

Naoto Todoroki

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Education

2011 – 2014 Ph. D. Graduate School of Engineering, Tohoku University

2008 – 210 M. S. Graduate School of Engineering, Tohoku University

2004 – 2008 B. S. Faculty of Engineering, Tohoku University

Professional Career

2020.1– Present Associate Professor, Graduate School of Environmental Studies,
Tohoku University

2014.04 – 2019.12 Assistant Professor, Graduate School of Environmental Studies,
Tohoku University

Selected Publications

1. N. Todoroki*, R. Kudo, K. Hayashi, M. Yokoi, N. Naraki and T. Wadayama, “Improving Oxygen Evolution Activity and Stability of Nb-doped TiO₂ supported RuO₂ by SnO₂ Interlayer: A Model Catalyst Study on Single Crystal Oxide Heterostructures”, *ACS Catalysis*, 13, 2023, 11433.
2. N. Todoroki*, K. Nagasawa, H. Enjoji, S. Mitsushima, “Suppression of Catalyst Layer Detachment by Interfacial Microstructural Modulation of NiCo₂O₄/Ni Oxygen Evolution Electrode for Renewable Energy-Powered Alkaline Water Electrolysis”, *ACS Applied Materials & Interfaces*, 15, 2023, 24399
3. N. Todoroki*, T. Wadayama, “Hetero-Layered Ni-Fe Hydroxide/Oxide Nanostructures Generated on Stainless-Steel Substrate for Efficient Alkaline Water Splitting”, *ACS Applied Materials and Interfaces*, 11 (2019) 44161.
4. M. Asano, R. Kawamura, R. Sasakawa, N. Todoroki*, T. Wadayama, “Oxygen Reduction Reaction Activity for Strain-Controlled Pt-Based Model Alloy Catalysts: Surface Strains and Direct Electronic Effects Induced by Alloying Elements”, *ACS Catalysis*, 6, 2016, 5285.

Research Interests

1. Electrocatalysis on Well-Defined Solid Surfaces
2. Electrode and Catalyst Materials for Electrochemical Energy Devices (Fuel Cells, Water Electrolysis etc.).
3. Surface Modification of Metal and Alloys for Functional Materials

Awards

1. The Committee of Electrolysis Technology, The Electrochemical Society of Japan 「Incentive Award of Industrial Electrolysis」
2. The Honda Memorial Foundation 「Honda Memorial Young Researcher Award」
3. The Committee of Battery Technology, The Electrochemical Society of Japan 「The Committee of Battery Technology Award」