GDCh

UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

Das **Institut für Biochemie** lädt gemeinsam mit dem Ortsverband der **Gesellschaft Deutscher Chemiker** zu einem

K o l l o q u i u m der GDCh

Großer Hörsaal des Instituts für Biochemie
Felix-Hausdorff-Str. 4, Greifswald

Freitag, 17. Oktober 2025, 14 Uhr c.t.

Prof. Dr. Todd Hyster

Department of Chemistry, Princeton University, Princeton, USA

spricht zum Thema:

"Emergent Mechanisms in Photoenzymatic Catalysis”

Abstract:

Enzymes are exquisite catalysts for chemical synthesis, capable of providing unparalleled levels of chemo-, regio-, diastereo- and enantioselectivity. Unfortunately, biocatalysts are often limited to the reactivity patterns found in nature. In this talk, I will share my groups efforts to use light to expand the reactivity profile of enzymes. In our studies, we have developed novel photoexcitation mechanisms involving common biological cofactors, such as NADH and FMN, to facilitate electron transfer to substrates bound within enzyme active sites. Alternatively, proteins can be used to electronically activate substrates for reduction by exogenous photoredox catalysts enabling radical formation to be localized to the protein active site. The resulting radicals can engage in a variety of inter- and intramolecular reactions with high levels of enantioselectivity. These approaches enable biocatalysts to solve long-standing selectivity challenges in chemical synthesis.

Einladender

Prof. Dr. Uwe Bornscheuer

Dr. Christian Fischer
Vorsitzender des Ortsverbandes der GDCh