

Prof. Dr. med.

JAKOB NIKOLAS KATHER, MSc

W3 Professor of Clinical Artificial Intelligence

Faculty of Medicine Carl Gustav Carus and Faculty of Computer Science, TU Dresden

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330 publications (PubMed) · 27,342 citations · h-index 85 (Google Scholar) · as of July 2026

ACADEMIC AND CLINICAL CAREER

From 10/2026	Appointed to a professorship at Heidelberg University; Director of the “Institute of Medical Artificial Intelligence” at Heidelberg University Hospital and the Faculty of Medicine, Heidelberg
Since 06/2022	W3 Professorship (tenured), “Clinical Artificial Intelligence”, TU Dresden; Deputy Speaker, Else Kröner Fresenius Center for Digital Health
Since 06/2022	Consultant physician (Oberarzt), Department of Medicine I (Oncology), University Hospital Carl Gustav Carus Dresden
Since 04/2020	Research group leader, Medical Oncology, Heidelberg University Hospital (Director: Prof. Dr. Dirk Jäger). Part-time, 12.5 %
12/2021	Board certification in Internal Medicine, Ärztekammer Nordrhein
04/2021 – 05/2022	W1 Junior Professorship with tenure track to W2, “Gastrointestinal Immunology”, Faculty of Medicine, RWTH Aachen University
01/2019 – 05/2022	Head of a Max Eder Research Group, University Hospital RWTH Aachen — “Computational Oncology” with a focus on artificial intelligence
07/2018 – 05/2022	Resident physician, Department of Medicine III (Gastroenterology, Gastrointestinal Oncology, Intensive Care Medicine), University Hospital RWTH Aachen
03/2019 – 04/2019	Visiting scientist, Hematology and Oncology, University of Chicago Medicine, Chicago, IL, USA (PI: Alexander T. Pearson, MD, PhD)
05/2018 – 06/2018	Visiting scientist, Integrated Mathematical Oncology, Moffitt Cancer Center, Tampa, FL, USA (PI: Heiko Enderling, PhD)
2016 – 2018	Resident physician, Medical Oncology, Heidelberg University Hospital
2016 – 2018	Postdoctoral researcher, German Cancer Research Center (DKFZ), “Applied Tumor Immunity” D120 (Prof. Dr. Dirk Jäger)

EDUCATION

05/2016	Medical license (Approbation als Arzt), Regierungspräsidium Stuttgart
2013 – 2016	Doctoral thesis in medicine, Department of Vascular Biology and Tumor Angiogenesis, Medical Faculty Mannheim (Prof. Dr. Augustin / Prof. Dr. Kroll): “ <i>Characterization of Pathological Angiogenesis in the KLEIP Knockout Mouse Model</i> ”, summa cum laude
2014 – 2015	Master’s thesis in Medical Physics, Computer Assisted Clinical Medicine, Medical Faculty Mannheim (Prof. Dr. Schad / Prof. Dr. Zöllner): “ <i>Automatic Analysis of Angiogenic Hotspots in Histological Whole Slide Images</i> ”. Final grade 1.0
2013 – 2015	MSc programme “Medical Physics”, Medical Faculty Mannheim, Heidelberg University. Final grade “sehr gut” (Master of Science); ranked 1st of 30 students
2009 – 2016	Studies in Medicine, Medical Faculty Mannheim, Heidelberg University. Final grade 1.0 (Staatsexamen); ranked 16th of 4,214 students nationwide
2002 – 2008	Engelsburg-Gymnasium, Kassel. Abitur grade 1.0
1999 – 2002	Graf-Rasso-Gymnasium, Fürstenfeldbruck

AWARDS AND HONOURS — selection

11/2026	Prize of the Berlin-Brandenburg Academy of Sciences and Humanities, endowed by the Monika Kutzner Foundation for the Advancement of Cancer Research 2026
05/2025	Felix Burda Award (Felix Burda Foundation)

10/2022	Thannhauser Prize (German Society for Gastroenterology, Digestive and Metabolic Diseases, DGVS)
02/2021	Heinz Maier-Leibnitz Prize of the DFG and the BMBF
12/2020	Award for Colorectal Cancer Prevention (Stiftung Lebensblicke, Ludwigshafen)
12/2020	Science Award of the Working Group for Medical Oncology (AIO) within the German Cancer Society (DKG)
04/2020	Theodor Frerichs Prize of the German Society of Internal Medicine (DGIM)
2020 – 2024	Member of the Junges Kolleg, North Rhine-Westphalian Academy of Sciences, Humanities and the Arts
2010 – 2016	Fellow of the German Academic Scholarship Foundation (Studienstiftung des Deutschen Volkes)

UNIVERSITY SERVICE

2025 – present	Member of the Research Committee, Faculty of Medicine, TU Dresden
2013 – 2015	Member of the University Council, Heidelberg University
2012 – 2013	Member of the Senate, Heidelberg University
2010 – 2015	Member of the Faculty Council, Medical Faculty Mannheim
2009 – 2015	Member, later Chair, of the Medical Students' Council (Fachschaft Medizin) Mannheim

