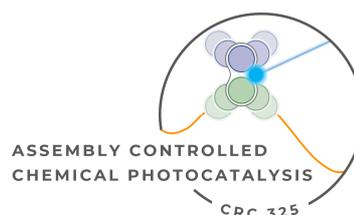




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The **Zeitler group** is a member of the Faculty of Chemistry and Mineralogy at the Universität Leipzig, Germany. Our research aims at the development of new synthetic methodology and discovery of novel reactivity in the context of (multi)catalytic transformations. The interdisciplinary research programme of our dynamic group is broadly based on applying mechanistic understanding and physical organic principles to design novel transformations and catalysts.

The **Zeitler Lab** has a long-term experience in the area of photoredox catalysis, in particular in the investigation of different multicatalytic photoredox approaches, including combinations with hydrogen atom transfer (HAT), hydrogen-bond activation,<sup>[1]</sup> enamine<sup>[2]</sup> or Lewis acid catalysis.<sup>[3]</sup> We have developed novel methodology to address the challenging fission of strong bonds,<sup>[4-6]</sup> as well as a toolbox of new purely organic photocatalysts.<sup>[2, 6]</sup> Our mechanistic studies also include photochemical flow approaches.<sup>[7]</sup>

Within the newly established Collaborative Research Centre **CRC 325** "Assembly Controlled Chemical Photocatalysis" and our **project B6** "Base-Promoted Oxidative PCET Remote Functionalization" we will exploit multisite proton coupled electron transfer (MS-PCET) to establish broadly applicable, photocatalytic remote functionalization reactions.

### Key publications:

- [1] M. Neumann, **K. Zeitler**, "A cooperative hydrogen-bond-promoted organophotoredox catalysis strategy for highly diastereoselective, reductive enone cyclization", *Chem. Eur. J.* **2013**, *19*, 6950-6955. <http://dx.doi.org/10.1002/chem.201204573>
- [2] M. Neumann, S. Földner, B. König, **K. Zeitler**, "Metal-free, cooperative asymmetric organophotoredox catalysis with visible light", *Angew. Chem. Int. Ed.* **2011**, *50*, 951-954. <http://dx.doi.org/10.1002/anie.201002992>
- [3] E. Speckmeier, P. J. W. Fuchs, **K. Zeitler**, "A synergistic LUMO lowering strategy using Lewis acid catalysis in water to enable photoredox catalytic, functionalizing C-C cross-coupling of styrenes", *Chem. Sci.* **2018**, *9*, 7096-7103. <https://doi.org/10.1039/C8SC02106F>
- [4] E. Speckmeier, C. Padié, **K. Zeitler**, "Visible light mediated reductive cleavage of C–O bonds accessing  $\alpha$ -substituted aryl ketones", *Org. Lett.* **2015**, *17*, 4818-4821. <http://dx.doi.org/10.1021/acs.orglett.5b02378>
- [5] E. Speckmeier, **K. Zeitler**, "Desyl and phenacyl as versatile, photocatalytically cleavable protecting groups – A classic approach in a different (visible) light", *ACS Catal.* **2017**, *7*, 6821-6826. <http://dx.doi.org/10.1021/acscatal.7b02117>
- [6] E. Speckmeier, T. G. Fischer, **K. Zeitler**, "A toolbox approach to construct broadly applicable metal-free catalysts for photoredox chemistry – Deliberate tuning of redox potentials and importance of halogens in donor-acceptor cyanoarenes", *J. Am. Chem. Soc.* **2018**, *140*, 15353-15365. <https://doi.org/10.1021/jacs.8b08933>
- [7] M. Neumann, **K. Zeitler**, "Application of microflow conditions to visible light photoredox catalysis", *Org. Lett.* **2012**, *14*, 2658-2661. <http://dx.doi.org/10.1021/ol3005529>

### Application:

If you are interested in joining our group and working on an exciting and challenging *photocatalysis* project in a highly interdisciplinary consortium of organic and inorganic synthetic che-

mists, biochemists, spectroscopists, and theoreticians, we welcome your application for a **PhD position** which is fully funded through the transregional Collaborative Research Center CRC 325.

Suitable candidates are highly motivated and enthusiastic about science and should have a solid background in preparative organic chemistry as well as a strong interest in photocatalysis, but also in synthesis and mechanistic studies.

Applications (single pdf file, preferably in English) should include a letter of motivation, CV, academic certificates and a transcript of records, and the contact information of two references. Prospective PhD students should apply exclusively to **apply-crc325@ur.de** in electronic form and refer to "**project B6 (Zeitler group)**".

Candidates for a postdoctoral position should send their application letters directly to [kirsten.zeitler@uni-leipzig.de](mailto:kirsten.zeitler@uni-leipzig.de).

**Prof. Dr. Kirsten Zeitler**

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