

Application for a:	Reintegration Scheme NEWFELPRO Fellowship for experienced researcher
Proposal Acronym:	Human Neuroglycome
Proposal Title:	A spatio-temporal analysis of glycosylation in the human brain
Research area(s):	Life sciences LIF
Research sub-disciplines:	Molecular and structural biology and biochemistry Structural biology Genetics, genomics, bioinformatics and systems biology Glycomics Bioinformatics Neurosciences and neural disorders Molecular and cellular neuroscience
Category of research:	basic
Duration in months:	24
Keywords:	high-throughput glycomics, neuroscience, brain development, genome-wide association study, bioinformatics
Abstract:	Glycans are complex oligosaccharides that can be covalently added to proteins through a process known as glycosylation in order to change their stability, localisation or function. The glycome, therefore, represents the set of all glycans in an analysed tissue. The main aim of this project is to use the latest high-throughput glycomic analysis methods, in combination with rigorous bioinformatics, to construct a detailed spatio-temporal profile of glycosylation in the human brain. Our extensive sample library covers 16 different brain regions across all periods of human development from the early embryo to late adulthood. With access to the matching genomic and transcriptomic datasets, we can then draw correlations between the three omes and investigate how they interact to produce a phenotype. Understanding how the neuroglycome varies between different parts of the brain and how it changes throughout ontogeny will give us valuable new insights into brain function and development.
Does this proposal possess	Yes

any of the sensitive ethical issues
detailed in ethical issues table?