

Curriculum Vitae

Olivia Merkel Professor, Dr. rer. nat.
d.o.b. March 25, 1981, in Villingen-Schwenningen, Germany

University Education

2009 PhD in Pharmaceutical Technology, PUM
2006 MS in Pharmaceutical Technology, PUM and Martin-Luther-Universität Halle-Wittenb.
2000–2005 Studies of Pharmacy, Philipps-Universität Marburg (PUM)

Scientific Career

Since 2024 Vice-Director of the Department of Pharmacy, LMU
Since 2023 Professor and Chair of Drug Delivery, Ludwig-Maximilians-Universität München (LMU)
Since 2023 Co-Founder of RNhale GmbH
Since 2022 Associate Editor for WIREs Nanomedicine and Nanobiotechnology
Since 2021 Associate Editor for Drug Delivery and Translational Research
2020–2022 Chair of the Transdermal and Mucosal Delivery Focus Group within CRS
2020–2021 President of the German Chapter of the Controlled Release Society (CRS)
2020–2021 ProAcademia Mentor
2018–2022 Standing Member of the Swiss NSF Review Board, Division 2
2017–2019 15 Months Maternal and Parental Leave as Single Parent in Germany
Since 2016 Member of the German Center for Lung Research (DZL)
Since 2015 Professor of Drug Delivery, Ludwig-Maximilians-Universität München (LMU)
2014–2016 NIH Study Section Reviewer
Since 2012 Scientific Member of the Karmanos Cancer Institute, Detroit
2012–2017 Associate Faculty of Oncology, Wayne State University, Detroit
2011–2017 Assistant Professor of Pharmaceutical Sciences, Wayne State University, Detroit
2011–2013 Robert-Bosch-Foundation “Fast Track” Mentee
2009–2011 Postdoctoral Lecturer, Department of Pathological Biochemistry, JLU
2004–2005 Internship and Residency, Department of Pharmacy, PUM and community pharmacy

Awards and Honors

2026 Award for Excellence in Teaching, Bavarian State Ministry of Science and the Arts
2024 Medal of Honor, Controlled Release Society
2024 Induction into the College of Fellows of the Controlled Release Society
2023 Emerging Scientist Award, Drug Delivery to the Lungs
2023 **ERC CoG** Grant “RatInhal RNA”
2022 **ERC PoC** Grant “RNhale”
2020 APV Award for Outstanding Achievements in the Pharmaceutical Sciences
2020 PHOENIX Award in Pharmaceutical Technology
2019 Princess Therese of Bavaria Award
2018 Honorary Member of the Académie des Alpilles
2015 Galenus Technology Award
2014 **ERC StG** “Novel Asthma Therapy”
2014 Dr. Jack Ryan Award Endowed by the Dr. Morris S. Brent Fund
2012 Young Investigator Award, College of Pharmacy, WSU
2012 PHOENIX Award in Pharmaceutical Technology
2008 Robert-Pfleger Award
2011 Young Investigator Award, EUFEPS
2010 New Talents Award for the Future of Nanomedicine
2010 Carl-Wilhelm-Scheele Award, DPhG
2009 Best PhD Thesis Award, PUM

Citation Record

Total citations: 8,970; h-index:53; h-index since 2021: 38 (Google Scholar March 02, 2026)

Top-10 selected Publications

Jiang M, Sieber-Schäfer F, Carneiro SP, Matzek D, Nguyen A, Porras-Gonzalez DL, Verma AK, Kolog-Gulko M, Jürgens DC, Burgstaller G, Popper B, Sun X, **Merkel OM**. A hybrid polymeric system for pulmonary mRNA delivery: Advancing mucosal vaccine development *Cell Biomaterials*. 2026, 100311. doi: [10.1016/j.celbio.2025.100311](https://doi.org/10.1016/j.celbio.2025.100311).

