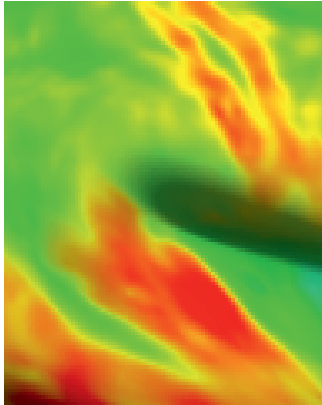
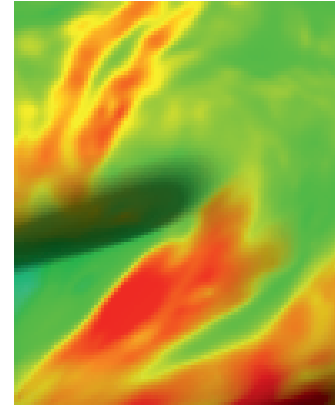


# Educational Symposium: Mechanisms of longitudinal relaxation in the human brain



**When:**  
11 April, 2019  
9:00 am – 4:00 pm

**Where:**  
MPI CBS Leipzig,  
Charlotte Erxleben Room, C 004  
(Library Seminar Room)



## Scope:

The longitudinal relaxation time of water protons ( $T_1$ ) is a sensitive biomarker for brain tissue composition reflecting local macromolecular and iron content.  $T_1$ -contrast in the brain is widely applied for anatomical imaging, brain segmentation, cortical parcellation and as a biomarker for myelination. However, the relaxation mechanisms in the brain tissue are far from fully understood and no generative models of the underlying processes so far exist. This limits interpretation and specificity of  $T_1$ -based myelination biomarkers. This workshop will bring together experts in quantitative MRI of the brain and provide an overview of current models of myelin- and iron-induced longitudinal relaxation in the human brain. The target audience are scientists, PhD students and postdocs working in the field of quantitative MRI and microstructural imaging of the human brain.

**Harald Möller**, NMR Group, MPI CBS, Leipzig

Exchanging water compartments in brain tissue and their impact on proton spin relaxation

**Gunther Helms**, Lund University, Sweden

$T_1$  and MT: The basis of structural MRI

**Aviv Mezer**, Hebrew University of Jerusalem, Israel

Disentangling the  $T_1$  dependencies on water fraction and molecular composition of brain tissue

**Kerrin Pine**, Department of Neurophysics, MPI CBS, Leipzig

Measuring  $T_1$  in the brain: potentials, challenges and acquisitional biases

**Risto A. Kauppinen**, University of Bristol, United Kingdom

Angular Dependency of  $T_1$  in White Matter at 3T: Potential Mechanisms?

**Evgeniya Kirilina**, Department of Neurophysics, MPI CBS, Leipzig

Iron induced longitudinal relaxation in the human brain

**Registration via email to "[kirilina@cbs.mpg.de](mailto:kirilina@cbs.mpg.de)"**

**Registration deadline:**

**2 April, 2019**