

Curriculum Vitae

Personal Data

Title	Dr. med.
First name	Andrea
Name	Schmidts
Current position	Emmy Noether Research Group Leader and Resident
Current institution(s)/site(s), country	Department of Internal Medicine III – Hematology & Oncology, Klinikum rechts der Isar of the Technical University of Munich, Germany TranslaTUM – Center for Translational Cancer Research, Technical University of Munich, Germany
Identifiers/ORCID	Google Scholar: LINK ORCID-ID: 0000-0001-7035-1584

Qualifications and Career

Stages	Periods and Details
Medical Licence	2005-2012 Medical School at the University of Freiburg, GER and the University of Aberdeen, UK (2009/10 term)
Doctorate in Medicine	2015 Dr. med., scientific mentor: Prof. Dr. Ralph Wäsch, Department of Hematology, Oncology and Stem Cell Transplantation, University of Freiburg, GER
Emmy Noether Research Group Leader and Clinical Residency	since 2022 Principal Investigator, TranslaTUM – Center for Translational Cancer Research, Technical University of Munich, GER Residency, Department of Internal Medicine III – Hematology & Oncology, Klinikum rechts der Isar of the Technical University of Munich, GER, chair: Prof. Dr. Florian Bassermann
Postdoctoral Research Fellow	2017-2022 Harvard Medical School and Massachusetts General Hospital, Boston, USA Cellular Immunotherapy Program, scientific mentor: Prof. Dr. Marcela V. Maus
Clinical Residency	2013-2017 Residency, Department of Internal Medicine I – Hematology, Oncology & Stem Cell Transplantation, University Medical Center Freiburg, Germany, chair: Prof. Dr. Justus Duyster

Supplementary Career Information

March - June 2024: maternity leave

Engagement in the Research System

Ad Hoc Reviewer

- Scientific Journals: Nature Medicine, Nature Biotechnology, Blood, The Journal of Clinical Investigation, Journal for ImmunoTherapy of Cancer, BMJ open, Cellular Immunology, Hematologica, Molecular Therapy
- Funding Agencies: German Research Foundation (DFG), Human Frontier Science Program, Alexander von Humboldt Foundation, Einstein Foundation Berlin
- Jury Member for the 2024 Michaelson Philanthropies & Science Prize for Immunology

Phase-I-Trial Experience

- Participation in CAR-T Cell Phase-I Clinical Trial Planning, Preparation, and Correlative Studies (NCT04136275, NCT05020444)

Supervision of Researchers in Early Career Phases

- 2024 – PhD Student Gabriele Pelosi (Medical Life Science and Technology, TUM)
- 2024 – PhD Student Silvia Toscani (Experimental Medicine, TUM)
- 2024 – Medical Doctoral Student Alexander Lenz (Translational Medicine, TUM)
- 2024 – Medical Doctoral Student Maren Odenwälder (Translational Medicine, TUM)
- 2024 – Master Thesis Student Silvia Toscani (Human Biology, LMU)
- 2023 – Bachelor Thesis Student Schmahl Fernandez (Biochemistry, TUM)
- 2023 – PhD Student Daniela Abele (Experimental Medicine, TUM)
- 2022 – Medical Doctoral Student Markus Mergen (Translational Medicine, TUM)

PhD Thesis Committees

- Medical Life Science and Technology, Technical University of Munich, Germany
- Experimental Medicine, Technical University of Munich, Germany
- Graduate School Life Science Munich, Ludwig Maximilian University of Munich, Germany

Scientific Results

Category A

1. Mergen M, Abele D, Koleci N, Schmahl Fernandez A, Sugden M, Holzleitner N, Carr A, Rieger L, Leone V, Reichert M, Laugwitz K-L, Bassermann F, Busch DH, Grünwald J, **Schmidts A**. *Engineering de novo binder CAR-T cell therapies with generative AI*. **bioRxiv** 2024 <https://doi.org/10.1101/2024.11.25.625151>
2. **Schmidts A**, Srivastava AA, Ramapriyan R, Bailey SR, Bouffard AA, Cahill DP, Carter BS, Curry WT, Dunn GP, Frigault MJ, Gerstner ER, Ghannam JY, Kann MC, Larson RC, Leick MB, Nahed BV, Richardson LG, Scarfò I, Sun J, Wakimoto H, Maus MV, Choi BD. *Tandem CAR T cells targeting EGFRvIII and IL-13R α 2 are effective against heterogeneous glioblastoma*. **Neuro-Oncology Advances** 2023 <https://doi.org/10.1093/oaajnl/vdac185>

