



NCCA CMPUG 2024 Spring Symposium



ICPT 2024 & European CMP & WET Users Group Activities

European CMP & WET Users group
ErzM-Technologies UG, Technology Campus 1, 09126 Chemnitz, Germany
Fraunhofer ENAS, Technology Campus 3, 09126 Chemnitz, Germany



Imme Ellebrecht



Dr. Knut Gottfried

Content

- ICPT2024
- European CMP & WET Users Group – organization & recent activities
- Subsurface damage characterization using SPV – sample measurement availabilities

ICPT 2024



Welcome Page

Organizers + Contact

Venue

ICPT 2024 is running from Tuesday to Friday!

- Tutorial Session on Tuesday, Oct 15
- Regular conference from Wednesday, Oct 16 until Friday, Oct 18

ICPT 2024 - Wiesbaden, October 15-18, 2024

© Kurhaus Wiesbaden/Viorel Balan

ICPT 2024 venue - Kurhaus Wiesbaden (spa / cure house)



ICPT 2024 – the conference room



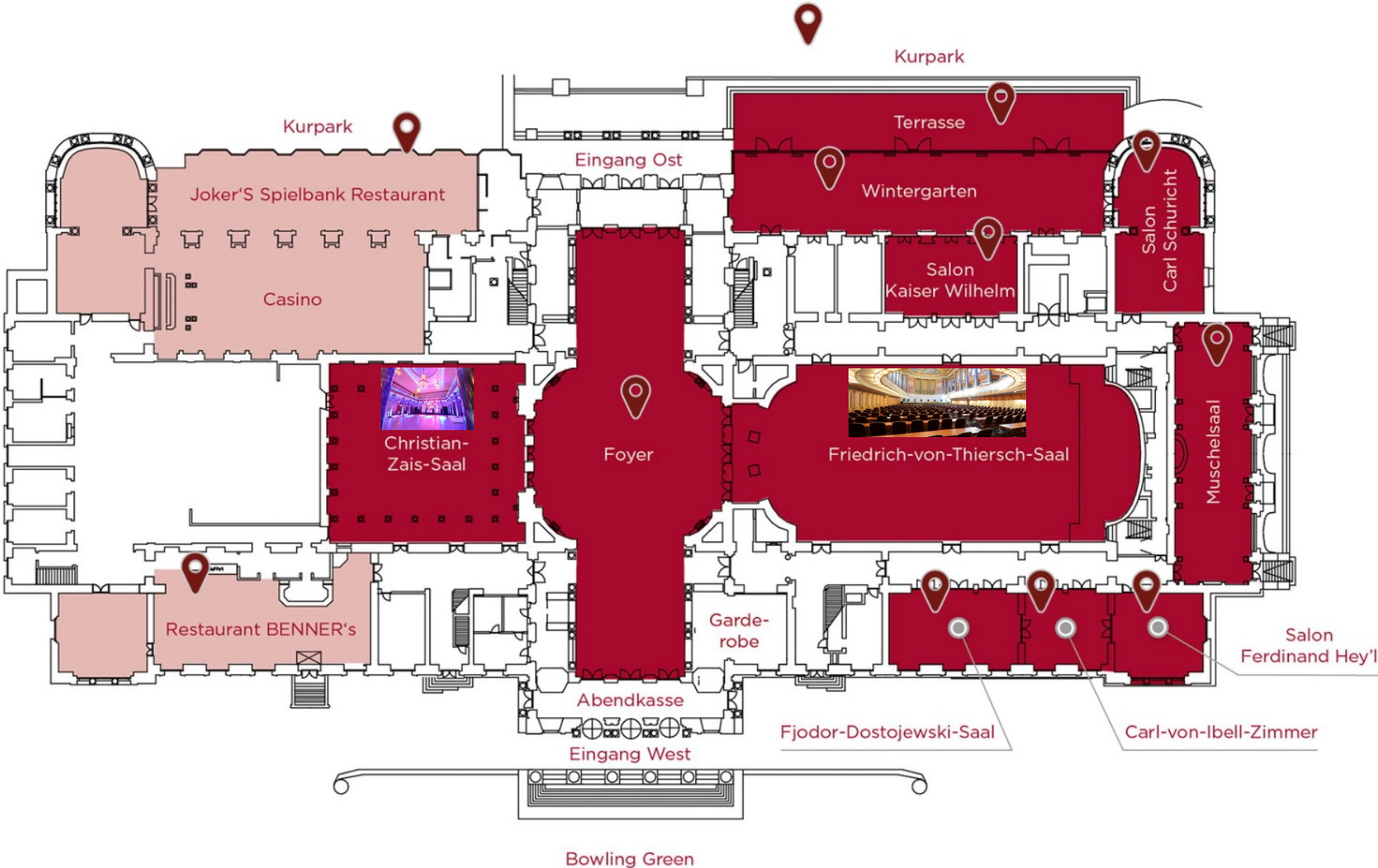
Depending on table/chair layout up to 1350 persons

ICPT 2024 – the tutorial room



ICPT 2024 – complete layout of the venue

Plenty of square meters for exhibition!



