PD Dr. Claudia Rubie



Head of Research Laboratory and Senior Academic Advisor (Akademische Oberrätin) in the Department of General Surgery at Saarland University Medical Center

Role in LiSyM-Cancer

- Supervisor and Project Co-leader in C-TIP-HCC
- Sample acquisition and biobanking from tumor and tumor neighbor tissue (cryopreserved liver tissue, formalin-fixed paraffin-embedded (FFPE) tissue blocks, blood plasma, and serum)
- Isolation and distribution of primary hepatocytes and primary fibroblasts derived from native liver tissue
- Coordination of sample provision and shipment to consortium partners

Expertise

- Significance of epigenetic mechanisms, particularly DNA methylation, in Aging, Cancer and Aging syndromes. Genome-wide investigation of age-associated DNA methylation differences to identify age-associated differentially expressed genes in healthy individuals, cancer patients and patients with aging syndromes, investigation of alterations in DNA methylation and gene expression in Werner syndrome as a model of accelerated aging.
- Metabolism and MTOR pathway in Aging and in Adipositas
- Role of chemokines and chemokine receptors for the induction, development, progression and metastatic potential of hepatic, pancreatic, gastric, esophageal and gastrointestinal tumors
- Expression and Regulation of MicroRNAs and their chemokine target genes in gastrointestinal carcinomas
- Methods (Selection): DNA-, RNA and Protein Analysis (ELISA, Western blotting, qPCR), Immunohistochemistry, Cell culture, Primary cell isolation, Next-generation sequencing (NGS), DNA methylation analysis

Degrees

- **Habilitation**
  Department of General Surgery, Visceral, Vascular and Pediatric Surgery
  Saarland University Medical Center, Homburg, Germany
  Habilitation Thesis:
  Significance of various chemokine/chemokine receptor systems for the development and metastatic potential of colorectal carcinomas
  Habilitation Lecture: Aging Research – Why do we age?
- **PhD**
  Institute of Genetics Bayreuth
  Thesis: Construction and physiological investigation of nifL mutants of Enterobacter agglomerans 333
- Graduated in Biology
  Institute of Microbiology Düsseldorf
  Subcloning, sequencing, and bioinformatic analysis of a gene involved in yeast sugar metabolism.

Professional Experience

- Since 2002, Head of Research Laboratory in the Department of General Surgery at Saarland University Medical Center. Homburg/Saar
- Postdoctoral Fellow:
  - Department of Psychiatry and Psychotherapy/Würzburg and Institute of Human Genetics/ Munich
    Investigating polymorphisms in the human dopamine transporter gene promoter region, identifying polymorphisms regarding allele frequencies and their transcriptional significance. Annotating chromosomal regions, linkage studies and haplotype analyses to identify potential schizophrenia candidate genes using Transgenomic WAVE, sequencing, and SSCP analysis.
  - Institute for Arteriosclerosis Research/Münster, Molecular Cardiology Investigation of molecular genetic alterations underlying congenital and acquired disorders of cardiac repolarization (LQT syndrome and sudden infant death).

Funding

- DFG-funded project: Investigation of obesity in relation to the IGF/mTOR signaling pathway, associated regulatory microRNAs, and age-related disease-associated epigenetic alteration.
- HOMFOR-funded project: Investigation of alterations in DNA methylation and gene expression in Werner syndrome as a model of accelerated aging.

Publications

2026-03-14	Semi-automated isolation of parenchymal and non-parenchymal liver cells from mice and humans with enhanced stellate cell fraction *Cell & Bioscience*
2026-01-01	Identification of Circulating MiR-4651 as Novel Biomarker for Metabolic Dysfunction–associated Steatotic Liver Disease *Gastro Hep Advances*
2025-07-17	ECM1 expression in chronic liver disease: Regulation by EGF/STAT1 and IFNgamma/NRF2 signalling. *JHEP Rep*
2024-01-01	The Interplay of TGF-β1 and Cholesterol Orchestrating Hepatocyte Cell Fate, EMT, and Signals for HSC Activation *Cellular and Molecular Gastroenterology and Hepatology*