



The Center for Sensor Systems is an interdisciplinary research hub at the University of Siegen. It combines expertise from science, technology, engineering, and mathematics with a research focus on hardware-software co-design, novel sensor principles, sensor development, sensor data processing, high level information extraction, machine learning, artificial intelligence, and system integration.



The Lamarr Institute focuses on the research and development of high-performance, trustworthy, and resource-efficient applications of Machine Learning (ML) and Artificial Intelligence (AI). Our goal is to establish internationally competitive research that sustainably strengthens Germany and Europe as leading locations for research, education, and technology transfer in AI.



The Heidelberg Image Processing Forum, initiated by the Interdisciplinary Center for Scientific Computing (IWR) at Heidelberg University, successfully facilitates the rapid transfer of current, reliable research results into industrial practice and applications of image processing in science and technology since its foundation in 1995.



Center for Sensor Systems

*Intelligent Sensing
since 1989*

Center for Sensor Systems

University of Siegen
Paul Bonatz Str. 9-11
Building PB-H
57076 Siegen

+49 271 740-3323
info@zess.uni-siegen.de
<https://www.zess.uni-siegen.de/>

ZESS & Lamarr Day hosting the
88th Heidelberg Image Processing Forum
19 November 2024

Background »Neon Dreams« by JfKorps/Unsplash

Demonstrations

2nd Floor

Synthetic Aperture Radar.....PB-H 201
Dr Holger Nies (ZESS, Chair Prof Ihrke)

Ground Floor

Vacuum Based Thin Film Technique.....PB-H 032
Dr Thorsten Staedler (LOT, Chair Prof Jiang)

Smart Roller Turning Device.....PB-H 014
Benjamin Franz (ZESS, Chair Prof Kraemer)

**Project Group: Solving Jigsaw Puzzles
with Computer Vision**.....PB-H 014
Michael Schopf-Küster (Lamarr, Chair Prof Möller)

**Constraint-Based Human Motion Generation
for Human-Robot Collaboration**.....PB-H 014
Tadele Balay Tuli (ZESS, Chair Prof Manns)

Basement

**CEUViRS: A Customizable, Expandable and
Unintrusive Video Recorder System**.....PB-H 0109
Michael Brilka (ZESS, Chair Van Laerhoven)

Fourier Ptychographic Microscopy.....PB-H 0106
Dr John Meshreki (ZESS, Chair Prof Ihrke)

Acoustofluidic Particle Manipulation.....PB-H 0106
Dr Andrii Nehrych (ZESS, Chair Prof Ihrke)

**CEUViRS: A Customizable, Expandable and
Unintrusive Video Recorder System**
Michael Brilka (ZESS, Chair Prof Van Laerhoven)

**Electro-Mechanical Impedance Spectra for the Moni-
toring of Bolted Connections under Varying Temperatures**
Anna-Lena Dreisbach (ZESS, Chair Prof Kraemer)

TeraHertz (THz) Power Amplifiers
Maryam Fatima (ZESS, Chair prof Choubey)

Multispectral Light-field Image Synthesis
Erqi Huang (ZESS, Chair Prof Ihrke)

**Optical Ranging using a Time-of-Flight Graphene
Photodetector**
Paul Kienitz (ZESS, Chair Prof Haring Bolívar)

**Surprisingly Strong Performance Prediction with
Neural Graph Feature**
Dr Jovita Lukasik (Lamarr, Chair Prof Möller)

**Insights into H₂O-Induced Broadening of N₂ Raman
S-Branch Lines: A Temperature-Dependent Study**
Henry Kipsang Misoi (ZESS, Chair Prof Seeger)

**Implicit Representations for Constrained Image Seg-
mentation**
Prof Michael Möller (Lamarr, Chair Prof Möller)

**Enhanced 3D-Imaging Sensors Utilizing Amorphous
Silicon: Two approaches**
Maurice Müller (ZESS, Chair Prof Haring Bolívar)

Posters

**Users' Perception of the Appropriateness of a Robotic
Coaching Assistant's Disclosure Behaviors**
Atikkhan Farid Khan Nilgar (ZESS, Chair Prof Van
Laerhoven)

**A Data Descriptor for LoRaWAN Path Loss Measure-
ments in an Indoor Office Setting: Impacts of
Environmental Factors**
Nahshon Mokua Obiri (ZESS, Chair Prof Van Laerhoven)

Object Detection through Inverse THz Simulation
Mohamed Saleh (ZESS, Chair Prof Kolb)

3D Shape Completion with Test-Time Training
Michael Schopf-Küster (Lamarr, Chair Prof Möller)

**Exposition:
Wavefront Sensing for Quantitative Phase Imaging**
Kazim Syed Muhammed (ZESS, Chair Prof Ihrke)

**Constraint-based human motion generation for
human-robot collaboration**
Tadele Belay Tuli (ZESS, Chair Prof Manns)

**Design method for forming tools for rotary draw
bending of bend-in-bend geometries**
Alireza Yazdani (ZESS, Chair Prof Van Laerhoven)

Variable Layout CMOS Pixels for End-to-End Learning
Qiushuang Zhang (ZESS, Chair Prof Choubey)

Superconducting Thin Films for Accelerator Technology
Dr Aleksandr Zubtsovskii (LOT, Chair Prof Jiang)