



University
of Basel

Department
Biozentrum



Swiss Institute of
Bioinformatics

BIOZENTRUM

The Center for
Molecular Life Sciences

Basel Computational Biology Seminar:
22830-01 Current Research in Bioinformatics I

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Berlin, Germany*

**Temperature-controlled alternative splicing:
From global analysis and mechanistic insights to
translational research**

In previous studies, we have characterized the impact of subtle changes in (human) core body temperature on alternative splicing and gene expression. We have shown how a family of kinases, CLKs, acts as temperature sensor to alter SR protein phosphorylation, which then globally controls alternative splicing in response to temperature changes. Many temperature-controlled alternative splicing events lead to nonsense-mediated decay, thus providing a connection of body temperature changes with gene expression. In recent work we have analysed how this mechanism controls the expression of genes implicated in anti-viral immunity, cancer and neurodegeneration. In this talk I will present mechanistic insights of cold-induced gene expression and ASO-based translational approaches that we develop to manipulate therapeutically relevant targets in an approach we call 'hypothermia in a syringe'.

Date: Monday, October 21, 2024
Time: 16:15 h – 17:30h
Location: online via Zoom
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