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Supramolecular Chemistry: Young Talents and their Mentors

Anna J. McConnell,^{*[a]} Cally J. E. Haynes,^{*[b]} Claudia Caltagirone,^{*[c]} and Jennifer R. Hiscock^{*[d]}

Since the pioneering work of Nobel Prize winners Donald Cram, Jean-Marie Lehn, and Charles Pedersen, supramolecular chemistry has grown into an interdisciplinary field that spans chemistry, materials science, and biology. This **Special Collection on Supramolecular Chemistry: Young Talents and their Mentors** focuses not only on the latest scientific developments in the field but also on the people behind the science; it features joint contributions from young talents in this field and their mentors, with this mentoring aspect highlighted as part of the individual article biographies.

This Special Collection reflects the breadth of supramolecular chemistry with contributions discussing different types of noncovalent interactions and binding motifs, self-assembly, mechanically interlocked structures, host–guest complexation, dynamic covalent chemistry, fluorescent sensors, computational high-throughput approaches, as well as the biological activity and reactivity of supramolecular structures (Figure 1). It also includes a tribute to Prof. Dr. Carsten Schmuck by his colleagues at the University of Duisburg-Essen on his contributions to the field of supramolecular chemistry, in particular the guanodino-carbonyl-pyrrole (GCP) binding motif. In this Special Collection, contributions have been received from different parts of the world highlighting the internationality of the supramolecular chemistry community. We hope that these research articles, Minireviews and Reviews will stimulate further interest in the field and lead to new research directions.

In addition to the science, we chose to bring mentoring to the forefront of this Special Collection since it is vital in the training and support of the next generation of supramolecular chemists. Mentoring is particularly important given the current unprecedented pressures that the COVID-19 pandemic places on academic researchers as both individuals and groups. We are pleased this Special Collection is able to highlight a number of different types of mentoring relationships; contributions include not only formal mentoring relationships between early career researchers (ECRs) and their supervisors but also those that have continued beyond the ECR's PhD and/or postdoctoral research as well as informal mentoring relationships such as those initiated at conferences and between peers.

It was through this type of informal peer mentoring relationship that the four Guest Editors of this Special Collection founded the international Women in Supramolecular Chemistry (WISC) network, which aims to support the retention and career progression of women within the supramolecular chemistry community through an area specific mentoring scheme and other career resources. Readers of the Special Collection seeking mentorship^[1] are encouraged to contact their university, graduate, or postdoctoral centres, national chemistry society and organisations such as WISC for mentoring opportunities. Existing mentoring networks like WISC and The Chemistry Women Mentorship Network (ChemWMN)^[1d] based in the USA can also be used as a blueprint for the establishment of new mentoring networks with different foci, such as the mentoring of underrepresented groups or chemists from subdisciplines outside of supramolecular chemistry.


The culmination of the Special Collection was the 1st ChemPlusChem Virtual Symposium: Young Talents and Mentors held on September 22 2020 over two sessions. The symposium celebrated the ethos of the Special Collection with talks from supramolecular chemists of different career stages, from early-career researchers to established research group leaders. The speakers gave exceptional scientific talks and also gave their personal reflections on mentoring. The first session featured talks from Prof. Kate Jolliffe (The University of Sydney), Prof. Hao Pei (East China Normal University; winner of the Chemistry Europe Early-Career Award) as well as flash talks from two of the International Symposium of Macrocyclic and Supramolecular Chemistry (ISMSC) poster prize winners, Aidan Kerckhoffs (University of Oxford) and Marysia Tarnowska (University of Nottingham). Prof. Davide Bonifazi (University of Vienna), Prof. Niveen Khashab (King Abdullah University of Science and Technology; KAUST) and Prof. Max von Delius

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 This article is part of a Special Collection on "Supramolecular Chemistry: Young Talents and their Mentors". More articles can be found under [https://onlinelibrary.wiley.com/doi/toc/10.1002/\(ISSN\)2192-6506.Supramolecular-Chemistry](https://onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)2192-6506.Supramolecular-Chemistry).

