

# IEEE Life Members Affinity Group Germany

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## F2F Meeting minutes

The face-to-face meeting of the Germany LMAG took place on Thursday, 08 October 2026, and on Friday, 09 October 2026 in Siegen at various locations. Remote participation in the technical presentations was possible through WebEX sessions. The meeting was led by Michael Wahl as the chair of the LMAG, and Max Riegel as secretary.

## Technical meeting on 08 October 2026, 13:45-16:00 CET

Location: Haus der Siegerländer Wirtschaft, Siegen, accompanied by a WebEX session.



On-site participants: Michael Wahl, Max Riegel, Bernd Burchardt, Nicolaie Fantana, Mario Pacas, Ruediger Reischuk, Werner Wolf

On-site guests: Kristof von Laerhoven, Christian Weber, Leon Schmid

Remote participants: Per Malmbak, Klaus Stanislaviak, Rainer Makowitz, Eric Jacobson, Baohua Rong, Axel Graeser

## 1 Call to order

The chair called the meeting to order on 08 October at 13:45 CET.

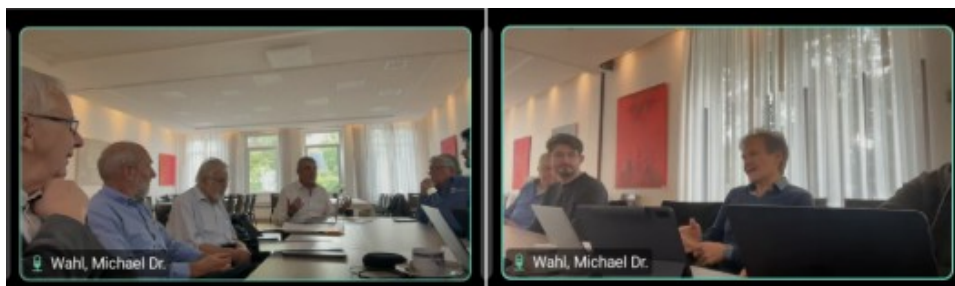
## 2 Agenda

- Welcome to the LMAG Meeting

- Technical presentation on Learning Sensor Systems (Kristof von Laerhoven, Ubiquitous Computing, University of Siegen)
- Refreshment break
- Technical presentation on ECG analysis with AI – modern approaches between cloud and edge computing (Christian Weber, Medical Informatics and Graph-Based Systems, University of Siegen)
- Recess

### 3 Welcome to the LMAG F2F Meeting

Michael Wahl provided a welcome to the on-site as well as to the remote participants and gave a short overview about the plans for the afternoon. The participants agreed with the proposed plans.



The participants in the room gave short personal introductions of themselves to get better known to each others.

Following the welcome and introductory round, Michael Wahl presented a short introduction to the University of Siegen consisting of the four faculties of Arts and Humanities, School of Education, Architecture and the Arts, School of Economic Disciplines, and School of Science and Technology.

PowerPoint-Bildschirmpräsentation - [Praesentation\_department.pptx]

**Universität Siegen**

## The University of Siegen

- Young, modern research university
- Strong interdisciplinary orientation in research and instruction
- Excellent mentoring of students
- Strong international focus
- Mid-sized university of great importance for the region
- Excellent conditions for teachers and researchers

[www.uni-siegen.de](http://www.uni-siegen.de)

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As part of the School of Science and Technology, the department of Electrical Engineering and Computer Science has a strong interdisciplinary focus with the four research areas: sensor systems, automation, embedded systems, and visual computing.

#### 4 Technical presentation on Learning Sensor Systems

Kristof von Laerhoven, Ubiquitous Computing, University of Siegen presented an overview about the research activities regarding learning sensor systems at the University of Siegen.

