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Alexander Dömling studied chemistry and biology at the Technische Universität Munich and obtained his Ph.D. under the guidance of Ivar Ugi. After a postdoc under a Humboldt Fellowship in the group of the Nobel Laureate Barry Sharpless, he founded the biotech company Morphochem, later Carmolex Inc., and most recently, TelesisPharma and SMIO BV. After his habilitation, he worked as full professor at the University of Pittsburgh in the School of Pharmacy. He has held the chair for Drug Design at the University of Groningen since 2011. His interests are centered on MCR chemistry and its application to problems in drug discovery. His special focus is on the question of how to leverage the huge MCR space. Thus, he is working on pharmacophore methods, structure-based drug design, artificial intelligence, MCR-centered fragment-based drug design methods and extreme miniaturization to library synthesis. He is the author of more than 250 scientific articles, reviews, and book contributions. He has applied for more than 50 patents. His long-term vision is to bring a novel drug to patients in an area of unmet medical needs.
(https://scholar.google.com/citations?user=KWzFAv4AAAAJ&hl=en)

Multicomponent reaction chemistry: From novel small molecules to automated nano chemistry to stapled peptides.

Abstract Multicomponent reaction chemistry (MCR) is as old as the start of modern chemistry but is highly undervalued in contemporary synthetic chemistry. My laboratory is focusing on synthetic questions in MCR, as well on applications of MCR to discover biologically active molecules. In my talk I will give an overview on my current research, including total synthesis of tubulysin, novel scaffolds, pharmacophore-based VS platform ANCHOR.QUERY, MCR based stapled peptide and miniaturization and automation of early drug discovery using AI methods.