

Min GAO

Associate Professor

Institute for Chemical Reaction Design and Discovery (ICReDD), Hokkaido University

Kita 21 Nishi 10, Kita-ku, Sapporo, Hokkaido, 001-0021, Japan

Email: gaomin@icredd.hokudai.ac.jp

Basic Information

Research keywords: computational catalysis

Languages: Chinese (native), Japanese (fluent), English (fluent)

Researchmap: <https://researchmap.jp/gaomin>

Publications: 43

Research and Education Experience

Associate Professor 2022.8 ~ Now: Institute for Chemical Reaction Design and Discovery (ICReDD), Hokkaido University, Japan

Assistant Professor 2018.7 ~ 2022.7: Catalysis Theory Research Division, Institute for Catalysis (ICAT), Hokkaido University, Japan

Assistant Professor 2016.1 ~ 2018.6: Quantum Chemistry Lab, Department of Chemistry, Faculty of Science, Hokkaido University, Japan

Postdoc Fellow 2012.10 ~ 2015.12: Quantum Chemistry Lab, Department of Chemistry, Faculty of Science, Hokkaido University, Japan

Ph.D., Science, 2009.10-2012.09 Hokkaido University, Japan.

Supervisor: Prof. Taketsugu Tetsuya

Teaching Experience (In Japanese and English Language)

1. *Computational Practice* (計算機実習) 2016. 6 ~ 2018. 6
2. *Natural Science Experiments* (自然科学実験) 2016. 8 ~ Now
3. *Theoretical Molecular Chemistry* (分子理論化学) 2019. 6 ~ Now
4. 化学反応創成学特論 2023.10 ~ Now
5. 化学反応創成学入門 2023.6 ~ Now
6. 化学特別講義II 化学反応創成学の基礎 2023.9 ~ Now

Invited Talks

1. M. Gao "Understanding the mechanism of heterogeneous catalyst based on systematic structural calculations" 第9回部局横断シンポジウム, 北海道大学, October 11st, 2023
2. M. Gao "系統的な構造計算に基づく不均一系触媒の機構理解" 第132回触媒討論会, 北海道大学, September 13rd-15th, 2023
3. M. Gao "Geometrical effects on the activity of heterogenous catalysis" The 6th China-Japan-Korea Workshop on Theoretical and Computational Chemistry, Sungkyunkwan University Suwon, Korea, June 20 - 23, 2023
4. 高 敏 "系統的な構造計算に基づく不均一系触媒の機構理解と設計指針の構築", 理論化学討論会, 資生堂 S/PARK ホール, 横浜, 2023年5月16日(火)-19日(金)
5. M. Gao "Importance of systematic geometric searching for computational catalysis", The 4th Materials Research Society of Thailand International Conference, Ubon Ratchathani, Thailand, Feb. 28th-Mar. 4th, 2023
6. M. Gao "Importance of systematic geometric searching for computational catalysis: Case studies in heterogenous catalysis", 10th edition of the conference of the Asia Pacific Association of Theoretical and Computational Chemistry, Quy Nhon, Vietnam, Feb. 19th-23rd, 2023
7. M. Gao "Theoretical Investigations on the catalytic activity based on systematic geometric searching" 7th International Symposium of Quantum Beam Science at Ibaraki University (ISQBS2022) Dec. 1st ~ 3rd, 2022
8. M. Gao, "Importance of systematic searching for computational catalysis", Joint Symposium of the Faculty of Pharmaceutical Science & WPI-ICReDD in Hokkaido University, Online Conference, Sept. 15th, 2022
9. M. Gao, "Theoretical investigations on the Activation of Small Gas Molecules on free and surface supported metal clusters"
International Symposium on Air Pollution Control Chemistry, Shanghai, online Conference, Nov. 18th, 2021
10. M. Gao, "Theoretical simulations of heterogeneous catalysis"
12th CSE Autumn School & the 9th ALP International Symposium, online Conference, Hokkaido University, Oct. 13th-14th, 2021
11. M. Gao, "Theoretical studies on the catalytic activity of metal clusters based on systematic structural calculations."
The 128th CATSJ Meeting, Kyoto University (online), Sept. 15th-17th, 2021
「系統的な構造計算に基づく金属クラスターの触媒活性に関する理論研究」
第128回触媒討論会, 京都大学, オンライン開催, 2021年9月15-17日
12. M. Gao, "Tunable catalytic performance of metal clusters by morphology control"
International Conference on Advanced Catalysts for Energy and Environmental Applications,

