

# Editorial

## NCCR TransCure – Excellence in Membrane Transport Research from 2010 until 2022

Dear Readers,

This special issue of CHIMIA presents the National Center of Competence in Research (NCCR) TransCure. In 2010, the NCCR TransCure was launched as an initiative of Matthias A. Hediger (University of Bern) to “*find remedies for major human diseases by studying the structure, function, basic biology and pathology of strategically important transport proteins and develop drugs that control them in the diseased states.*” The project focused on solute carrier transporter (SLC) and ion channel proteins selected for their relevance in human diseases and represented an unprecedented interdisciplinary effort involving three separate disciplines: transport physiology, structural biology, and chemistry, with participating groups across Switzerland.

The first article by **Valentina Rossetti** and **Hugues Abriel** (University of Bern) presents the organization and main achievements of the network. The importance of physiology, pathophysiology, and structure of transporters is the topic of the articles by **Christiane Albrecht** (University of Bern) and **Raimund Dutzler** (University of Zürich), focused on iron transport, and **Dimitrios Fotiadis** (University of Bern) focused on amino acid transporters (SLC7 family). **Daniel Fuster** (University of Bern and Insel Spital Bern) reports on the project dealing with the physiological and molecular function of the sodium/hydrogen exchanger NHA2 (SLC9B2), **Bruno Stieger** (University of Zürich) reviews recent progress on understanding bile acid transporters and their implication in diseases, and **Andrea Volterra** (University of Lausanne) reports on an approach to modulate the astrocyte-specific vesicular glutamate transporter VGLUT1 using specific nanobodies. **Christine Peinelt** (University of Bern) presents a project investigating the pharmacology and disease mechanisms of TRPM4, a non-selective cationic channel involved in cardiovascular disorders and cancer. **Jean-Louis Reymond** (University of Bern) summarizes the computational drug discovery efforts realized by his group to support the NCCR, and **Murielle Bochud** (University of Lausanne) reports on the PhenoExplorer platform and its usage applied to the NCCR TransCure targets.

Among the non-scientific objectives of the NCCR TransCure, outreach events played an important part in the activities. This aspect is featured in the concluding article about the motivation and implementation of Vitaport, an original learning and artistic path led by Valentina Rossetti and Jean-Louis Reymond, which was presented in the Elfenau park in Bern in August–October 2022.

We trust that this special CHIMIA issue will inform you about some of the key achievements of the NCCR TransCure. We are extremely grateful to all authors and reviewers of these articles and wish you, dear Readers, a pleasant read.

Hugues Abriel and Jean-Louis Reymond