

Faculty of Electrical and Computer Engineering Institute of Solid State Electronics (IFE)
Chair of Deposition Technologies for Electronics

Course notification

Module Plasma Technology, 7 ECTS

**Fundamentals, processes, and applications in
sensors, optics, electronics and organic optoelectronics**

In Winter semester 2023/2024

Lectures on **Thursdays 4.+5. DS (13:00-16:20)** at **SCH/A285/U**

Seminars on **Fridays 5. DS (14:50-16:20)** at **BAR/I86C/U**



OPAL

The lecture is aimed at students of electrical engineering, mechanical engineering, physics, material science, chemistry, and other technical programs.



Course content:

1. Fundamentals

Basics of vacuum technology, physics of low-pressure plasmas and plasma generation, ion-surface interactions

2. Technology and processes

Industrial plasma sources (diode and magnetron sputtering, hollow cathodes, microwaves), industrial plasma processes (reactive and pulsed magnetron sputtering, plasma assisted evaporation, PECVD), design of deposition systems

3. Applications

Surface coatings in electronics, optics, piezoelectric, displays, solar, packaging, and tools; Coatings of different substrates like glass, metal, silicon, plastics, and flexible foils; Surface treatment of organic and inorganic substrates; Large area deposition for OLED and OPV: system integration and applications of organic optoelectronic in microdisplays and sensors

4. Practical demonstration: Visit of **Fraunhofer FEP** laboratories

Course language: English

Course responsible: Prof. Elizabeth von Hauff, Dr. Alexander Martin Hinz (IFE)

Lectures by: Prof. E. von Hauff, Dr. A.M. Hinz, Dr. S. Saager, Dr. U. Vogel, Dr. H. Nizard, Dr. G. Gotzmann, F.H. Rögner