BIOGRAPHICAL SKETCH

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NAME: Ulrich Schüller, MD

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Professor of molecular pediatric Neurooncology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Gymnasium Obersalzberg, Berchtesgaden, Germany	*Baccalaureate*	07/95	
Medical School, Freiburg, Germany		07/98	Human Medicine
Medical School, Bonn, Germany		10/01	Human Medicine
Medical School, Munich, Germany	Medical exam	10/02	Human Medicine
Institute of Anatomy, Bonn, Germany	MD	01/03	Cerebellar development
Institute of Neuropathology, Bonn, Germany		12/04	Residency
Dana-Farber Cancer Institute, Boston, USA		12/06	Cerebellar development and medulloblastoma (postdoc)
Institute of Neuropathology, Munich, Germany	Board certification for Neuropathology	10/09	Residency
Institute of Neuropathology, Munich, Germany	Habilitation	11/10	Biology of medulloblastoma

A. Personal Statement

I am a professor für molecular pediatric Neuro-Oncology, who is at the same time functioning as an attendant physician at the institute for Neuropathology at the University Hospital of Hamburg Eppendorf, Germany. My clinical duties encompass the entire spectrum of neuropathology with a special focus on pediatric Neuro-Oncology. Beside my clinical duties, I run a research laboratory at the Research Institute Children's Cancer Center Hamburg that currently counts ~ 15 people including technicians, medical and PhD students as well as postdocs and clinician scientists. The laboratory has a dedicated focus on developmental neurobiology as well as malignant pediatric brain tumors with projects addressing fundamental and translational questions on medulloblastoma, rhabdoid tumors, ependymomas, and other rarer entities. The laboratory has very tight collaborations with the department of neurosurgery and the department of pediatric hematology and oncology at the University Medical Center of Hamburg Eppendorf and is further connected to multiple other research labs nationally and internationally. Methodologically, we work with human tumors samples that we characterize morphologically and molecularly with intense experience in DNA methylation profiling. We also have a long-lasting experience in the generation and characterization of transgenic mouse models that we use in order to better understand brain tumor biology and to develop novel treatment options for pediatric malignant brain tumors. Finally, we are keen on developing novel diagnostic approaches in the field of neuro-oncology with a recent focus on Nanopore sequencing of cerebro-spinal fluid samples.

B. Positions, Scientific Appointments, and Honors

- Thesis stipend from the German Research Association (DFG, 2000)
- Postdoctoral fellowship of the German Cancer Aid (2005-2006)
Research Award of the German Society for Paediatric Oncology and Haematology (2007)
- Member of the Max-Eder-Junior research group leader program of the Germany Cancer Aid (2008-2015)
- Curt-Bohnewand Award for Cancer Research (2013)
- Member of the HIT-MED study group (since 2016)
- Member of the editorial board of Acta Neuropathologica (since 2017)
- Reference neuropathologist for the German SIOP Ependymoma II trial (since 2019)
- Reference neuropathologist for cerebro-spinal fluid cytology for children with brain tumors in Germany (since 2022)
- Member of the German Society of Neuroanatomy and Neuropathology (DGNN), the American Association for Cancer Research (AACR), the Society for Neurooncology (SNO), and the Society for Pediatric Oncology and Hematology (GPOH)

C. Contributions to Science

One of the biggest contributions to the field was the development and characterization of mouse models for multiple malignant pediatric brain tumors. In this sense, we published novel models for Sonic Hedgehog (SHH) associated medulloblastoma in 2008, indicating that the acquisition of cerebellar granule neuron lineage is required for the development of such tumors (Schüller et al, *Cancer Cell* 2008). Having established such models, we analyzed the role of diverse transcription factors for medulloblastoma development, including Barhl1 (Pöschl et al., *Oncogene* 2011), FoxM1 (Priller et al. *Clin Cancer Res* 2011), Sox2 (Ahlfeld et al., *Cancer Res* 2013) or MYCN (Heine et al., *Cancer Res* 2010). These studies also included first attempts to treat these tumors by specifically targeting the tumor-promoting role of these genes. A very intriguing finding was discovered by my lab in 2018, when we used transgenic mice to uncover that CREBBP is resulting in a phenotype very similar to the Rubinstein Taybi syndrome when deleted very early in embryonal development. However, when functionally disrupted later in development, CREBBP is accelerating the growth of SHH medulloblastoma (Merk et al., *Dev Cell* 2018).

In 2017, we published the development of a model for the relatively recently identified entity of embryonal tumors with multilayered rosettes (ETMR) by finding out that the interplay between Sonic hedgehog and Wnt signaling is sufficient to drive such tumors. These tumors were not only morphologically and molecularly similar to the human counterpart, they were also sensitive to the treatment with arsenic trioxide, a substance that is already used in clinics (Neumann et al., *Nat Med* 2017). Appropriate mouse models for atypical teratoid/rhabdoid tumors (AT/RTs) were just recently developed in collaboration the lab of Kornelius Kerl in Münster, Germany, with a focus on specificities of the diverse molecular subgroups (Graf et al., *Nat Comm* 2022).

Other achievements of the lab include attempts to better classify brain tumors by DNA methylation profiling. Apart from contributing to the development and introduction of the method into the field of Neuro-Oncology (Capper et et al. *Nature* 2018), our lab profiled multiple brain tumor entities, such as esthesioneuroblastoma, ependymoma, or rhabdoid tumors with relevant correlations to morphology and clinical behavior (Capper et al. *Acta Neuropathol* 2018; Neumann et al., *Acta Neuropathol* 2020; Holdhof et al., *Acta Neuropathol* 2020; Bockmayr et al., *Neuro-Oncol* 2022)