

KARREMAN, MATTHIA ANDREA, DR. RER. NAT.

GENERAL INFORMATION



Post-doctoral Fellow / Project leader

University Hospital Heidelberg, Department of Neurology
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ACADEMIC EDUCATION & QUALIFICATION

Year(s)	Education
2003-2008	Bachelor and Master of Science at Utrecht University, the Netherlands

SCIENTIFIC EDUCATION & QUALIFICATION

Year(s)	Education
2013	PhD Thesis at Utrecht University, the Netherlands (supervisors: Professor Hans C. Gerritsen and Professor Arie J. Verkleij: „Lights will guide you: Sample Preparation and Applications for Integrated Laser and Electron Microscopy“)

PROFESSIONAL EXPERIENCE

Year(s)	Education
2013-2017	Postdoc at the European Molecular Biology Laboratory (EMBL) Heidelberg (Group leader: Dr. Yannick Schwab)
Since 2017	Postdoc at German Cancer Research Center, Clinical Cooperation Unit Neurooncology (Prof. Dr. Frank Winkler, MD) and Neurology Clinic, University Hospital Heidelberg (Prof. Dr. Wolfgang Wick, MD)
Since 2019	Responsible scientist for the subgroup brain metastases in the laboratory of Prof. Dr. Frank Winkler, MD and Prof. Dr. Wolfgang Wick, MD.

OTHER QUALIFICATIONS/ROLES/RESPONSIBILITIES

Year(s)	
2013	Winner of the SEN 2013 Prize for young investigators making a significant contribution to the field of electron microscopy and related techniques.
2020-2022	Spokesperson for the e:Med (a BMBF research program) Project Committee
Since 2020	Member of the e:Med Project Committee

SELECTED PUBLICATIONS

- [Karreman MA](#), Bauer AT, Solecki G, Berghoff AS, Mayer CD, Frey K, Hebach N, Feinauer MJ, Schieber NL, Tehranian C, Mercier L, Singhal M, Venkataramani V, Schubert MC, Hinze D, Hölzel M, Helfrich I, Schadendorf D, Schneider SW, Westphal D, Augustin HG, Goetz JG, Schwab Y, Wick W, Winkler F. Active remodeling of capillary endothelium via cancer cell-derived MMP9 promotes metastatic brain colonization. **Cancer Res.** 2023. doi: 10.1158/0008-5472.CAN-22-3964.
- Hausmann D, Hoffmann DC, Venkataramani V, Jung E, Horschitz S, Tetzlaff SK, Jabali A, Hai L, Kessler T, Azorín DD, Weil S, Kourtesakis A, Sievers P, Habel A, Breckwoldt MO, [Karreman MA](#), Ratliff M, Messmer JM, Yang Y, Reyhan E, Wendler S, Loeb C, Mayer C, Figarella K, Osswald M, Solecki G, Sahn F, Garaschuk O, Kuner T, Koch P, Schlesner M, Wick W, Winkler F. Autonomous rhythmic activity in glioma networks drives brain tumor growth. **Nature**, 613(7942):179-186.
- Tehrani C, Fankhauser L, Harter PN, Ratcliffe CDH, Zeiner PS, Messmer JM, Hoffmann DC, Frey K, Westphal D, Ronellenfisch MW, Sahai E, Wick W, [Karreman MA*](#), Winkler F*. The PI3K/Akt/mTOR pathway as a preventive target in melanoma brain metastasis. **Neuro Oncol.** 2022 24(2):213-225.

4. Berghoff AS[#], Liao Y[#], Karreman MA, Ilhan-Mutlu A, Gunkel K, Sprick MR, Eisen C, Kessler T, Osswald M, Wünsche S, Feinauer M, Gril B, Marmé F, Michel LL, Bago-Horvath Z, Sahm F, Becker N, Breckwoldt MO, Solecki G, Gömmel M, Huang L, Rübmann P, Thome CM, Ratliff M, Trumpp A, Steeg PS, Preusser M, Wick W, Winkler F. Identification and Characterization of Cancer Cells That Initiate Metastases to the Brain and Other Organs. **Mol Cancer Res**. 2021 19(4):688-701.
5. Feinauer MJ, Schneider SW, Berghoff AS, Robador JR, Tehranian C, Karreman MA, Venkataramani V, Solecki G, Grosch JK, Gunkel K, Kovalchuk B, Mayer FT, Fischer M, Breckwoldt MO, Brune M, Schwab Y, Wick W, Bauer AT, Winkler F. Local blood coagulation drives cancer cell arrest and brain metastasis in a mouse model. **Blood**. 2021 137(9):1219-1232.
6. Karreman MA, Winkler F. The mechanics of metastatic seeding. **Nat Cell Biol**. 2018 20(8):860-862.
7. Follain G, Osmani N, Azevedo AS, Allio G, Mercier L, Karreman MA, Solecki G, Garcia Leòn MJ, Lefebvre O, Fekonja N, Hille C, Chabannes V, Dollé G, Metivet T, Hovsepian F, Prudhomme C, Pichot A, Paul N, Carapito R, Bahram S, Ruthensteiner B, Kemmling A, Siemonsen S, Schneider T, Fiehler J, Glatzel M, Winkler F, Schwab Y, Pantel K, Harlepp S, Goetz JG. Hemodynamic Forces Tune the Arrest, Adhesion, and Extravasation of Circulating Tumor Cells. **Dev Cell**. 2018 45(1):33-52.
8. Karreman MA, Hyenne V, Schwab Y, Goetz JG. Intravital Correlative Microscopy: Imaging Life at the Nanoscale. **Trends Cell Biol**. 2016 26(11):848-863.
9. Karreman MA, Mercier L, Schieber NL, Solecki G, Allio G, Winkler F, Ruthensteiner B, Goetz JG, Schwab Y. Fast and precise targeting of single tumor cells in vivo by multimodal correlative microscopy. **J Cell Sci**. 2016 129(2):444-56.
10. Karreman MA, Mercier L, Schieber NL, Shibue T, Schwab Y, Goetz JG. Correlating intravital multi-photon microscopy to 3D electron microscopy of invading tumor cells using anatomical reference points. **PLoS One**. 2014 9(12):e114448.

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Equal contribution