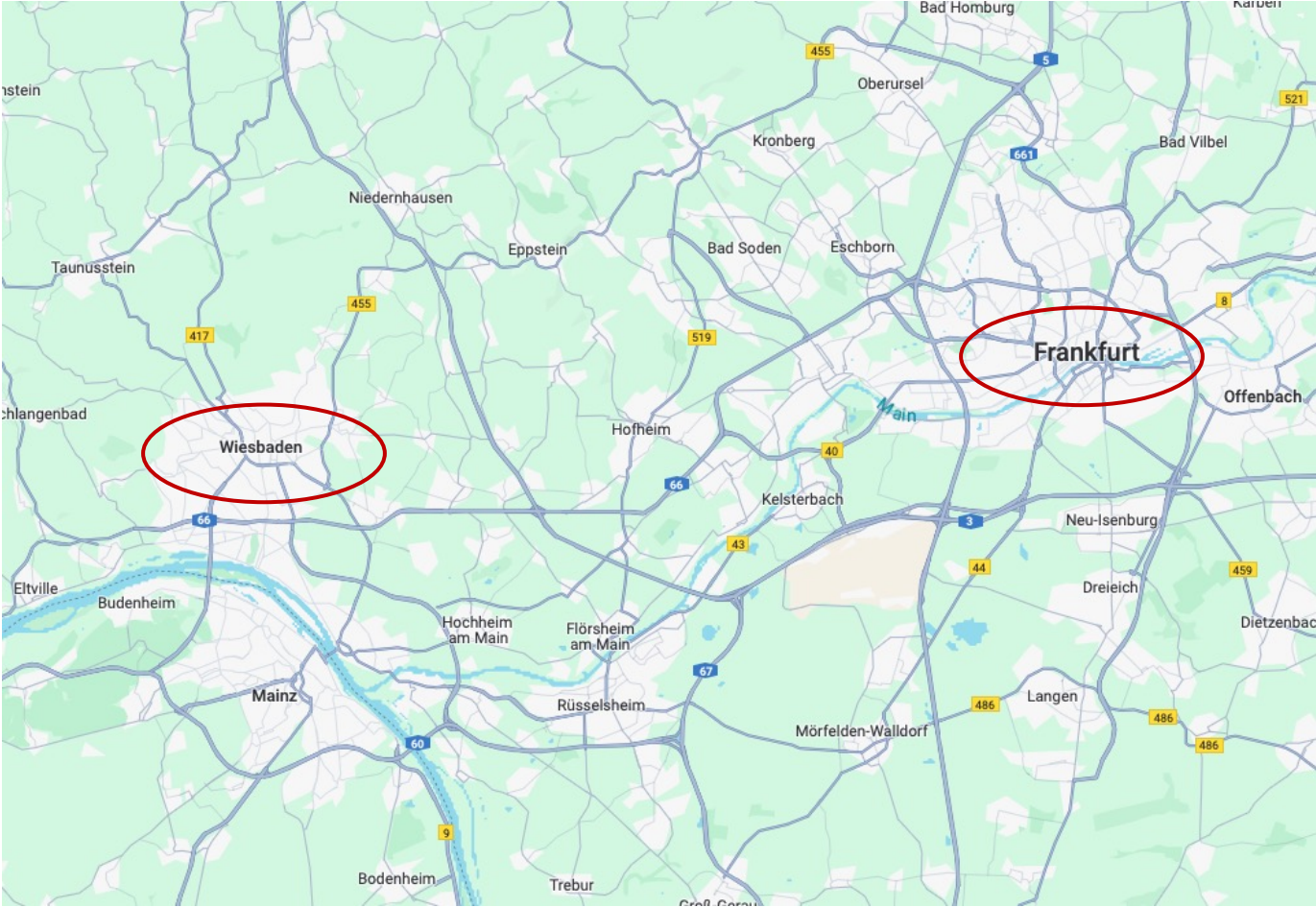