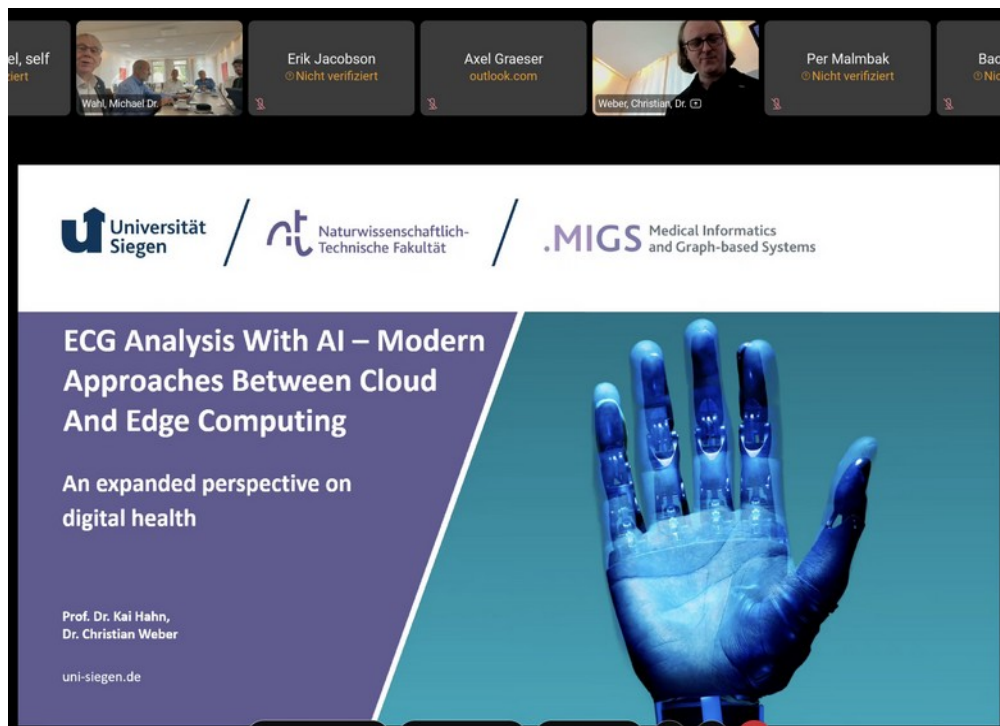


He touched in his talk the future goals of activity recognition, the emergence of datasets-driven methods, and the evaluation of the activity recognition systems. Interesting insights were given into the challenges of setting up test beds for learning sensors, in particular as more non-dataset evaluation through test beds is expected in future.

Questions came up on usage of audio information, the challenges of wiring sensors in harsh industrial environments, the application of signal preprocessing and data compression algorithms, and the importance of the quality of datasets for learning algorithms.

#### 5 Technical presentation on ECG analysis with AI – modern approaches between cloud and edge computing.

Christian Weber, Medical Informatics and Graph-Based Systems, University of Siegen presented the research on AI-based ECG analysis.



## 6 Recess of the technical meeting

The technical meeting was recessed at 16:00 CET.

## City tour of Siegen: ‘Rund ums Krönchen’. A guided walking tour starting at the Lower Castle.

A guided walking tour starting at the Lower Castle going up the the Upper Castle and back took place directly after the recess of the technical meeting.



## Dinner at the Haus der Siegerländer Wirtschaft

Discussions about the potential impact of AI on the future of science and technology continued among the participants over dinner, which was served in a private room at the Haus der Siegerländer Wirtschaft. A musical intermezzo with the guitarist Justus Bien provided a refreshing break and widened the scope of the views and opinions shared in the successive chat across the table.

There was a common view that applications of AI based solutions will increase the value of human expertise in all scientific fields, as humans will have to check the outcome of AI for plausibility and consistency, in particular in domains where failures are disastrous. When AI produced good-looking but inconsistent or flawed solutions, humans with high technical and scientific skills are required to debug and correct. Nonetheless, common tasks may be reasonably well solved by AI.

## Technical meeting on 09 October 2026, 09:00-13:50 CET

Location: Campus Hölderlinstraße, Siegen-Weidenau, Room H C 6329 with WebEX.



On-site participants: Michael Wahl, Max Riegel, Bernd Burchardt, Nicolaie Fantana, Ruediger Reischuk, Werner Wolf

On-site guests: Andreas Bablich, Marcão da Costa Zuzarte, Leon Schmid

Remote participants: Per Malmbak, Rainer Makowitz, Axel Graeser, Erik Jacobson

## 7 Welcome at INCYTE, Campus Adolf-Reichwein-Strasse

The technical meeting was resumed by the chair at 09:00 CET.