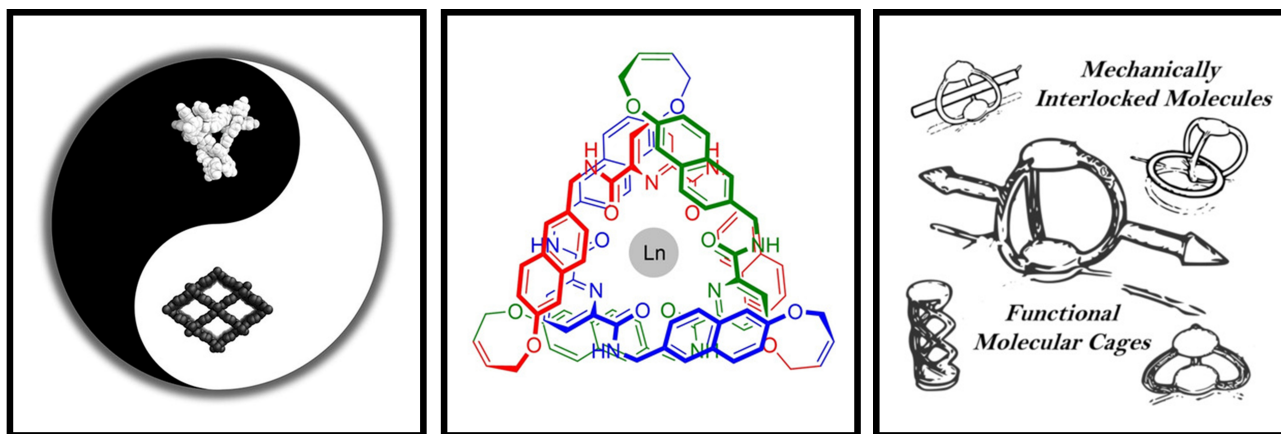


Figure 1. Selection of Table of Contents graphics from the Special Collection by Pilgrim and Champness (left), Evans (centre), and Bergamaschi, Amendola and co-workers (right).

(University of Ulm) gave talks in the second session. We were very pleased that the online format allowed participants from all over the world to take part in the symposium; each session had over 175 participants from over 25 countries including Germany, India, UK, Saudi Arabia, USA, and Australia.

We wish to thank the authors and reviewers as well as the Editor, Dr. Jonathan Faiz, and editorial staff at *ChemPlusChem* for their contributions to this Special Collection and in addition, the speakers at the Virtual Symposium. We hope that the readers will enjoy reading the Special Collection and that it will trigger not only exciting new scientific ideas but give readers a

chance to reflect on their own role in mentoring and supporting the next generation of scientists within the chemistry community.

- [1] a) M.-J. Blanco, J. E. Audia, *ACS Med. Chem. Lett.* **2020**, *11*, 241–244; b) H. B. Gray, *ACS Cent. Sci.* **2019**, *5*, 1475–1476; c) A. K. Hund, A. C. Churchill, A. M. Faist, C. A. Havrilla, S. M. Love Stowell, H. F. McCreery, J. Ng, C. A. Pinzone, E. S. C. Scordato, *Ecol. Evol.* **2018**, *8*, 9962–9974; d) B. M. Cossairt, J. L. Dempsey, E. R. Young, *Inorg. Chem.* **2019**, *58*, 12493–12496.



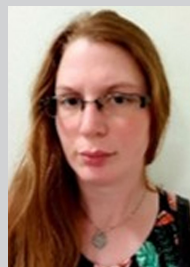
Anna McConnell obtained a DPhil under the supervision of Prof. Paul Beer at the University of Oxford. Following postdoctoral research stays at the California Institute of Technology and the University of Cambridge in the groups of Prof. Jacqueline Barton and Prof. Jonathan Nitschke, respectively, she became a Junior Professor at Christian-Albrechts-Universität zu Kiel in November 2016. Her research focuses on stimuli-responsive metal–organic cages, dynamic covalent chemistry, and luminescent complexes.



Cally Haynes obtained her PhD under the supervision of Prof. Philip Gale at the University of Southampton in 2011. Following postdoctoral work in the Gale group, she joined the Royal Society of Chemistry as a Publishing Editor in 2013. She returned to the lab in 2015 as a postdoctoral researcher in the group of Prof. Jonathan Nitschke at the University of Cambridge and was appointed as a Lecturer in Organic Chemistry and Chemical Biology at University College London, in 2019. Her research interests include molecular transport processes, host-guest chemistry, and self-assembly.



Claudia Caltagirone obtained her PhD in Chemistry under the supervision of Prof. Vito Lippolis at the University of Cagliari in 2006. In the same year she became assistant professor in Inorganic Chemistry and then she moved to the University of Southampton (UK) to work as an academic visitor in the group of Prof. Philip A. Gale. Since 2016 she is associate professor in inorganic chemistry at the University of Cagliari. Her research mainly focuses on the development of novel supramolecular systems for anion sensing.

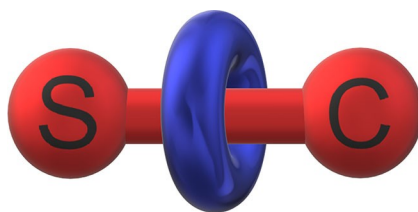


Jennifer Hiscock obtained her PhD in Chemistry under the supervision of Prof. Philip Gale at the University of Southampton in 2010. Following postdoctoral work in the Gale group, she moved to the University of Kent in 2015 as the Caldin Research Fellow, this was followed by her appointment as Lecturer in Chemistry in 2016 and promotion to Reader in Supramolecular Chemistry in 2019. She was the recipient of a UKRI Future Leaders Fellowship in 2020. Her current research interests relate to the discovery of novel supramolecular antimicrobial technologies.

EDITORIAL

Celebrating Supramolecular Chemistry and Mentoring:

ChemPlusChem is pleased to publish a Special Collection on Supramolecular Chemistry: Young Talents and their Mentors, guest-edited by Anna McConnell, Cally Haynes, Claudia Caltagirone, and Jennifer Hiscock. The Special Collection features recent developments in supramolecular chemistry and highlights mentoring relationships between emerging investigators and their mentors.



Dr. A. J. McConnell, Dr. C. J. E. Haynes*, Prof. C. Caltagirone*, Dr. J. R. Hiscock**

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