Sieber-Schäfer F, Binder J, Münchrath T, Steinegger KM, Jiang M, Winkeljann B, Friess W, **Merkel OM**. From Bits to Bonds: High-Throughput Virtual Screening of Ribonucleic Acid Nanocarriers Using a Combinatorial Approach of Machine Learning and Molecular Dynamics. *J Am Chem Soc*. 2025. doi: [10.1021/jacs.5c12694](https://doi.org/10.1021/jacs.5c12694).

Sieber-Schäfer F, Jiang M, Kromer APE, Nguyen A, Molbay M, Carneiro S, Jürgens D, Burgstaller G, Popper B, Winkeljann B, **Merkel OM**. Machine Learning-Enabled Polymer Discovery for Enhanced Pulmonary siRNA Delivery. *Adv Funct Mat*. 2025 e02805. doi: [10.1002/adfm.202502805](https://doi.org/10.1002/adfm.202502805).

Steinegger KM, Allmendinger L, Sturm S, Sieber-Schäfer F, Kromer APE, Müller-Caspary K, Winkeljann B, **Merkel OM**. Molecular Dynamics Simulations Elucidate the Molecular Organization of Poly(beta-amino ester) Based Polyplexes for siRNA Delivery. *Nano Lett*. 2024 Dec 11;24(49):15683-15692. doi: [10.1021/acs.nanolett.4c04291](https://doi.org/10.1021/acs.nanolett.4c04291).

Adams F, Zimmermann CM, Baldassi D, Pehl TM, Weingarten P, Kachel I, Kränzlein M, Jürgens DC, Braubach P, Alexopoulos I, Wygrecka M, **Merkel OM**. Pulmonary siRNA Delivery with Sophisticated Amphiphilic Poly (Spermine Acrylamides) for the Treatment of Lung Fibrosis. *Small*. 2023 Dec 21:e2308775. doi: [10.1002/smll.202308775](https://doi.org/10.1002/smll.202308775).

Kandil R, Baldassi D, Böhlen S, Müller JT, Jürgens DC, Bargmann T, Dehmel S, Xie Y, Mehta A, Sewald K, **Merkel OM**. Targeted GATA3 knockdown in activated T cells via pulmonary siRNA delivery as novel therapy for allergic asthma. *J Control Release*. 2023 Feb;354:305-315. doi: [10.1016/j.jconrel.2023.01.014](https://doi.org/10.1016/j.jconrel.2023.01.014).

Zimmermann CM, Baldassi D, Chan K, Adams NBP, Neumann A, Porras-Gonzalez DL, Wei X, Kneidinger N, Stoleriu MG, Burgstaller G, Witzigmann D, Luciani P, **Merkel OM**. Spray drying siRNA-lipid nanoparticles for dry powder pulmonary delivery. *J Control Release*. 2022 Nov;351:137-150. doi: [10.1016/j.jconrel.2022.09.021](https://doi.org/10.1016/j.jconrel.2022.09.021).

Baldassi D, Ambike S, Feuerherd M, Cheng CC, Peeler DJ, Feldmann DP, Porras-Gonzalez DL, Wei X, Keller LA, Kneidinger N, Stoleriu MG, Popp A, Burgstaller G, Pun SH, Michler T, **Merkel OM**. Inhibition of SARS-CoV-2 replication in the lung with siRNA/VIPER polyplexes. *J Control Release*. 2022 May;345:661-674. doi: [10.1016/j.jconrel.2022.03.051](https://doi.org/10.1016/j.jconrel.2022.03.051).

Jones SK, Douglas K, Shields AF, **Merkel OM**. Correlating quantitative tumor accumulation and gene knockdown using SPECT/CT and bioluminescence imaging within an orthotopic ovarian cancer model. *Biomaterials*. 2018 Sep;178:183-192. doi: [10.1016/j.biomaterials.2018.06.014](https://doi.org/10.1016/j.biomaterials.2018.06.014).

Jones SK, Sarkar A, Feldmann DP, Hoffmann P, **Merkel OM**. Revisiting the value of competition assays in folate receptor-mediated drug delivery. *Biomaterials*. 2017 Sep;138:35-45. doi: [10.1016/j.biomaterials.2017.05.034](https://doi.org/10.1016/j.biomaterials.2017.05.034).