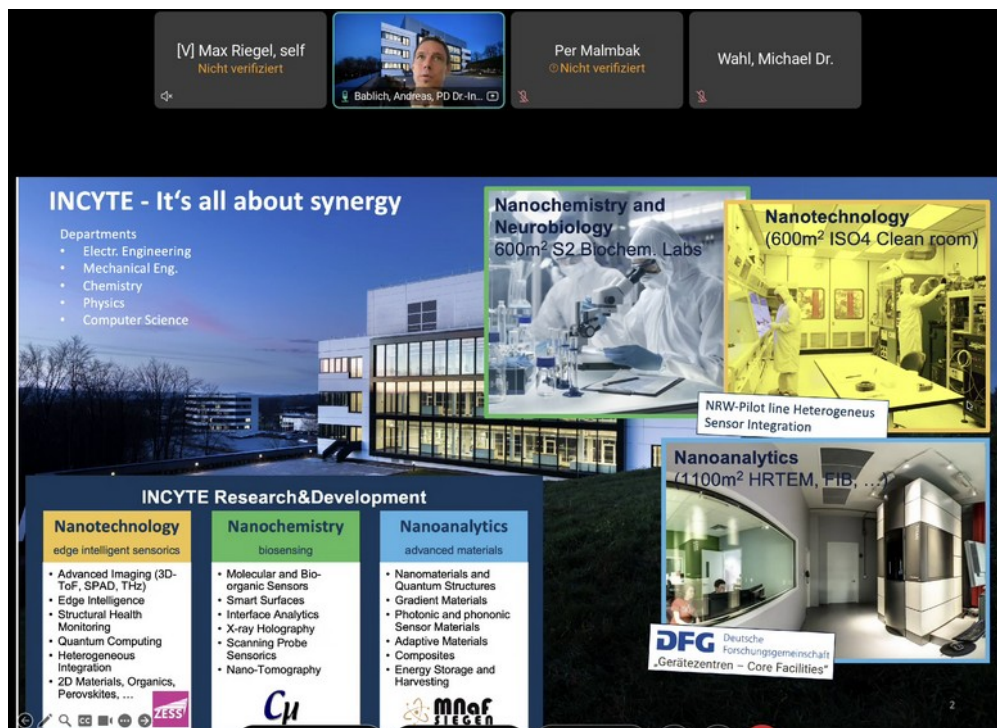
## 8 Agenda

- Welcome at Campus Hölderlinstraße, Siegen-Weidenau, Room H C 6329

- Interdisciplinary Research Center for Nanoanalytics, Nanochemistry and Cyber-physical Sensor Technologies (Andreas Bablich)
- Refreshment break
- NEUROLOGIQ Engineering GmbH – AI in the industrial Environment (Marcão da Costa Zuzarte)
- Walk to the INCYTE on Campus AR
- Visit on the Clean Room (Andreas Bablich)
- Lunch at the student cafeteria
- Closing remarks and feedback on the 2-day meeting
- Adjournment

## 9 Introduction to the Interdisciplinary Research Center for Nanoanalytics, Nanochemistry and Cyber-physical Sensor Technologies

Andreas Bablich, (Nanotechnology at INCYTE) provided a comprehensive introduction into the intentions and organization of the Interdisciplinary Research Center for Nanoanalytics, Nanochemistry and Cyber-physical Sensor Technologies (INCYTE) at University of Siegen.



The INCYTE combines competences on simulation and design, materials, technologies, analytics, and system technologies.

Following the presentation of the main scopes of the three main research areas of INCYTE, i.e. Nanotechnology, Nanochemistry, and Nanoanalytics, he continued with a more detailed explanation of the capabilities of the clean room and lab environment of the department of Nanotechnology at INCYTE, as established through the South-Westfalian Pilotline for the Integration of Intelligent SENSorsyTems (WISENT).



The available technologies comprise physical vapor deposition, nano-3D on-chip printing, lithography, nanoimprint, packaging through 3D-integration wedge-/ball bonding, and analytics through 3D-topography laser-scanning.

Aside of the productions facilities, there are facilities for micro- and nano-analytics for deeper insights into materials. In the upper levels of the INCYTE building there are bio engineering facilities covering about 400 m2 lab space.

