

## BASTIAN STEUDEL

At my time at SAG in Goettingen I was introduced into the fascinating world of microalgae. Their beauty is often overwhelming. My students often struggle with the variety of different organisms lumped under the name algae. This variety needs a deep understanding of the phylogenetic relationships between the different algae groups. This area of taxonomy is fluctuating and I am keen to see future progresses to build a better understanding of these relationships. However, the ecological importance of algae as primary producers which created the world we now live in cannot be neglected. At the same time, a lot of algae groups serve as model organisms disentangling mechanisms which can be observed in more complex organisms as well. Further, a lot of species are relatively easily cultivated making them an ideal system for lab experiments of species interaction. I focus in my research on microalgae model systems to explore ecosystem functioning in species mixtures but just love to sit down to observe and classify microalgae in environmental samples admiring their variety of shapes.

### *Five algae related publications:*

Stuedel, B., Hector, A., Friedl, T., Löffke, C., Lorenz, M., Wesche, M. and Kessler, M., 2012. Biodiversity effects on ecosystem functioning change along environmental stress gradients. *Ecology letters*, 15(12), pp.1397-1405.

Stuedel, B., Hallmann, C., Lorenz, M., Abrahameczyk, S., Prinz, K., Herrfurth, C., Feussner, I., Martini, J.W. and Kessler, M., 2016. Contrasting biodiversity–ecosystem functioning relationships in phylogenetic and functional diversity. *New Phytologist*, 212(2), pp.409-420.

Friedl, T., Reitner, J., Darienko, T., Tzvetkova, A., Rybalka, N., Olberg, B. and Stuedel, B., 2017. Terrestrial Microalgae on Rock Surfaces as Drivers of Biogenic Weathering. *Phycologia*, 56(4), p.52.

Hong, P., Schmid, B., De Laender, F., Eisenhauer, N., Zhang, X., Chen, H., Craven, D., De Boeck, H.J., Hautier, Y., Petchey, O.L. and Reich, P.B., 2022. Biodiversity promotes ecosystem functioning despite environmental change. *Ecology letters*, 25(2), pp.555-569.

Kryvenda, A., Tischner, R., Stuedel, B., Griehl, C., Armon, R. and Friedl, T., 2023. Testing for terrestrial and freshwater microalgae productivity under elevated CO<sub>2</sub> conditions and nutrient limitation. *BMC Plant Biology*, 23(1), pp.1-17.

### *Biosketch:*

Bastian Stuedel studied biology at the University of Goettingen, Germany, majoring in botany in 2005. He finished his PhD in 2011 at the University of Zurich, Switzerland, about biodiversity effects under stress, conducting a model experiments with microalgae and marsh plants. After different positions in Goettingen and Zurich, he moved 2021 to his current position as Assistant Professor at Xi'an Jiaotong-Liverpool University in Suzhou, China. He teaches aquatic and microbial ecology at undergraduate level and leads a lab studying microalgae ecology at local scale and in high altitudes. His working group conducts model experiments with microalgae on ecosystem functioning under a variety of stress conditions to explore underlying mechanisms of biodiversity ecosystem functioning effects.