



GESELLSCHAFT DEUTSCHER CHEMIKER  
ORTSVERBAND SIEGEN

## **Ankündigung**

Am Montag, 03. Juni 2024, spricht um 16:30 Uhr  
im Hörsaal AR-F 002 des Departments Chemie und Biologie

**Prof. Dr. Daniel B. Werz**

Albert-Ludwigs-Universität Freiburg

über das Thema

## **Design and Serendipity in Fluorophore Chemistry**

Kaffeerunde ab 16 Uhr in Raum AR – H 100,  
organisiert durch das  
JungChemikerForum Siegen

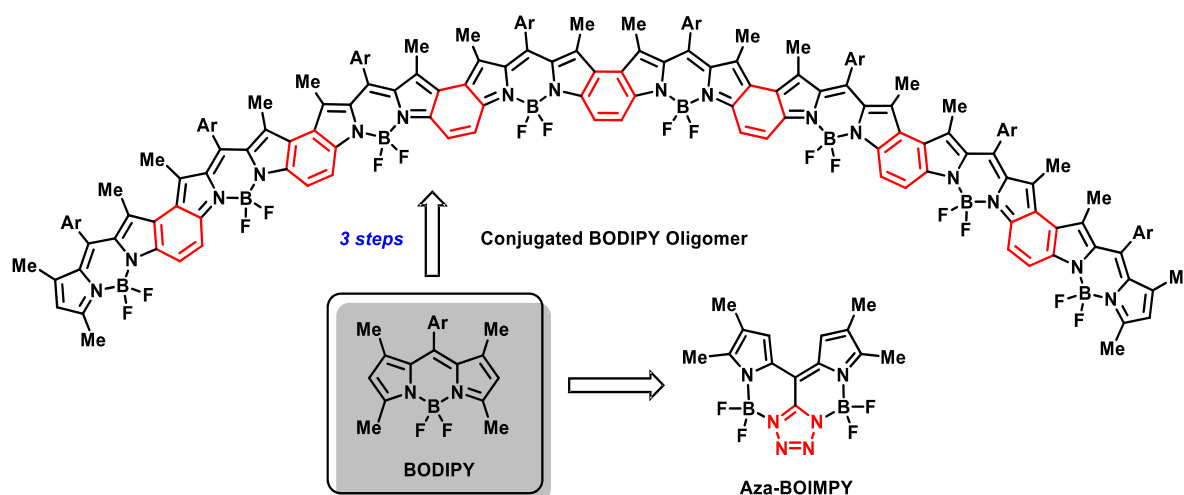
Alle interessierten Kolleginnen und Kollegen, Mitarbeiterinnen und  
Mitarbeiter und Studierende sind zu diesem Vortrag herzlich eingeladen.  
Gäste sind herzlich willkommen.

Der Ortsverbandsvorsitzende  
Prof. Dr. Jörn Schmedt auf der Günne

## Design and Serendipity in Fluorophore Chemistry

The rich chemistry of the BODIPY motif, together with its beneficial photophysical properties, has markedly boosted the popularity of this user-friendly fluorophore over the last few decades.[1] The diversity of easily incorporated fluorescence modulation modes has set the stage for a variety of sensorically active species.

The talk describes which physical-organic rationalisation led to the development of the BOIMPY motif showing a significant red-shift with respect to the parent BODIPY.[2] In addition, a simple synthetic route to oligomerized ethano-linked BODIPYs (up to an octamer) is presented which can be further oxidized to huge completely conjugated systems.[3] Photophysical properties and biological properties are discussed by experimental and theoretical means.[4] It is shown that the suprastructure of the oligomeric dyes plays a significant role for their absorption and emission properties and that the conjugated systems are interesting NIR fluorophores.



**Scheme 1:** BODIPY, (Aza-)BOIMPY and highly conjugated BODIPY oligomer.

[1] a) A. Loudet, K. Burgess, *Chem. Rev.* **2007**, *107*, 4891; b) G. Ulrich, R. Ziessel, A. Harriman, *Angew. Chem. Int. Ed.* **2008**, *47*, 1184.

[2] a) L. J. Patalag, P. G. Jones, D. B. Werz, *Angew. Chem. Int. Ed.* **2016**, *55*, 13340; b) L. J. Patalag, P. G. Jones, D. B. Werz, *Chem. Eur. J.* **2017**, *23*, 15903.

[3] a) L. J. Patalag, L. Phong Ho, P. G. Jones, D. B. Werz, *J. Am. Chem. Soc.* **2017**, *139*, 15104; b) A. Patra, L. J. Patalag, P. G. Jones, D. B. Werz, *Angew. Chem. Int. Ed.* **2021**, *60*, 747.

[4] L. J. Patalag, S. Ahadi, O. Lashchuk, P. G. Jones, S. Ebbinghaus, D. B. Werz, *Angew. Chem. Int. Ed.* **2021**, *60*, 8766-8771.