doi:10.2533/chimia.2026.187 Chimia 80 (2026) 187–188

Conference Report

PhD Chemistry Community Christmas Symposium Basel 2025

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Keywords: Basel · Interdisciplinary · PCC · Symposium

The PCC

The PhD Chemistry Community (PCC) was founded in 2012 and represents doctoral students and postdoctoral researchers within the Department of Chemistry at the University of Basel. Our main objective is to bring members of different research groups together and create an inspiring atmosphere where knowledge can be shared, and new ideas arise. We achieve this through organizing both scientific and social events. The largest event to this end is our annual chemistry symposium that we have organized since 2013, held on the first Friday of December.[1]

PCC Christmas Symposium Basel 2025

Since 2022 we have been able to establish our symposium as a full-day event, we kept this tradition and invited five international and national keynote speakers.[2] Last year, we also started to invite speakers from industry in order to provide a greater diversity to the audience and show potential career paths outside of academia. As this was well received by the audience, we decided to keep to this strategy. On top of that, the program featured four inspiring talks from doctoral students, along with a lively poster session over lunch. The audience comprised of around 130 doctoral and postdoctoral researchers, professors and undergraduate students. The symposium was chaired by A. *Stoppel, M. Pan, L. Müller, S. Schumann, A.-M. Juric, R. Karl, A. Yücekul, A. Rösch* and *P. Brongers*.

This edition of the Christmas Symposium was opened by **Prof. Dr. Jan Philipp Wagner** (Universität Bremen) who presented his recent studies on reactive intermediates in molecular hydrogen activation by main group systems. He explained how they were able to show that quantum mechanical tunnelling occurs when a phenyl radical reacts with molecular hydrogen in a neon matrix at 4.4 K.[3–5]

Prof. Dr. Angela Steinauer (EPFL) showed how engineered virus-like protein cages are potential alternatives for efficient gene delivery in RNA therapy. She shared the advantages that these cages possess, how they are optimized through direct evolution techniques and their latest results on the evolved protein cage NC4.[6-8]

Dr. Benjamin van Kuiken (European XFEL) introduced his work at the European XFEL (X-ray Free-Electron-Laser) and how they use soft X-rays to probe the electronic structure of 3d coordination complexes. He presented examples of recent experiments with applications in photochemistry and photobiology.[9-10]

Prof. Dr. Thomas W. Ebbesen (University of Strasbourg) gave a talk about hybrid light-matter states, starting with an introduction on how electronic or vibrational transitions couple to the vacuum field in a resonator. He continued to show the potential of these strongly coupled systems to modify charge and energy transport as well as chemical reactivity.[11-12]

Dr. Davide Albani (Climeworks) rounded off the talks by invited speakers by showcasing Climeworks' Direct Air Capture and Storage (DAC+S) technology and their strategy for carbon dioxide removal from the atmosphere. He took us on a journey of the company's development of the adsorption/desorption chemistry that they utilize and the challenges they face in order to further optimize their technology.

Fig. 1. PCC board members of 2025. Back, from left to right: Stephan Schumann, Elias Behling, Anne Stoppel, Malte Sellin, Nils Gerwien, Ana-Maria Juric, Amine Yücekul, Minqi Pan, Andreas Ostertag. Front, from left to right: Livia Müller, Pieter Brongers, Chiara Disraeli, Richard Karl, Anies Rösch. Missing: Ilse Friedländer, Salome Heim, Shimoni Patel, Luise Sokoliuk and Joël Wellauer.

The program was complemented by short talks by doctoral students from the University of Basel. *Zhengxing Zhao*, *Dorothee Wagner*, *Irina Zhirkina,* and *Malvina Heiniger* presented their recent achievements in organic synthesis, photochemistry, and biochemistry.

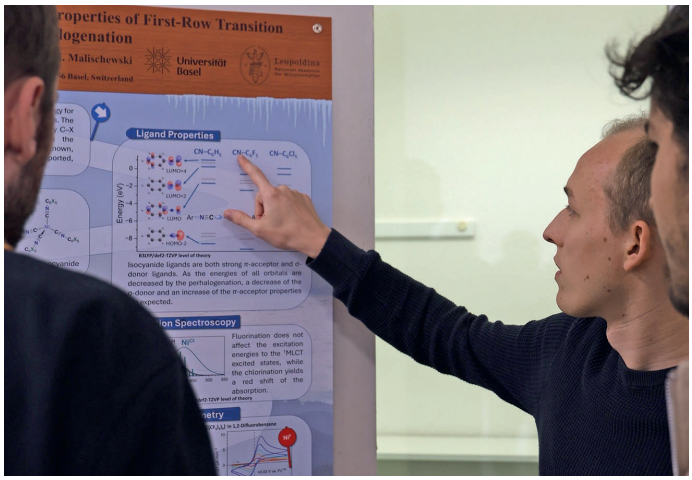

Fig. 2. The poster session held over lunch was an opportunity for the department's (post)doctoral researchers to show their work.

Poster Session and Awards

The poster session, fuelled by a delicious lunch with sandwiches and homemade soup, was a success as 28 poster presenters showcased their achievements to the attendees and jury. Interdisciplinary discussions were empowered as almost all research groups contributed to the session. The youngSCS gratefully sponsored three poster prizes, which were awarded to *Dr. Maria-Sophie Bertrams*, *Yu-Chun Shen* and *Dr. Pascal Rusch* (Fig. 3),

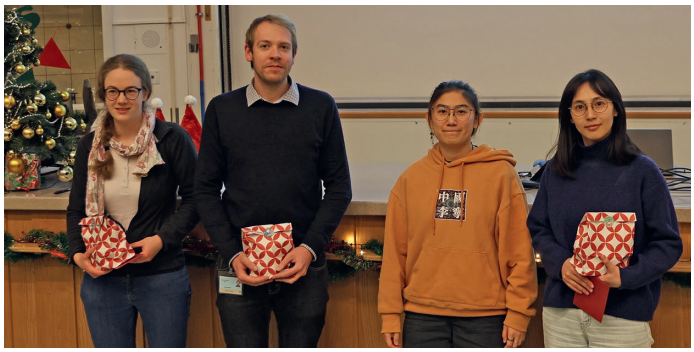

Fig. 3. youngSCS Poster Award winners. From left to right: Marie-Sophie Bertrams, Pascal Rusch, Yueying Yang (youngSCS) and Yu-Chun Shen.

The winners were chosen by the jury composed of *Prof. D. Häussinger*, *Prof. M. Oppermann,* and *Yueying Yang* (youngSCS representative).

Since 2021, the Departmental Doctorate Award for the most excellent theses from the last year is awarded during the Christmas Symposium. The winners are determined by a council of professors within the department. Congratulations to the prize winners *Dr. Dongping Chen* and *Dr. Silvan Käser* for their outstanding work.

Acknowledgements

The authors express their gratitude to the Department of Chemistry, the Ressort Nachwuchsförderung at the University of Basel, Merck, and youngSCS for providing funding for the Christmas Symposium. Special thanks to Florian Sprich and Maryame Bina for capturing the pictures. The Christmas Symposium would not be possible without the help of volunteers, the administration and the facility team of the department. Photo credits: Florian Sprich and Maryame Bina.

Received: January 23, 2026

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Fig. 4. Group picture with the participants of the symposium.