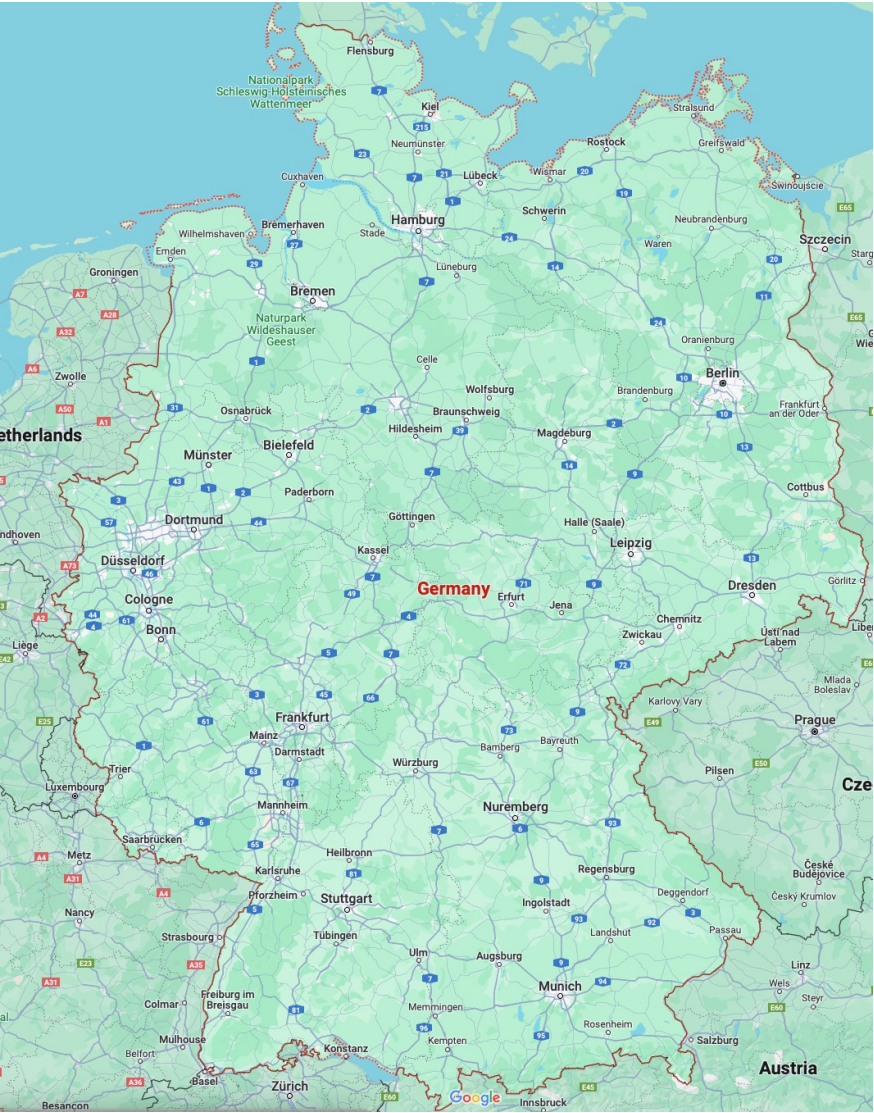
ICPT 2024 Wiesbaden – capital of Hesse