- Shanghai, Online Conference, Apr. 12th-13th, 2021.
13. M. Gao, "Theoretical investigation on catalytic activity of metal clusters"
The International Symposium on Advanced Catalyst Design and Molecular Catalysis, Xi'an, China (Online Conference), Aug. 31st-Sept. 4th, 2020
 14. M. Gao, "Computational Catalysis: Theory, Models and Applications"
The 59th Aurora seminar, Hokkaido, Jul. 21st, 2019 (高敏「理論化学の視点からの触媒 (Computational Catalysis: Theory, Models and Applications)」 第59回オーロラセミナー, 北海道, 2019年7月21日)
 15. M. Gao "Theoretical study of the geometry and size effect on the catalytic activity of gold clusters"
International Congress on Pure & Applied Chemistry (ICPAC) 2018 Sokhalay Angkor Resort & Spa, Siem Reap, Cambodia, Mar. 6th, 2018.
 16. M. Gao "Reactivity of Gold Clusters in the Regime of Structural Fluxionality"
The 21st International Annual Symposium on Computational Science and Engineering, Thailand Science Park, Pathum Thani, Thailand, Aug. 4th, 2017.
 17. M. Gao "A theoretical design of catalyst based on h-BN surface"
Thai-Japan Symposium in Chemistry, Nov. 15th, 2016.
 18. **(Outreach activities) M. Gao "My Research & life in Hokkaido University (Importance of Communication)" Career Seminar for international students in Science Dec. 2017**
2017年12月 北海道大学 理系大学院留学生のための就職研究セミナー

Committee Memberships

1. May 2016~ April 2018: Committee member of Hokkaido Branch of the Catalysis Society of Japan
2. May 2018~ April 2020: Committee member of Public Relations, Catalysis Society of Japan; Vice-Committee member of Hokkaido Branch HP. (触媒学会 広報副委員&北海道支部HP副委員)
3. May 2020 ~ Now member of PR Committee; HP committee of Hokkaido Branch of Catalysis Society of Japan (触媒学会 広報委員&北海道支部HP委員)
4. April 2022 ~ Now Committee member of the Catalysis Society's 'WG on the Future of Catalysis' (触媒学会「触媒の未来を考えるWG」委員)

Helped Organized Conference

1. The 9th ICRDD International Symposium: the Rising Star Program xxx xxth 2024
主催 北海道大学札幌キャンパス Oct. 24 2024
2. 第61回オーロラセミナー
主催 北海道大学札幌キャンパス Oct. 25 2024

3. The 8th Japan-Czech-Slovakia (JCS) International Symposium on Theoretical Chemistry
現地実行委員 北海道大学札幌キャンパス June 17th-20th, 2024
4. The 7th ICReDD International Symposium: The Rising Star Program Jan. 18th-19th, 2024
主催 北海道大学札幌キャンパス Hybrid January 18th-19th 2024
5. 第 132 回触媒討論会(秋)
現地実行委員 北海道大学札幌キャンパス September 13th-15th, 2023
6. ICReDD International Seminar Female Researcher Series
ICReDD 国際セミナー女性研究者シリーズ
主催 北海道大学札幌キャンパス September 4th 2023
7. TACC2023 (The 5th conference of Theory and Applications of Computational Chemistry)
現地実行委員 北海道大学札幌キャンパス September 4th-9th 2023
8. 第 61 回オーロラセミナー
現地実行委員 北海道大学札幌キャンパス August 4th 2023
9. 第 15 回分子科学討論会
実行委員会 北海道大学札幌キャンパス(online) Sep. 18~21 (2021)
10. 2020 部局横断シンポジウム
北海道大学, online September 28 (2020)
11. 第 22 回理論化学討論会
実行委員会: 長谷川淳也, 中山哲, 高敏
北海道大学 学術交流会館, 札幌, May 27-29 (2019)
12. 2019 部局横断シンポジウム
北海道大学, 医学部学友会館フラテホール October, 31 (2019)

Professional Memberships

1. Catalysis Society of Japan
2. Japan Society of Theoretical Chemistry
3. Japan Society for Molecular Science