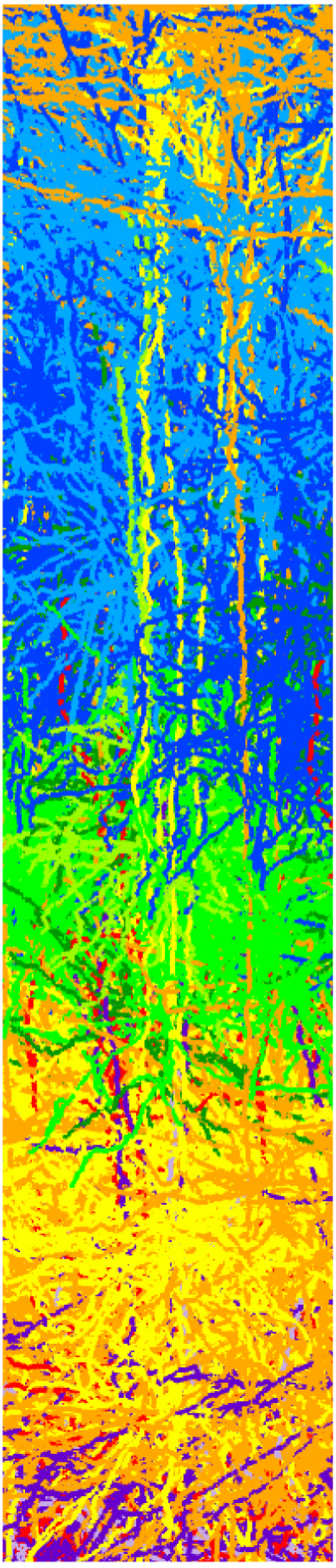
UNIVERSITÄT BONN

# Neuroscience Lecture

Bonn Center of Neuroscience



## Pten Loss During Dentate Granule Neuron Development as a Model for Autism Spectrum Disorder


**Bryan W Luikart, Prof. Dr.**

Associate Professor, Department of Molecular and Systems Biology, Geisel School of Medicine at Dartmouth



Dentate gyrus granule neurons are among the latest developing neurons in the brain. The peak of granule neuron generation occurs during the first postnatal week of mouse development. Retroviruses reverse transcribe their genome into mitotic cells during the breakdown of their nuclear envelope - allowing for specific genetic access to granule neurons in the post-natal mouse brain. Using a combination of postnatal retrovirus injections and mouse genetics we have defined how Pten loss-of-function effects the development of neuronal morphology, synaptic connectivity, and excitability in vivo. Pten knockout results in increased downstream activation of mTORC1 to facilitate protein and lipid synthesis. Pharmacological or genetic inhibition of mTORC1 normalizes growth and synapse formation of Pten knockout neurons to wild-type levels.


**March 20, 2023, 04:00 p.m.**

Epileptology, Seminar Room 266/83, Ground Floor

Find more talks

If you would like to meet with the speaker, please contact: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