technische universität
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Einladung

Im Rahmen der gemeinsamen Kolloquien der Fakultät für Chemie und Chemische Biologie der Technischen Universität Dortmund hält

Herr Prof. Dr. Caleb D. Martin

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einen Vortrag mit dem Thema:

Carborane Substituted Boron Lewis Superacids

Dodecacarborane clusters ($C_2B_{10}H_{12}$) have been known for 60 years yet their application as an electron withdrawing group is not well established. Our group has been preparing boranes that feature two or three *ortho*-carboranes as bulky electron withdrawing groups on boron to enhance the Lewis acidity. The reactivity of the new boranes is compared to the state-of-the-art boranes with fluoroaryl groups revealing significantly greater Lewis acidity. The large steric profile of the carboranes make it an excellent Lewis acid partner in frustrated Lewis pair chemistry. A compound with two carboranes and a hydride is one of the most potent hydroboration reagents known that is capable of the uncatalyzed hydroboration of cyclopropanes. The properties of the feature compounds, mechanisms of the reactions, and isolation of reactive intermediates will be discussed.

Representative Publications:
1. M. O. Akram, J. A. Tidwell, J Dutton, C D. Martin, *Angew. Chem. Int. Ed*., **2022**, e202212073.
2. M. O. Akram, J. A. Tidwell, J. L. Dutton, C. D. Martin, *Angew. Chem. Int. Ed.*, **2023**, e202307040.
3. Y. Li, M. Tamizmani, M. O. Akram, C. D. Martin, *Chem. Sci.* **2024**, *15*, 7568.
4. M. O. Akram, K. A. French, K. L. Shuford, C. D. Martin, *J. Am. Chem. Soc.* **2025**, *147*, 33120.
5. K. Vashisth, C. D. Martin, *Inorg. Chem.* **2025**, *64*, 24192.

Zeit: Dienstag, 19.05.2026, um 17.15 Uhr
Ort: Hörsaal 1, Chemiegebäude, Campus Nord

Im Anschluss an den Vortrag findet eine Nachsitzung statt.

Für die Dozenten der Chemie
Im Auftrag des Dekans

Betreuer: Prof. Dr. M. Hansmann