PROFESSIONAL SOCIETIES, COMMITTEES AND EDITORIAL ROLES — *selection*

Since 2025	Member of the organising committees of AACR 2026 (American Association for Cancer Research), DKK 2026 (German Cancer Congress) and ESMO 2025 and 2026 (European Society for Medical Oncology); Conference Chair of the ESMO AI and Digital Health Conference 2025 and 2026
2024 – present	Deputy Editor, <i>npj Precision Oncology</i> (Springer Nature); Senior Editor, <i>Cancer Research Communications</i> (AACR); Associate Editor, <i>Annals of Oncology</i> (ESMO); Associate Editor, <i>JHEP Reports</i> (EASL); Associate Editor, <i>ESMO Real World Data and Digital Oncology</i>
2024 – present	Co-Chair of the AI and Digital Oncology (AIDO) Committee of the European Society for Medical Oncology (ESMO) — until its reconstitution as a committee in 04/2026, the “Real World Data and Digital Oncology” working group
2023 – present	Member of the Scientific Advisory Board of the Center for Integrated Oncology Aachen–Cologne–Bonn–Düsseldorf (CIO-ABCD), of the Institute of Cancer Research (ICR) London and the Royal Marsden Hospital London; member of the Scientific Advisory Board of the Carl Zeiss Foundation (Stuttgart)
2022 – present	Chair of the Artificial Intelligence working group of the German Society for Hematology and Medical Oncology (DGHO); member of the Steering Committee of the Pathology Working Group of the American Association for Cancer Research (AACR); member of the AI task force of the European Association for the Study of the Liver (EASL)

RESEARCH FUNDING — *selection, as principal investigator*

- **NADIR** (2024–2028) — New directions for deep learning in cancer research through concept explainability and virtual experimentation. ERC Starting Grant
- **DECIPHER-M** (2025–2028) — Decoding metastasis with multimodal artificial intelligence models. BMBF
- **DEEP-HCC** (2024–2027) — Deep systems understanding of hepatocellular carcinoma initiation for early detection. BMBF
- **Come2Data** (2023–2026) — Competence Center for Interdisciplinary Data Sciences. BMBF
- **DECADE** (2023–2026) — Decentralized artificial intelligence for colorectal cancer. German Cancer Aid (Deutsche Krebshilfe)
- **TANGERINE** (2023–2026) — Artificial-intelligence-based cancer immunotherapy response prediction. BMBF
- **TransformLiver** (2023–2026) — Vision Transformers for biomarkers in liver disease. BMBF
- **ODELIA** (2023–2027) — Open Consortium for Decentralized Medical AI. EU Horizon
- **CAMINO** (2023–2028) — Career advancement in multidimensional tumor targeting. BMBF

- **GENIAL** (2023–2028) — Gene–environment interaction in alcohol-related hepatocellular carcinoma. EU Horizon
- **Leeds NIHR Biomedical Research Centre** (2022–2027). National Institute for Health and Care Research (NIHR)
- **SWAG** (2022–2024) — Swarm learning and generative models in cancer medicine. BMBF
- **SECAI** (2022–2026) — School of Embedded Composite AI. DAAD
- **EPICO** (2022–2027) — Epidemiology, pathology, and immunology of colorectal cancer. NIH
- **PEARL** (2022–2026) — Preventing early onset colorectal cancer. BMBF
- **Transplant.KI** (2022–2025) — AI for kidney transplant biopsies. G-BA

PUBLICATIONS — *selection*

1. Ferber D, ..., Kather JN. Towards autonomous medical artificial intelligence agents. *Nature*. 2026 (accepted, in press).
2. Clusmann J, ..., Kather JN. Safety and security of large language models in healthcare. *Nature*. 2026 (accepted, in press).
3. Liang ..., Kather JN. Spatial biomarker discovery via interpretable semantic learning in histopathology. *Cancer Cell*. 2026 (accepted, in press).
4. Ferber D, El Nahhas OSM, Wölflein G, ... Schultz N, Truhn D, Kather JN. Development and validation of an autonomous artificial intelligence agent for clinical decision-making in oncology. *Nature Cancer*. 2025 Aug;6(8):1337–1349.
5. Saldanha OL, Quirke P, West NP, ... Hoffmeister M, Truhn D, Kather JN. Swarm learning for decentralized artificial intelligence in cancer histopathology. *Nature Medicine*. 2022 Jun;28(6):1232–1239.
6. Kather JN, Pearson AT, Halama N, ... Hoffmeister M, Trautwein C, Luedde T. Deep learning can predict microsatellite instability directly from histology in gastrointestinal cancer. *Nature Medicine*. 2019 Jul;25(7):1054–1056.

Complete publication list: PubMed · Google Scholar