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Single-molecule microscopy in zebrafish embryos

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Citation

Góra, R. J. (2022, November 23). *Single-molecule microscopy in zebrafish embryos*. Retrieved from <https://hdl.handle.net/1887/3487015>

Version: Publisher's Version

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Note: To cite this publication please use the final published version (if applicable).

CURRICULUM VITAE

Radosław Jakub Góra was born on the 25th of July, 1991 in Wrocław, Poland. There, in 2014, he completed his bachelor's studies at the Wrocław University of Science and Technology and majored in biotechnology and molecular biology. During his bachelor's studies, he interned in the Hirszfeld Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences, where he investigated the role of Toll-like receptors in metabolic pathways engaged in the immune response. In 2014, Radosław moved to Stockholm, Sweden, to obtain his master's degree in biomedicine and toxicology at the Karolinska Institute. Throughout his studies, he served as the Institute's global digital ambassador for prospective students and as an associate editor of the student magazine *Medicor*. The pinnacle of his degree studies was to participate in the iGEM competition in synthetic biology, in which he worked as a part of the Stockholm team to find a reproducible, specific and transferable biomarker that would help detect breast cancer at the early stage of the disease development. After graduating in 2016, Radosław remained at the Karolinska Institute and worked as a research assistant in the Department of Microbiology, Tumor, and Cell Biology. There, he participated in studies on phenotypic plasticity and interchangeable modes of cell invasion and growth in cancer metastasis and drug resistance. In 2017, he moved to the European Commission Joint Research Centre, located in Ispra, Italy, to start his internship in the EU Reference Laboratory for Alternatives to Animal Testing. During that time, he contributed to the development and validation of *in vitro* models for toxicological profiling of several chemicals and drug candidates. Following this internship, in September 2017 Radosław began his PhD studies in the group of Dr. Schaaf at Leiden University. His work focused on developing tools that utilize single-molecule microscopy techniques to image individual proteins inside cells of living zebrafish embryos. In the course of his studies, Radosław completed a six-month-long secondment at the Institute of Photonic Sciences (Castelldefels, Spain) where he collaborated with the group of Dr. Loza-Alvarez to develop novel applications of the light-sheet fluorescence microscopy to image single glucocorticoid receptors diffusing in nuclei inside zebrafish embryos. Currently, Radosław works as a post-doctoral research scholar in the group of Prof. Shan at the California Institute of Technology. He is involved in single-molecule microscopy studies intended to improve our understanding of co-translational mechanisms of sorting and delivery of nascent proteins to their functional targets on cell membranes..

LIST OF PUBLICATIONS

Gora RJ, Vlieg RC, Jonkers S, van Noort J, Schaaf MJM. Multifocal two-photon excitation fluorescence microscopy reveals hop diffusion of H-Ras membrane anchors in epidermal cells of zebrafish embryos.

Manuscript in preparation

Gora RJ, de Jong B, van Hage P, Rhiemus MA, van Steenis F, van Noort J, Schmidt T, Schaaf MJM. (2022) Analysis of the H-Ras mobility pattern in vivo shows cellular heterogeneity inside epidermal tissue. *Dis Model Mech.* 15(2): dmm049099

doi: 10.1242/dmm.049099

Bernardello M, **Gora RJ**, Van Hage P, Castro-Olvera G, Gualda EJ, Schaaf MJM, Loza-Alvarez P. (2021) Analysis of intracellular protein dynamics in living zebrafish embryos using light-sheet fluorescence single-molecule microscopy. *Biomed Opt Express.* 12(10): 6205-6227

doi: 10.1364/BOE.435103