- 2000 years of history
- App. 300.000 citizens
- Good number of hotels
- Easy to get in



ICPT 2024 Wiesbaden – capital of Hesse

- Less than 30 minutes by car from FRA airport
- App. 1:30 hours by commuter train from FRA airport



ICPT 2024 – for more details please visit: <https://www.icpt2024.org/en>



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Call for papers will be extended for another 2 weeks!

In case of any questions please contact us personally by phone or email or make a direct contact to our head of organization Dr. Ronald Schnabel (gmm@vde.com)

ICPT 2024 - Wiesbaden, October 15-18, 2024

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We are looking forward seeing you in Wiesbaden!

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European CMP and WET Users group



[VDE Startseite](#) | [GMM Startseite](#) | [Presse](#) | [Shop](#) | [Deutsch](#) ▾

VDE GMM

VDE/VDI-Gesellschaft Mikroelektronik, Mikrosystem- und Feinwerktechnik



Suchen nach



Top Themen

[Arbeitsgebiete](#)

[Publikationen](#)

[GMM Veranstaltungen](#)

[Preise + Ehrungen](#)

[Über Uns](#)

Der Fachausschuss 1.2

Der Fachausschuss 1.2 setzt sich aus folgenden Fachgruppen zusammen:

- [FG 1.2.1 Lithographie](#)
- [FG 1.2.2 Ionenimplantation](#)
- [FG 1.2.3 Abscheide- und Ätzverfahren](#)
- [FG 1.2.4 Heißprozesse](#)
- [FG 1.2.5 Planarisierung](#)
- [FG 1.2.6 Prozesskontrolle](#)
- [FG 1.2.7 Nassprozesse](#)

Weiterführende Information sowie Ansprechpartner finden Sie auf der Web-Seite der jeweiligen Fachgruppe. Als Ansprechpartner für den gesamten Fachausschuss steht Ihnen außerdem zur Verfügung:

Dr.-Ing. Knut Gottfried

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Similar concept as in the US
hosted by VDE-GMM association
instead of AVS

European CMP and WET Users group

- Initiated as CMP users group by Dr. Gerfried Zwicker in 1998 and supported by Dr. Knut Gottfried
- In 2015 Gerfried and Knut added the WET topic as another / separate users group
- But had the intention to operate both groups as one common group
- We “left” Germany and brought it to the European level



The European CMP and WET Users Group

European CMP and WET Users group – faces & entity behind



Gerfried



Catharina



Anke



Benjamin



Martin



Marie (on maternity leave)



Imme



Knut



Karolin
(from July 2024)

European CMP and WET Users group – faces & entity behind



Gerfried



Catharina



Anke



Benjamin



Martin



Marie (on maternity leave)

We are all volunteers – this is a non-profit undertaking



Imme



Knut



Karolin
(from July 2024)

European CMP and WET Users group



Meeting Setup

- Two in-person meetings every year (spring and fall/winter meeting)
- No hybrid solution so far, but remote talks are possible (we would like to learn from you!)
- Travelling around Europe to places related to semiconductor (industry, academia)
- Two half day concept (Thursday afternoon, Friday morning)
- Networking dinner Thursday evening

Presentations

- We accept suppliers and technical driven commercial talks

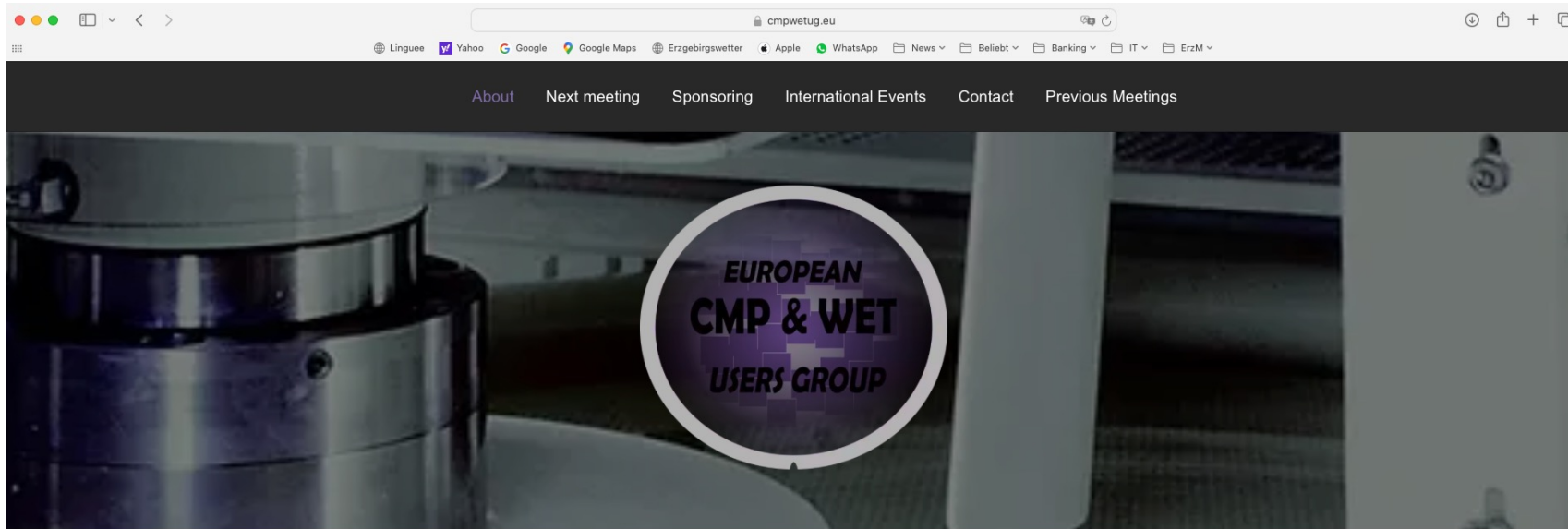
Registration / Sponsoring

- Sponsoring + exhibition concept (exhibition space according sponsoring level - Gold, Silver, Basic)
- 180,- Euros participation fee

