

Prof. Kalle Gehring

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Prof. Gehring trained at the University of California at Berkeley (PhD, Microbiology) and at the Ecole Polytechnique in France where he used NMR spectroscopy to determine the first four-stranded intercalated DNA structure. At McGill University, his research group uses structural biology tools to work in two areas: 1) parkin, a ubiquitin ligase that protects against Parkinson's disease, and 2) the PRL/CNNM signalling pathway that regulates intracellular magnesium. His group published the first 3D structure of parkin and recently showed that a small molecule can activate parkin by acting as a molecular glue to bypass the need for parkin phosphorylation. In the area of PRL/CNNM signalling, Prof. Gehring's laboratory determined the first structure of a PRL/CBS domain complex in 2016 and the first CNNM-family transmembrane domain in 2020. His current work is focused on understanding how conformational changes in the CNNM cytosolic domains regulate ion transport and the role of cysteine phosphorylation as an upstream effector. Lab website: www.gehringlab.net

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