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Education

- Postdoc 9/1999-3/2001 Electronic Science and Engineering, Kyoto University, Japan
- Ph.D 1999 major: Electronic Science and Engineering, Kyoto University, Japan
- M.S. 1991 major: Electrical Engineering, Xi'an Jiaotong University, China
- B.S. 1988 major: Electrical Engineering, Xi'an Jiaotong University, China

Appointments

- **12/2005 – present** Facility Manager, Keck Interdisciplinary Surface Science Facility Center (Keck-II), NUANCE Center, Northwestern University, Evanston, IL
- **12/2016 – present** Research Associate Professor, Department of Mechanical Engineering, Northwestern University, Evanston, IL
- **10/2007 – 12/2016** Research Assistant Professor, Department of Mechanical Engineering, Northwestern University, Evanston, IL
- **3/2001 – 11/2005**, Research Associate, Department of Mechanical Engineering, Northwestern University, Evanston, IL

Recent Publications

1. He, R., Sun, Q., Thangasamy, P., Chen, X., Zhang, Y., Wang, H., Luo, H., Zhou, X. D., & Zhou, M. (2023). Accelerate oxygen evolution reaction by adding chemical mediator and utilizing solar energy. *International Journal of Hydrogen Energy*, 48(24), 8898-8908.
2. Lin, Y., Gao, X., Yue, J., Fang, Y., Shi, J., Meng, L., Clayton, C., Zhang, X. X., Shi, F., Deng, J., Chen, S., Jiang, Y., Marin, F., Hu, J., Tsai, H. M., Tu, Q., Roth, E. W., Bleher, R., Chen, X., ... Tian, B. (2023). A soil-inspired dynamically responsive chemical system for microbial modulation. *Nature chemistry*, 15(1), 119-128.
3. Thangasamy, P., He, R., Randriamahazaka, H., Chen, X., Zhang, Y., Luo, H., Wang, H., & Zhou, M. (2023). Collectively exhaustive electrochemical hydrogen evolution reaction of polymorphic cobalt selenides derived from organic surfactants modified Co-MOFs. *Applied Catalysis B: Environmental*, 325, Article 122367.
4. Zheng, L., Li, Q., Xu, S., Meng, X., Chen, X., & Su, M. (2023). Vertical nanowires enhanced X-ray radiation damage of cells. *Journal of Materials Science and Technology*, 145, 7-13.
5. Huang, H., Barber, O. W., Yu, Z., Park, H., Hu, X., Chen, X., Chen, C. H., Hartmann, E. M., & Huang, J. (2022). Rub-Resistant Antibacterial Surface Conversion Layer on Stainless Steel. *Advanced Materials Interfaces*, 9(11), Article 2200251.

6. Shehzad, M. A., Das, P. M., Tyner, A. C., Cheng, M., Lee, Y. S., Goswami, P., Dos Reis, R., Chen, X., & Dravid, V. P. (2022). Synthesis of layered vs planar Mo₂C: Role of Mo diffusion. *2D Materials*, 9(1)
7. Shehzad, M. A., Lee, Y. S., Cheng, M., Lebedev, D., Das, P. M., Gao, Z., dos Reis, R., Hersam, M. C., Dravid, V. P., Goswami, P., Shehzad, M. A., dos Reis, R., Chen, X., Dravid, V. P., Dravid, V. P., Tyner, A. C., Goswami, P., Hersam, M. C., Hersam, M. C., & Chen, X. (2022). Vapor-liquid assisted chemical vapor deposition of Cu₂X materials. *2D Materials*, 9(4), Article 045013.
8. A Bidirectional Nanomodification Approach for Synthesizing Hierarchically Architected Mixed Oxide Electrodes for Oxygen Evolution. *Small* 2021, 17, 2007287
9. Zhang, X., Liu, T., Guo, T., Mu, Z., Hu, X., He, K., Chen, X., Dravid, V. P., Wu, Z., & Wang, D. (2021). High-Performance MoC Electrocatalyst for Hydrogen Evolution Reaction Enabled by Surface Sulfur Substitution. *ACS Applied Materials and Interfaces*, 13(34), 40705-40712.
10. Xu, X., Carr, C., Chen, X., Myers, B. D., Huang, R., Yuan, W., Choi, S., Yi, D., Phatak, C., & Haile, S. M. (2021). Local Multimodal Electro-Chemical-Structural Characterization of Solid-Electrolyte Grain Boundaries. *Advanced Energy Materials*, 11(10), Article 2003309.
11. Zhou, C., Lee, Y. K., Yu, Y., Byun, S., Luo, Z. Z., Lee, H., Ge, B., Lee, Y. L., Chen, X., Lee, J. Y., Cojocar-Mirédin, O., Chang, H., Im, J., Cho, S. P., Wuttig, M., Dravid, V. P., Kanatzidis, M. G., & Chung, I. (2021). Polycrystalline SnSe with a thermoelectric figure of merit greater than the single crystal. *Nature materials*, 20(10), 1378-1384.