

lädt ein

gemeinsam mit der Gesellschaft
Deutscher Chemiker

zum

Vortrag

von Herrn

**Prof. Oliver
Thorn-Seshold**
*Professur für Chemische
Biologie*
**Technische
Universität Dresden**



**“Chemical
Photoreceptors and
Superfluorophores”**

am: 28.05.2026

um: 09:30 Uhr

WO: im Raum A12.232

Gäste sind herzlich willkommen!



TECHNISCHE UNIVERSITÄT
IN DER KULTURHAUPTSTADT EUROPAS
CHEMNITZ

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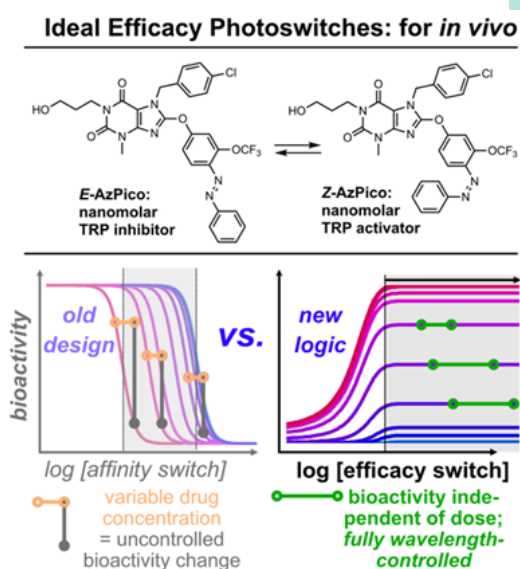
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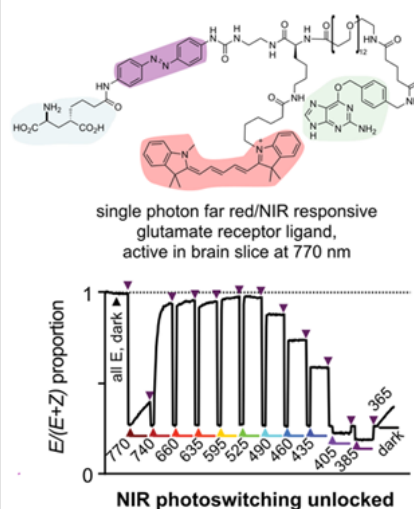


“Chemical Photoreceptors and Superfluorophores”

Photoswitchable protein modulators are tool reagents that can manipulate biology in cells and tissue culture with very high spatiotemporal precision. Recent advances are now poised to energise this field. (1) Efficacy photoswitching is a new design logic for photopharmacology that allows highly practical chromocontrol: i.e. only the colour of light applied (not the drug concentration!) determines the bioactivity (doi.org/m75j). (2) Biocompatible singlet-manifold photoswitching has recently jumped from its old photoresponse limits around 600 nm to reach 1000 nm, i.e. well within the NIR transparency window (doi.org/mtnw, doi.org/ks9v). In parallel, the molecular switches themselves are revealing previously hidden performance traits. Azobenzenes are widely used as fluorescence quenchers and photoswitches, but are not usually imaged as signal generators. Expressing two latent aspects of their photochemistry now accesses (3) ultra-stable "superfluorophores" for singlemolecule and super-resolution microscopy, and (4) loud photoacoustic agents for in vivo tomographic imaging (doi.org/mzgt, doi.org/ntpt).



from far red to 1000 nm switches



imaging the switch

