



## Danny D. Nediaalkova

MPI of Biochemistry, Martinsried Germany

### **Fundamental mechanisms orchestrating the birth of proteins**

Proteins mediate nearly all biological processes, and their synthesis and folding in cells are orchestrated by an intricate molecular network comprising thousands of RNA and protein factors. How this network accommodates rapidly changing demands on the proteome during development, differentiation, and upon cell state transitions is unknown. Our research seeks to define how the birth and formative first minutes of protein lives are regulated in distinct cellular contexts, with the long-term goal of understanding why some cell types are especially vulnerable to protein homeostasis imbalance in disease. To address these questions at the molecular and cellular scale, we develop and apply quantitative genome-wide methods, functional genomics, and cellular biochemistry in human induced pluripotent stem cells (hiPSC)-based models. We use this multiscale approach to discover and mechanistically dissect the regulatory events shaping newborn proteomes across diverse human cell types.

**Thursday, 6.2.2025, 1 pm**  
**Manfred Eigen Lecture Hall**

Host: Marina Rodnina & Kärt Denks

