

# 2024 年度 第1回 生命科学技術国際卓越講義



World-leading Innovative Lectures  
in Life Science & Technology  
The University of Tokyo



## Addressing Intracellular Targets with Proteomimetics – Too Big to Succeed?

### Prof. Tom N. Grossmann

Professor

Chair of Biomimetic Chemistry

Department of Chemistry and Pharmaceutical Sciences  
Amsterdam Institute of Molecular and Life Sciences

**Date: Monday, 22nd, April, 2024**

Please register by this QR code or clicking the following link

[Registration Form](#)

**Time: 15:30 registration**

**16:00-16:45 Lecture**

**16:45-17:00 Question and Discussion**

**17:00-17:10 Break**

**\*17:10-17:40 Interview with students and researchers**

(\*Attending an interview session needs another registration (see your e-mail))

**Venue: Room No.56, 1F Faculty of Engineering Bldg. 5, Hongo- Campus, The University of Tokyo (工学部5号館56番教室) [https://www.u-tokyo.ac.jp/campusmap/cam01\\_04\\_06\\_j.html](https://www.u-tokyo.ac.jp/campusmap/cam01_04_06_j.html)**

**Participants: Up to 70 participants**



#### Abstract:

A large number of therapeutically attractive targets are shielded by cellular membranes. Many of these targets turned out to be undruggable with small molecules and due to membrane shielding they are not accessible with large biologics. This triggered the search for molecules which combine the enhanced surface recognition capabilities of biologics with the ability to pass cellular membranes. A promising strategy towards this goal involves the use of protein-inspired scaffolds that recapitulate small tertiary structures and facilitate miniaturization to support cellular uptake. Proteins are natural scaffolds defined by a hierarchy of structural complexity and have evolved to manifest unique functional characteristics e.g., molecular recognition properties that enable high binding affinity and selectivity. Utilizing these features, proteins have been used as a starting point for the design of bioactive reagents in drug discovery. The lecture will describe design approaches towards bioactive proteomimetics that address intracellular targets.

**Organizer: World-leading Innovative Graduate Study Program for Life Science and Technology**

**Cooperation: Graduate Program for Leaders in Life Innovation, The University of Tokyo**

**Clinical Research Promotion Center, The University of Tokyo Hospital**

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