



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

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## - CENTER FOR ENERGY SYSTEMS DESIGN - WORKSHOP

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DATE: JANUARY 28TH, 2026, WEDNESDAY

TIME: 9:30AM –5:00PM (JST)

VENUE: I²CNER HALL AB, ITO CAMPUS, KYUSHU UNIVERSITY

| Time       | Speaker              | Affiliation   | Title   |
|------------|----------------------|---|---|
| 9:30 a.m.  | Hiroshige Matsumoto  | I²CNER,<br>Kyushu University                          | Opening Remarks   |
| 9:40 a.m.  | Yoichi Yamada        | RIKEN   | Functional Heterogeneous Catalyses<br>for Molecular Transformation  |
| 10:05 a.m. | Ken-ichi Shimizu     | Hokkaido University                                   | Periodic Unsteady-State Surface<br>Reactions for GHG Conversion and<br>Catalytic Mechanism Studies                        |
| 10:30 a.m. | Nobutaka Maeda       | I²CNER,<br>Kyushu University                          | Advanced Spectroscopy Platform at the<br>Material Conversion Team   |
| 10:55 a.m. | Julian Ortiz         | Institute of Science<br>Tokyo                         | Controlling Transport Properties in<br>Proton-Conducting Oxides for<br>Improved Performance of<br>Electrochemical Cells   |
| 11:20 a.m. | Leonard Kwati        | I²CNER,<br>Kyushu University                          | Breaking the 1600°C Barrier: Sr-<br>Activated Sintering of Proton-<br>Conducting Perovskites                              |
| 11:45 a.m. | <b>Lunch Meeting</b> |   |   |
| 1:10 p.m.  | Adroit T. N. Fajar   | I²CNER,<br>Kyushu University                          | Autonomous Molecular Discovery with<br>Language Models  |
| 1:35 p.m.  | Guillaume Lambard    | National Institute<br>for Materials<br>Science (NIMS) | Title to be announced   |
| 2:00 p.m.  | Zhanglin Guo         | I²CNER,<br>Kyushu University                          | Small Molecule Design and Discovery<br>for Efficient Halide Perovskite Solar<br>Cells                                     |
| 2:25 p.m.  | Bashir Ahmmad        | Yamagata University                                   | Synthesis and Evaluation of Visible-<br>Light-Active Photocatalysts for Z-<br>Scheme-Type Water-Splitting Systems         |
| 2:50 p.m.  | <b>Coffee Break</b>  |   |   |
| 3:10 p.m.  | Islam Md Amirul      | I²CNER,<br>Kyushu University                          | Isotherm and Kinetic Modeling of<br>Adsorbent–Adsorbate Pairs for<br>Sustainable Heat Pump and<br>Decarbonization Systems |

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| <b>3:35 p.m.</b> | Yuan Gao      | I <sup>2</sup> CNER,<br>Kyushu University | The Application of Large Language Models in Renewable Energy Systems  |
| <b>4:00 p.m.</b> | Saeid Akrami  | I <sup>2</sup> CNER,<br>Kyushu University | Engineering High-Entropy Fluorite Oxides for Enhanced Photocatalytic Hydrogen Production  |
| <b>4:25 p.m.</b> | Shang Juan    | I <sup>2</sup> CNER,<br>Kyushu University | Pressure- and Concentration-Dependent Effects of CO <sub>2</sub> on Hydrogen-Assisted Fatigue in Steels: Experimental and First-Principles Insights |
| <b>4:50 p.m.</b> | Yoichi Yamada | RIKEN                                     | Closing Remarks   |