Participants

- Number of attendees in the range of 80 ... 130
- Usually, 5 to 10 people from overseas

European CMP and WET Users group – home page (cmpwetug.eu)



Welcome to the European CMP & WET Users Group

Chemical Mechanical Polishing (CMP) and WET Processing are widely used in semiconductor device and micro-electro-mechanical systems (MEMS) manufacturing. There is not any modern IC or MEMS that has not seen a good number of CMP steps and WET treatments within its fabrication process. Although looking quite simple on a first view, both technologies are rather complex. Solid physical-technical knowledge combined with experimental spirit are cornerstones for any process development in these fields.

The European CMP and WET Users Group has been established as an open platform for all people who deal with these technologies in their daily business. Whether you are a process expert in device manufacturing, or you are involved in tools and consumables, or you are on the academia side - this group is supposed to be your technical homeland. It is a unique place to enhance your knowledge and to create your network.

The main activity of this group is the European CMP and WET Users meeting. This meeting is held as an in-person meeting twice a year. It travels around Europe to places which have a relation to semiconductor and MEMS. Meeting admission requires just a small fee, because of the great support from a good number of sponsors and exhibitors.

For joining this Users Group Community please enroll yourself here!

[Join the Users Group](#)

Register here for the next Users Group Meeting!

[Online Registration](#)



If you have any question you can write to mail@cmpwetug.eu

[contact us](#)

European CMP and WET Users group – last spring meeting



- April 18 & 19, Villach, Austria (Infineon, Silicon Austria Labs, NexGen, PTW, ...)
- > 120 participants, around 5 people from US and 3 from Japan
- 21 talks in total
- 4 talks from the US (3 onsite, 1 remote)
 - **Remote:** Using Aerosol Metrology to Deliver Discrete, Nanometer-Scale Particle Size Measurement for CMP Slurry, Andrea Tiwari – Daniel Troolin, TSI
 - Flucto-Clean® – A Novel Method for Post-CMP Cleaning – Ara Philipossian, SPS, Araca
 - Polishing Solutions for High-Rate Silicon CMP – Dr. Glenn Whitener, Fujimi
 - Lowering the Cost of Ceria-Based STI CMP Processes – Ara Philipossian, Araca

European CMP and WET Users group – impressions last spring meeting



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Subsurface Damage Characterization using Surface Photovoltage Spectroscopy



