

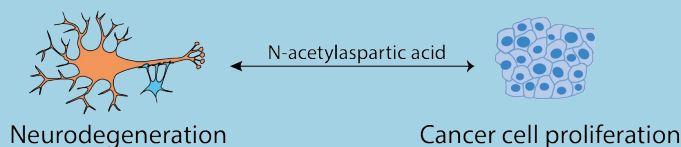


Bachelor-/Master Thesis



Who are we?

The Pathometabolism (head: Dr. Andre Wegner), located at the Braunschweig Integrated Centre of Systemsbiology (BRICS), is interested in understanding disease metabolism. In particular, we are focused on understanding the functional role of *N*-acetylaspartate (NAA) metabolism in cancer cell proliferation and its link to neurodegeneration.



Project Background

Despite NAA being the second-most abundant metabolite in the mammalian brain, its functional role is poorly understood. Recently, several independent groups found NAA metabolism to also play important roles in non-nervous tissues, e.g. in adipocytes, immune cells, lung and prostate cancer cells, pointing towards a previously overlooked wide relevance of peripheral NAA metabolism. A bachelor or master thesis would be part of the BMBF funded systems medicine consortium PeriNAA. Within PeriNAA, clinical, computational and experimental groups work together to build a computational model around NAA metabolism to understand the functional role of NAA. Depending on your interest, a thesis with a focus on experimental or computational work would be possible.

Thesis Content – Utilized Methods

- Cell culture and genetic modifications (gene silencing/knockout or overexpression)
- High resolution mass spectrometry (LC-MS, GC-MS)
- Stable isotope assisted metabolomics
- Computational modeling of human metabolism

Please send your application via Email with your thesis preferences (experimental, computational, or both), preferred starting date and previous courses / focus of studies:

Pathometabolism
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Deutsche Bewerbungen sind ebenfalls erwünscht!