifier for Airborne Equipment* |
| **16:20 - 16:40** | Coffee & Exhibition |
| **16:40** | **Stefan Lidström, Comsys:** *WBG components is not the "simple solution" - a good system design is equally important* |
| **17:00** | **Christian Schwabe, Chemnitz University of Technology:** *Power cycling of SiC Mosfets* |
| **17:20** | **Ninos Poli, Scania:** *Voltage Source Converter using SiC for Scania's electrified vehicles* |
| *WBG PC Annual Awards* | |
| **17:40** | *Presentation of awardees "Best Master Thesis" & "Young Professional"*<br>**Per Ranstad, WBG Power Center** |
| **17:50 - 18:10** | **Best Master Thesis & Young Professional Award, summary given by awardees** |
| **19:30** | Dinner |

# Workshop SCAPE 2019

## 13-14 May 2019, Radisson Blu Royal Park Hotell

### Tuesday 14 May

| | |
|---|---|
| **08:30 - 09:00** | Registration & coffee |
| **GaN Devices & Modules** | |
| **09:00** | **Thierry Bouchet, Leti**<br>*A new 650V GaN Half Bridge Power IC to Reach Ultimate USB Power Delivery Efficiency* |
| **09:20** | **Marco Panizza, Panasonic**<br>*Hybrid Drain GIT GaN based Totem Pole PFC Design - Reliability and circuital considerations* |
| **09:40** | **Mattia Guacci, ETH**<br>*Analysis of Monolithic Bidirectional GaN-switches and a New Modulation Scheme for Three-phase CSIs* |
| **10:00 - 10:30** | Coffee & Exhibition |
| **Resonant Convertors** | |
| **10:30** | **Enrique Dede, Smart Induction Converter Technologies**<br>*SiC Ultra Compact Smart Inverter Module for Induction Heating Applications* |
| **10:50** | **John Kåre Langelid, EFD Induction**<br>*Practical Experiences Using SiC DioMos in High Frequency High Power Series Resonant Applications* |
| **11:10** | **Per Ranstad, KTH, Royal Institute of Technology**<br>*On switching losses in a soft switching resonant converter* |
| **SiC MOSFET Analysis** | |
| **11:30** | **Andreas Huerner, Infineon:** *Compact-Models for SiC-MOSFETs* |
| **11:50** | **Amine Allouche, System Plus Consulting:** *SiC Power MOSFETs State of the Art - Technology and Cost Overview* |
| **12:10 - 13:30** | Lunch & Exhibition |
| **Market & Roadmap** | |
| **13:30** | **Hong Lin, Yole Développement:** *GaN & SiC power devices – Market overview* |
| **14:00** | **Edoardo Merli, STMicroelectronics:** *SiC applications, growth and manufacturing strategy* |
| **Panel Discussion** | |
| **14:20** | **Chair: Hong Lin, Yole Développement**<br>*Do we move towards wafer manufacturing integration & Can SiC production survive the automotive growth / boom*<br>**Panelists:** John Palmour, Edoardo Merli, P.S. Raghavan, Martin Domeij |
| **15:00** | **Volker Sinhoff, KCEO AIXaTECH:** *Low Temperature Epitaxy (LTE) – a corner stone for price parity between silicon and wide bandgap semiconductors* |
| **Packaging** | |
| **15:20** | **Kirill Klein, Fraunhofer IZM:** *The Evolution of Low Inductive Power Modules* |
| **15:40** | **Uffe Pless, UnitedSiC:** *5 Design Tips for Easy SiC Implementation* |
| **Closing Remarks** | |
| **16:00** | **Hans-Peter Nee, KTH, Royal Institute of Technology** |
| **16:20** | **End of workshop** |

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Ascatron is a Sweden based scale-up company with background in producing advanced SiC epitaxy material for global customers since 2011.

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EK Power Solutions has since the start in 1978, provided specialist design services in power supply, power electronics, battery charging, motor drives and printed circuit board layouts. Our strength is complex designs with high requirements on reliability, EMC, vibrations, thermal cooling or other environmental influences. We work throughout the product lifecycle from concept to product support.

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