

Minoru Otani



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Education:

Ph.D. (1995/4~2000/3) Engineering Science, Graduate School of Engineering Science,
Osaka University, Japan

B.S. (1991/4~1995/3) Engineering Science, School of Engineering Science,
Osaka University, Japan

Experience:

Professor (2021/4~present) Center for Computational Sciences, University of Tsukuba, Japan

Researcher (2008/4~2021/3) National Institute of Advanced Industrial Science and Technology
(AIST), Japan

Selective Honors & Awards:

1. 14th Paper Award, Physical Society of Japan (Feb 2009)

Research Areas:

Computational electrochemistry; electrochemical interface simulations; first-principles calculations;
Effective Screening Medium (ESM) method and ESM-RISM method for electrode/electrolyte
interface modeling; energy conversion and storage; corrosion prevention.

Selective Publications:

1. S. Hagiwara, M. Otani, "An Efficient Implementation of the ESM-RISM Method for Simulating Electrode/Electrolyte Interfaces," J. Chem. Theory Comput., Mar 2026.
2. K. Nakamura, N. Takenaka, S. Hagiwara, M. Otani, A. Yamada, "Kinetic Suppression of Anion Intercalation into Cathode Conductive Carbon in High-Voltage Lithium Batteries," ACS Appl. Mater. Interfaces, Oct 2025.
3. S. Hagiwara, T. Murata, M. Otani, "Anion adsorption-induced charge separation at the alumina/aluminum interface," Corros. Sci., 256, 113150, Jul 2025.
4. F. Kuroda, M. Ibe, M. Otani, "Screening Multicomponent Alloys Using Evidence Theory and High-Throughput DFT Calculations for C2-Selective eCO₂RR," J. Phys. Chem. C, 128(41), 17302-17312, Oct 2024.
5. S. Hagiwara, S. Ishibashi, M. Otani, "Bias-dependent surface stress by density functional theory combined with the effective screening medium method," Phys. Rev. B, 110(15), 155409, Oct 2024.

2024.