Q&A:

Total costs of the lab equipment were about 30 M€, for the whole INCYTE about 100 M€.

Kind of sensors developed and produced in the INCYTE comprise temperature, pressure, biological, photonic, humidity, with further extensions coming in future.

Gender distribution is about 50:50 in overall.

For industry-financed research, potential confidentiality requirements are regarded in cooperation with industry. But only a maximum of 20% of research capabilities can be allocated to external contracts.



## 10 Technical presentation of AI in the industrial Environment

Marcão da Costa Zuzarte (NEUROLOGIQ Engineering GmbH) provided an introduction into the application of AI in industrial applications as performed at NEUROLOGIQ, a start-up company located in Siegen.

Internal data — Information that can be disclosed or shared within the organization, but not with external parties, without authorization or approval.



**Marcão da Costa Zuzarte**  
Chief-of-Staff (CoS)  
NEUROLOGIQ

Over 50 leading industrial clients place their trust in us

- 16+ Data Engineers, AI Engineers, Project Owner & Tech Consultants
- 50+ well-known industrial customers
- 28% annual growth

NEUROLOGIQ 8.10.2028

The company with currently about 18 employees addresses quality issues, energy consumption, availability, and resource consumption through analysis and processing of data out of industrial processes. The applied technologies are labelled as 'Industrial AI', which can be considered as evolution of serverization, Industry 4.0, big data, BI, platforms, ecosystems, and Digital Twin.

As example of Industrial AI, the automatic sorting of stones was presented. Formerly, human workers were needed to smell the material of stones, which requires lengthy training periods of up to 2 years.

Internal data — Information that can be disclosed or shared within the organization, but not with external parties, without authorization or approval.

### Camera-Based Sorting in Recycling



- Initial Situation**
  - High manual effort required to sort 20+ different refractory materials for subsequent recycling
  - Limited added value of laser-based detection of chemical compositions for automating the sorting process
- Solution**
  - Largely automated material identification using inline-installed cameras and a specially trained Vision AI model
- Benefits**
  - Reduction in personnel costs by increasing the level of automation
  - Greater operational stability by reducing dependence on personnel, particularly in a process with high training requirements and above-average employee turnover
  - Increased margins by minimizing sorting errors
- Project Status**
  - Development of an inline demonstrator following the successful completion of the Proof of Concept phase

MIRECO

NEUROLOGIQ 8.10.2028

To train AI for such a 'simple' tasks, a comprehensive learning process through high precision data sets is required. NEUROLOGIQ supports companies in training AI models through guiding the learning process as well as the selection of appropriate data sets.

The presented camera-based sorting in recycling facility is actually located only a few kilometers from the university.

Q&A;

The company MIRECO does not intend to sell the sorting machine but plans to provide material sorting as a service to other companies and at other locations.

The biggest mathematical challenge in the development of the solution was the availability of appropriate data sets for training the AI including chemical analyses.

There isn't a manual revision step in the sorting process, as the AI analysis delivers high precision. The precision is regularly controlled by measurements (~ 90%).

## 11 Guided tour to the clean room at INCYTE

Andreas Bablich provided a guided tour through the newly installed clean room at INCYTE. The visit was only possible as the construction and equipment installations were in their final phases allowing for slightly lower requirements for protective clothing of visitors.



Nevertheless, the group had to wear special clean-room clothing.



The tour went through the various sections of the clean room lab including the area where the exposures are taking place. This section was illuminated by yellow light to completely block out any blue light.



## **12 Closing remarks, discussions, and feedback on the 2-day meeting**

All participants expressed that the two day meeting was very impressive and informative, and very worth the travel to Siegen. Highlights of the meeting were the visit to the clean room at INCYTE, but also the open discussions about the impact of AI to science, research and daily life during and after the social dinner.

There was common agreement that such a F2F meeting should become a regular yearly activity of the Germany LMAG. Arranging it early October after the main holiday season and shortly before the begin of the lecture period seems to be appropriate.

More exchange and cooperation with students and young researchers are very desirable. Probably, the future F2F meetings could be organized together with a local IEEE Student Chapter at a university town in Germany.

Sincere thanks were given to Michael Wahl for organizing the event.

## **13 Adjournment of the LMAG F2F meeting**

The meeting was adjourned by the chair at 13:50 CET.