Prof. Dr. Jakob Kather



Professor of Clinical Artificial Intelligence, Else Kröner
Fresenius Center for Digital Health, Faculty of Medicine
Carl Gustav Carus, Technical University Dresden

Role in LiSyM-Cancer

- Partner in DEEP-HCC
- Deep learning assisted morphological analysis of HCC
- Integration of both modelling and diagnostic tools
- Harnessing the power of AI-based image analysis from standard histology for the prediction of HCC risk

Expertise

- Artificial Intelligence, Computational Modeling, Computer Vision, Computational Pathology, Machine Learning
- Applications of AI in medicine, in particular precision oncology of solid tumors
- Use of computational methods to extract actionable knowledge from clinical routine data using Deep Learning
- Predicting clinically actionable properties of tumors directly from routinely available histopathology slides

Professional Experience

- Since 2022, Full Professorship (W3) “Clinical Artificial Intelligence” at TUD Dresden University of Technology, Germany
- 2021 – 2022, Junior (Assistant) Professorship (W1 with tenure track to W2) at the Medical Faculty of RWTH University Aachen, Germany
- Since 2020, Additional affiliation at the National Center of Tumor Diseases (NCT), Heidelberg, Germany
- 2019 – 2022, Research Group Leader “Computational Oncology” at University Hospital RWTH Aachen, Germany
- 07/2018 – 05/2022, Resident Physician in Gastroenterology, Gastrointestinal Oncology, Medical Intensive Care at University Hospital RWTH Aachen, Germany
- 2016 – 2018, Resident Physician, Medical Oncology, National Center for Tumor Diseases (NCT), Heidelberg, Germany
- 2016 – 2018, Postdoctoral Researcher, German Cancer Research Center (DKFZ, “Applied Tumor Immunity”, PI: Prof. Dr. Dirk Jaeger)

Degrees

- 2021, Medical board certification for “Internal Medicine”
- 2016, Medical license granted by the State of Baden-Wuerttemberg, Germany
- 2013 – 2016, Doctoral Thesis, „Vascular Biology and Tumor Angiogenesis“, German Cancer Research Center (DKFZ), Heidelberg, Germany
- 2016, Master of Science in Medical Physics at the Medical Faculty Mannheim of Heidelberg University, Germany
- 2009 – 2016, Medical studies at the Medical Faculty Mannheim of Heidelberg University, Germany

Honors and Awards (selection)

- 2022, Thannhauser Award by the German Society of Gastroenterology (DGVS)
- 2021, German Award for Cancer Prevention, Young Investigator Category by the Manfred Lautenschläger Foundation and the German Cancer Research Center (DKFZ)
- 2021, Heinz Maier-Leibnitz Award by the German Research Foundation (DFG) and the German Federal Ministry of Education and Research (BMBF)
- 2020, Research Award for Colorectal Cancer Prevention (Stiftung Lebensblicke, Ludwigshafen, Germany)
- 2020, Research Award of the German Society for Medical Oncology (Arbeitsgemeinschaft Internistische Onkologie, AIO)
- 2020, Theodor-Frerichs-Award of the German Society for Internal Medicine (Deutsche Gesellschaft für Innere Medizin, DGIM)

Publications

2026-06-08	Deep Learning Predicts Mutations and Outcomes in Gastrointestinal Stromal Tumors	*Cancer Research*
2026-04-15	HISTAI: a valuable dataset with a valuable lesson	*The Journal of Pathology: Clinical Research*
2026-03-26	Machine Learning Predicts Hepatocellular Carcinoma Risk from Routine Clinical Data: A Large Population-Based Multicentric Study	*Cancer Discovery*
2026-02-20	Deep learning-based H&E-derived risk scores in colorectal cancer: associations with tumour morphology, biology, and predicted drug response	*The Journal of Pathology*
2026-02-20	Hallucination filtering in radiology vision-language models using discrete semantic entropy	*European Radiology*
2026-02-18	Benchmarking large language model-based agent systems for clinical decision tasks	*npj Digital Medicine*
2026-02-03	Prediction of Mutations and Outcome in Gastrointestinal Stromal Tumors with Deep Learning: A Multicenter, Multinational Study	
2025-12-01	Artificial intelligence predicts outcome-related molecular profiles and vascular invasion in hepatocellular carcinoma	*JHEP Reports*
2025-09-01	AB024. MIST: a weakly supervised deep learning system for multicenter diagnosis of mediastinal tumors	*Mediastinum*
2025-07-18	Overcoming regulatory barriers to the implementation of AI agents in healthcare.	*Nat Med*
2025-07-17	The barriers for uptake of artificial intelligence in hepatology and how to overcome them	*Journal of Hepatology*
2024-11-01	Large language models as a diagnostic support tool in neuropathology	*The Journal of Pathology: Clinical Research*
2023-07-01	Sublethal necroptosis signaling promotes inflammation and liver cancer	*Immunity*