

[English translation of UMG press release number 104 / 2022, <https://www.umg.eu/news-detail/news-detail/detail/news/prof-alexander-fluegel-erhaelt-sobek-ms-forschungspreis-2021/>]

Prof. Alexander Flügel receives Sobek MS Research Award 2021

Europe's largest research prize in the field of basic multiple sclerosis research goes to neuroimmunologist and basic multiple sclerosis researcher at the University Medical Center Göttingen.

The Roman, Marga and Mareille Sobek Foundation has awarded Prof. Dr. Alexander Flügel, Professor of Neuroimmunology and Director of the Institute of Neuroimmunology and Multiple Sclerosis Research at the University Medical Center Göttingen (UMG), its 2021 Research Prize. With an endowment of 100,000 euros, the prize is the highest award in Europe in the field of basic multiple sclerosis research. Prof. Flügel receives the research award for his outstanding scientific contributions to MS basic research. The award ceremony took place in cooperation with AMSEL e.V. (Aktion Multiple Sklerose Erkrankter, Landesverband der DMSG) and DMSG-Bundesverband and under the patronage of the Ministry of Science, Research and the Arts Baden-Württemberg on **July 29, 2022** in Stuttgart.



Sobek Research Prize 2021: (from left) Laudator and Ministerial Director Dr. Hans J. Reiter, Sobek Research Award Winner 2021 Prof. Dr. Alexander Flügel. Photo: © AMSEL e.V. / Frank Eppler

Insights into the immune process directly at the site of inflammation

The Sobek Foundation honors Prof. Dr. Alexander Flügel as an internationally recognized expert in basic research on the immunopathogenesis of multiple sclerosis. With his pioneering approaches to intravital microscopy, he has laid the foundations for direct observation of neuroinflammatory processes in the central nervous system (CNS): To this end, he labeled antigen-specific T cells with a green fluorescent protein to make them visible in the living organism as they enter the CNS. In combination with 2-photon microscopy, he was the first to succeed in visualizing in a model the navigation patterns of pathogenic T cells until they cross the blood-brain barrier *in vivo*. Thus, Prof. Flügel was able to characterize the movement of pathogenic T cells along the meninges and the molecular rules behind this disease-relevant "T cell traffic." Surprising was also his discovery that autoaggressive T cells can maneuver almost effortlessly through dense nervous tissue until they encounter and are activated by local macrophages. This leads to an immunological chain reaction that marks the actual onset of the disease. His method thus allows a direct view of what is happening at the sites of inflammation in the CNS.

Prof. Flügel's manifold findings had led to a new view of the immunopathogenesis of MS: multiple sclerosis has to be seen as a systemic process and not only as an immune reaction limited to the central nervous system. His research findings offer the potential to define the stages of the disease processes in a more differentiated way and thus to influence them more efficiently in terms of therapy.

Ministerial Director Dr. Hans J. Reiter, Head of the Ministry of Science, Research and the Arts of Baden-Württemberg, honored Prof. Flügel's achievements in his laudation: "Your work is an important piece of the puzzle for recognizing and understanding multiple sclerosis, its development and its mechanisms. On your work, on the results of your research, rests the hope of 2.5 million MS patients worldwide who still have to live with this unpredictable disease today. Thanks also to your research, this disease will hopefully be curable one day. The award of the Sobek Research Prize for your life's work underlines the importance of your research and your outstanding scientific work and, with the prize money, supports your further commitment."

About Alexander Flügel

Prof. Alexander Flügel, born in Erlangen in 1965, studied medicine in Munich, where he received his doctorate with honors in physical chemistry and cell biology. His focus became neuroimmunology at the Max Planck Institute for Neurobiology from 1994. After two clinical years, he switched completely to basic research and headed the Laboratory for Cellular and Molecular Neuroimmunology in Martinsried. Since 2008, he has been director of the Institute of Neuroimmunology and Multiple Sclerosis Research at the University Medical Center Göttingen. He publishes his work in the renowned international journals and is involved at the leadership level in numerous scientific committees throughout Europe. The European Research Council (ERC) has funded his research on multiple sclerosis with an Advanced Grant since 2021. In addition, Prof. Flügel has received extensive research funding and is involved in numerous collaborative projects.

About the Roman, Marga and Marielle Sobek Foundation

Since 2000, the Sobek Research Prize of the foundation from Renningen, Baden-Württemberg, has been awarded annually to scientists at universities and non-university research institutions for pioneering achievements in the field of multiple sclerosis and related basic research. The decision criteria are solely the quality and excellence of the research performance. Both an extraordinary individual and an overall scientific achievement can be honored. In addition, a Young Investigator Award may be presented. The Sobek Foundation awards its research prize on the recommendation of a scientific advisory board in cooperation with AMSEL, Aktion Multiple Sklerose Erkrankter, Landesverband der DMSG in Baden-Württemberg e.V. and the Deutsche Multiple Sklerose Gesellschaft, Bundesverband e.V. (DMSG). The patron of the award ceremony is the Ministry of Science, Research and the Arts in Baden-Württemberg.

To press release from AMSEL e.V. <https://www.amsel.de/amsel-ev/presse/pressemeldungen/renommierte-preise-fuer-multiple-sklerose-forschung-verliehen/>

In this video, Sobek Prize 2021 winner Prof. Alexander Flügel explains the role played by the lungs in MS: <https://www.amsel.de/multiple-sklerose-news/amsel-aktuell/autoaggression-im-gehirn/>

To the Sobek foundation: <https://www.deutsches-stiftungszentrum.de/stiftungen/roman-marga-und-mareille-sobek-stiftung>

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