

Editorial Board Focus: Professor Dr. Michael Mastalerz (Organisch-Chemisches Institut, Ruprecht-Karls-Universität Heidelberg, Germany)

Background and Purpose. From time to time, SYNFORM portraits Thieme Chemistry Editorial Board or Editorial Advisory Board members who answer several questions regarding their research interests and revealing their impressions and views on the developments in organic chemistry as a general research field. This Editorial Board Focus presents Professor Dr. Michael Mastalerz (Organisch-Chemisches Institut, Ruprecht-Karls-Universität Heidelberg, Germany) who is the Editor-in-Chief of ORGANIC MATERIALS, the new Thieme Open Access Journal launched in 2019.

Biographical Sketch



Prof. Dr. M. Mastalerz

Michael Mastalerz studied chemistry at the Gerhard-Mercator-Universität in Duisburg, Germany where he got his diploma in 2002. He then moved to the Ruhr-Universität Bochum (Germany) for his PhD studies, which he finished in 2005. After a short stay in industry, he carried out postdoctoral research in the group of Gregory C. Fu at MIT in Cambridge (USA) from 2006 to 2007. He returned to Germany for a second postdoctoral position at Ulm University to work in the group of Peter Bäuerle on dendritic oligothiophenes for organic electronic applications. At Ulm University he also started his independent career, working towards his habilitation which was successfully completed in February 2013. In April 2013 he became professor of organic chemistry at the Ruprecht-Karls-Universität Heidelberg (Germany). His main research interests focus on the synthesis of large shape-persistent organic cage compounds as soluble porous molecules, hydrogen-bonding based chiral capsules and large soluble fused contorted aromatic compounds. He is an ERC consolidators grant holder and Editor-in-Chief of the recently launched new Thieme journal ORGANIC MATERIALS.

INTERVIEW

SYNFORM Please comment on your role as a member of the Editorial Board of ORGANIC MATERIALS.

Prof. Dr. M. Mastalerz Although I am officially Editor-in-Chief, I do not see any hierarchical differentiation between Pol Besenius, Xiaozhang Zhu and me in their role as editors. I understand my role is to serve authors as scientists, in form of making the whole process from submission to publication as convenient and fair as possible, which starts with choosing the right reviewers, who are interested in the work but not biased or direct competitors. I believe that only reviewers who are interested in the content of a manuscript will deliver a strong and reliable review on time and do not see the whole process as a 'burden'. Currently, the reviewing process for ORGANIC MATERIALS has become very fast (the fastest peer-reviewing process I've seen, which included two comprehensive and useful reviews, took less than one day!) and we need to keep up this high standard.

Since we, the editors, are active researchers ourselves, we understand what authors expect from editors. Besides scientific fairness, it is the quality of the publications paired with short times from submission to publication.

In addition to the routine work as editors, we give authors the opportunity to contribute to virtual issues of special topics, which are currently 'hot topics' in the field. With this editorial tool, we create high visibility within specific communities.

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SYNFORM *How do you describe the value of a product such as ORGANIC MATERIALS to the chemistry community?*

Prof. Dr. M. Mastalerz The value of a journal such as ORGANIC MATERIALS is very high, because it brings a community closer together simply because the topics are narrower than in, for example, more general materials journals. On top of this, all content is open access, which allows everybody who is interested in the publications to download all for free, read and be stimulated for their own research – worldwide.

SYNFORM *What is the focus of your current research activities?*

Prof. Dr. M. Mastalerz Currently we are working on shape-persistent organic cage compounds of varying size, shape and function. The cage compounds are made mainly by imine condensation. This research topic was the basis of my independent career and indeed most of my co-workers still work on it. We are eager to understand formation mechanism in more detail (e.g. kinetic vs. thermodynamic control), as well as being able to structurally tune those cages for certain materials applications, such as selective gas sorption.

A few years ago, we also stepped into the field of fused polycyclic aromatic compounds (PACs) and hydrocarbons (PAHs). We initially found that triptycene end-capping can, for example, be used to control packing of larger π -systems or prevent aggregation if two or more of these units are present, making typically insoluble dyes and fused aromatics highly soluble. In this respect our triptycene end-capped hexabenzovalene (HBO) has some very nice orange fluorescence and has been used in electrochemical light emitting cells, showing superior properties.

Furthermore, negatively curved PACs caught our attention. We synthesized the first conformational stable chiral monkey-saddle PAH or a bis-azulene based PAH building the basis for even more interesting systems. I promise there will be more ‘fancy’ molecules to come out of our lab!

SYNFORM *You are a leading researcher with regard to organic materials chemistry. Could you tell us more about how important you perceive this particular topic to be?*

Prof. Dr. M. Mastalerz I would not necessarily call myself a leading researcher, but yes, with our seminal papers on porous organic cages (POCs) we are among the pioneers who shaped the field and may still influence the community that is steadily growing. I am really happy to see that more and more, especially younger and talented groups from all over the

world have very creative ideas to bring this topic forward. In the beginning, such porous organic cages could not compete with existing ones, such as metal-organic frameworks (MOFs) or covalent organic frameworks (COFs). Meanwhile, POCs are established materials and have found their place within the family of porous materials.

SYNFORM *What is your most important scientific achievement to date and why?*

Prof. Dr. M. Mastalerz In my opinion we have a few really important ones; probably the most important is our paper from 2011 (*Angew. Chem. Int. Ed.* **2011**, *50*, 1046–1051), demonstrating that porous materials with high specific surface areas can also rely on molecular crystals and not just networks. This paper is in the meantime highly cited. More importantly, based on these findings described therein I had a lot of invitations to speak about its content at conferences, symposia and institutional seminars, which is the greatest honor you can experience as a young researcher. This paper really accelerated my career.

