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Expertise in:

- Theoretical modelling and in vivo studies of electromagnetic properties of neurons and interactions with charged cells within the CNS
- Pathogenic mechanisms involved in demyelination and neurodegeneration coupled with impaired immune response
- PBMC isolation from plasma via cardiac puncture and loading of T-cells with SPION-PLL derivatives
- Cranial window implantation for two-photon chronic imaging in awake mice
- Virtual reality track design and implementation for mouse virtual navigation
- Electromagnetics, magnetohydrodynamics and smoothed particle dynamics

Expected benefits and activities during participation in BIONECA:

- Gain new perspectives on stem cell treatment of brain diseases
- Share experience with groups that use alternative approaches to neurodegeneration and neuroinflammation through membrane surface charge
- Would like to learn about cell electrostimulation, magnetically targeted stem cell delivery and targeted treatment using nanoparticles
- Would like to learn about new biomaterials for combined application with stem cells for brain diseases
- Work with groups to develop novel stem cell surface charge depolarization and hyperpolarization methods

Foreseen maximum contribution: in WG4