Freiberg Instruments

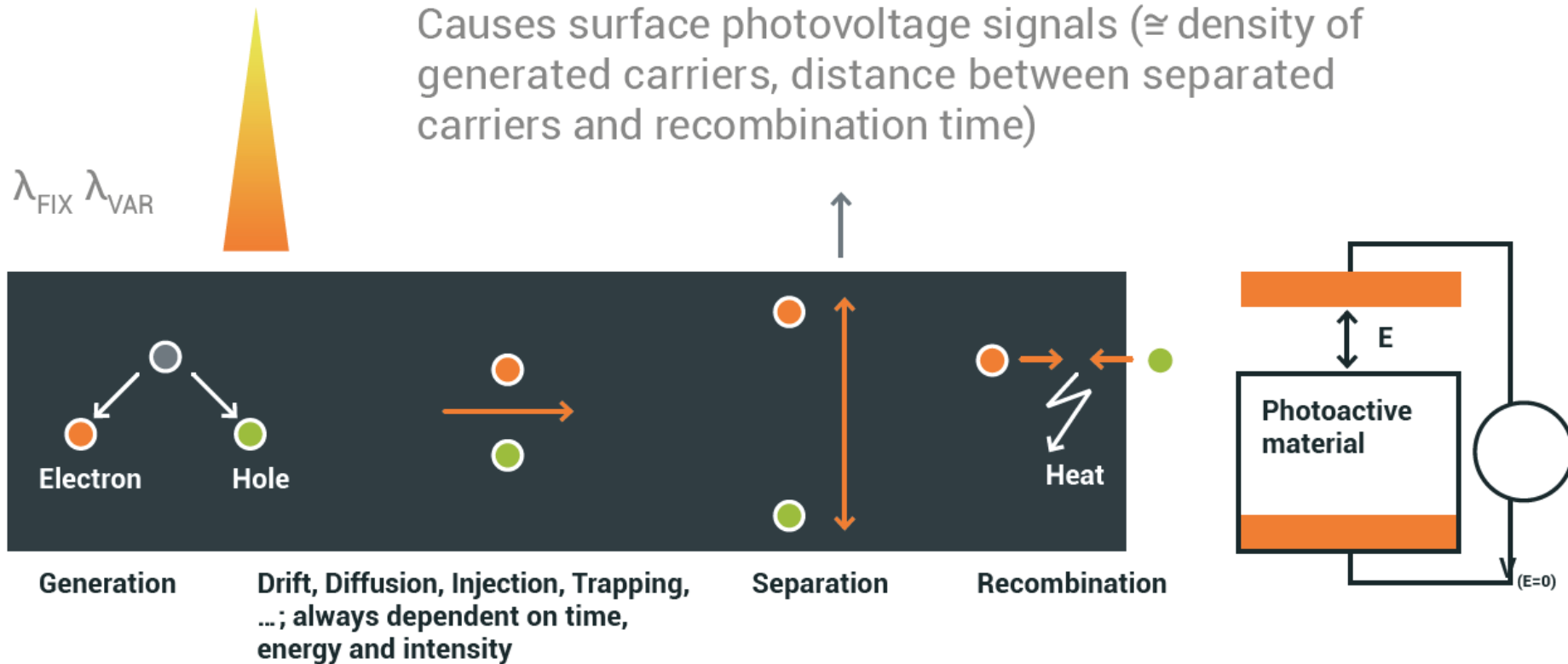
Nadine Schüler
Viktoriia Nikonova
Thomas Clausen

ErzM-Technologies

Knut Gottfried
Imme Ellebrecht

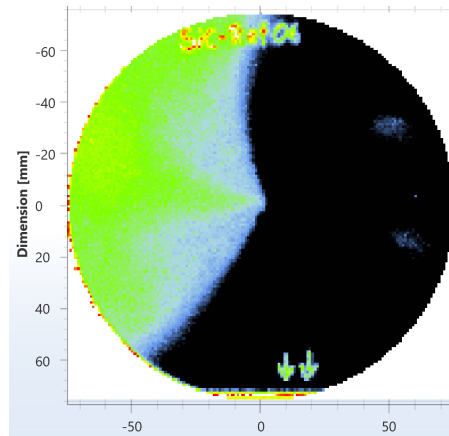
Principal Surface Photovoltage Spectroscopy

Light (fixed wavelenghts or wavelength spectrum)

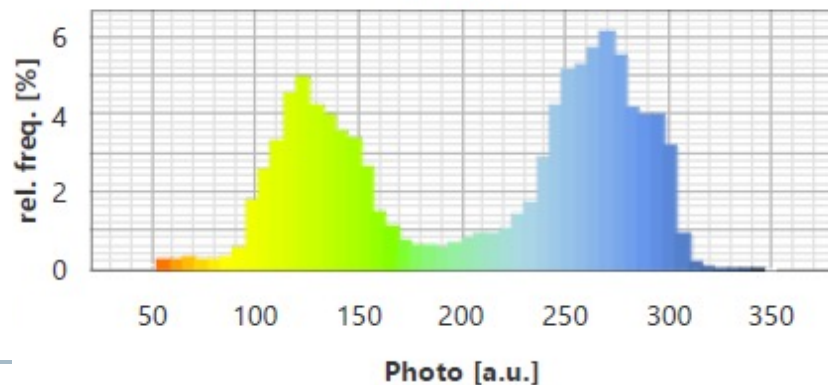


Characterization of Wafer Surface Quality - SiC

450nm



Histogram



- Measurements on SiC epi ready wafer (Excitation wavelength 450 nm):
- After fine grinding, followed by CMP polishing, the SPV signal height is high in the areas (> 250 mV), where the sub-surface damage has been fully removed, but low (< 150 mV) in the areas where there is still sub-surface damage in the surface region (see wafer map & histogram below)
- The overall conclusion is that the SPV signal height distribution correlates well with the CMP removal of damaged silicon carbide

The SPV signal height shows two distinct distributions – one low and one high, and clearly correlated to the grinding wheel pattern and incomplete CMP polishing process on the left side of the 150 mm 4H-SiC, epi-ready wafer

We are looking for samples we can measure!

Up to 2 samples are free of charge – we need data!

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Thank you for attention!



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