3. Leick MB, Silva H, Scarfò I, Larson R, Choi BD, Bouffard AA, Gallagher K, **Schmidts A**, Bailey SR, Kann MC, Jan M, Wehrli M, Grauwet K, Horick N, Frigault MJ, Maus MV. *Non-cleavable hinge enhances avidity and expansion of CAR-T cells for acute myeloid leukemia. **Cancer Cell** 2022 <https://doi.org/10.1016/j.ccell.2022.04.001>*
4. Larson RC, Kann MC, Bailey SR, Haradhvala NJ, Llopis PM, Bouffard AA, Scarfó I, Leick MB, Grauwet K, Berger TR, Stewart K, Anekal PV, Jan M, Joung J, **Schmidts A**, Ouspenskaia T, Law T, Regev A, Getz G, Maus MV. *CAR T cell killing requires the IFN γ R pathway in solid but not liquid tumours. **Nature** 2022 <https://doi.org/10.1038/s41586-022-04585-5>*
5. Petri K*, Zhang W*, Ma J*, **Schmidts A***, Lee H, Horng YE, Kim DY, Kurt IC, Clement K, Hsu JY, Pinello L, Maus MV, Joung JK & Yeh J-R. *CRISPR prime editing with ribonucleoprotein complexes in zebrafish and primary human cells. **Nature Biotechnology** 2021 * co-first author <https://doi.org/10.1038/s41587-021-00901-y>*
6. Jan M, Scarfò I, Larson RC, Walker A, **Schmidts A**, Guirguis AA, Gasser JA, Słabicki M, Bouffard AA, Castano AP, Kann MC, Cabral ML, Tepper A, Grinshpun DE, Sperling AS, Kyung T, Sievers QL, Birnbaum ME, Maus MV, Ebert BL. *Reversible ON- and OFF-switch chimeric antigen receptors controlled by lenalidomide. **Science Translational Medicine** 2021 <https://doi.org/10.1126/scitranslmed.abb6295>*
7. **Schmidts A**, Marsh LC, Srivastava AA, Bouffard AA, Boroughs AC, Scarfò I, Larson RC, Bedoya F, Choi BD, Frigault MJ, Bailey SR, Leick MB, Vatsa S, Kann MC, Prew MS, Kleinstiver BP, Joung JK, Maus MV. *Cell-based artificial APC resistant to lentiviral transduction for efficient generation of CAR-T cells from various cell sources. **Journal for ImmunoTherapy of Cancer** 2020 <https://doi.org/10.1136/jitc-2020-000990>*
8. **Schmidts A**, Wehrli M, Maus MV. *Toward Better Understanding and Management of CAR-T Cell-Associated Toxicity. **Annual Review of Medicine** 2020 <https://doi.org/10.1146/annurev-med-061119-015600>*
9. **Schmidts A**, Ormhoj M, Choi BD, Taylor AO, Bouffard AA, Scarfo I, Larson RC, Frigault MJ, Gallagher K, Castano AP, Riley LS, Cabral ML, Boroughs AC, Velasco Cardenas RM, Schamel W, Zhou J, Mackay S, Tai YT, Anderson KC & Maus MV. *Rational design of a trimeric APRIL-based CAR-binding domain enables efficient targeting of multiple myeloma. **Blood Advances** 2019 <https://doi.org/10.1182/bloodadvances.2019000703>*
10. Choi BD, Yu X, Castano AP, Bouffard AA, **Schmidts A**, Larson RC, Bailey SR, Boroughs AC, Frigault MJ, Leick MB, Scarfò I, Cetrulo CL, Demehri S, Nahed BV, Cahill DP, Wakimoto H, Curry WT, Carter BS & Maus MV. *CAR-T cells secreting BiTEs circumvent antigen escape without detectable toxicity. **Nature Biotechnology** 2019 <https://doi.org/10.1038/s41587-019-0192-1>*

Category B

Invited Talks & Lectures (selection)

- 2025 International Conference on Lymphocyte Engineering, Munich, GER
- 2025 Basel Cell Therapy Symposium, Basel, CH
- 2024 Heidelberg Cell Therapy Symposium, Heidelberg, GER
- 2023 German Society for Gen and Cell Therapy, Munich, GER
- 2023 European Society of Gene and Cell Therapy Spring School, Giens, FR

Academic Distinctions: Scholarships, Awards & Grants

2023 EHA-ASH TRTH Career Development Award
2022 – Emmy Noether Program (DFG)
2021 Arthur L. Irving Family Foundation Cancer Immunology Innovation Award
2020 – 23 John Hansen Research Grant (DKMS)
2018 – 20 German Cancer Aid Postdoctoral Research Fellowship (DK)
2008 – 12 German Academic Scholarship Foundation (Studienstiftung)

Other InformationResearch Interest

I am a physician-scientist with a research interest in cellular immunotherapies and a clinical background in hematology, oncology, and stem cell transplantation. I aim to develop novel cellular therapies and translate them into the clinic.

Full Publication Record

Citations: 2699; h-index: 19; i10-index: 20 (according to Google Scholar, 25 February 2025)

Pubmed <https://pubmed.ncbi.nlm.nih.gov/?term=Andrea+Schmidts&sort=date>

Google Scholar <https://scholar.google.com/citations?user=Qbwp7RgAAAAJ&hl=en&oi=ao>