Harald BERNSTEINER

Finishing year: 2019

Supervisor: Anna Weinzinger, Faculty of Life Sciences, University of Vienna

Co-Supervisor: Gerhard Ecker, Faculty of Life Sciences, University of Vienna

Thesis title: Atomistic insight into function and dysfunction of inward-rectifier potassium channels.

Current Position and Employer: Clinical Assessor at the Austrian Agency for Health and Food Safety (AGES), Vienna, Austria

MolTag alumni page:

Harald Bernsteiner (univie.ac.at)

How would you summarize your thesis results in 3 sentences?

Molecular dynamics simulations with an applied electrical field revealed novel insights into gating, conduction mechanism and selectivity of K^+ channels. Our simulations captured the opening transition of two different Kir channels in presence of the modulating phospholipid PIP_2 and suggest a major importance of a conformationally stable selectivity filter for continuous ion flux. Further, these simulations provided insights into the role of charged residues in the ion channel pore.

What are you doing now?

My job is to evaluate safety & efficacy of new medicines in frame of centralised European market authorisation applications. Additionally, I work on EMA Scientific Advice procedures. Both tasks are usually team efforts that are done by several assessors who work on clinical, non-clinical, quality and statistical methodology questions.

What was the impact of the MolTag program on your further career?

Working with different disciplines is also a fundamental part of my current job.

What did you particularly like about the MolTag program?

The possibility to go abroad and to attend international conferences with scientifically top-level speakers. Further, **learning about the PhD projects of fellow MolTag students automatically results in less narrow-mindedness.**

What is your recommendation for current MolTag PhD students?

Basically, as a PhD student **you often have to solve problems you didn't know about before by (self-)learning new methods and techniques** you maybe didn't know that they existed. **Do not underestimate the skills and experiences you gain during this process.**

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