FUJIKAWA Shigenori

Position/Department/Division/Institution/Organization

Distinguished Professor, International Institute for Carbon Neutral Energy Research, Kyushu University

Country

Japan

Career history

1999-2000	Research fellow of Japan Society for the Promotion of Science (JSPS), Yale University, US
2000-2007	Post doctorate Researcher, RIKEN, Japan
2007-Present	Board Member, NanoMembrane Technologies Inc.
2004-2012	Deputy team leader, RIKEN, Japan
2007-2009	Team Leader, RIKEN, Japan
2011-2021	Associate Professor, International Institute for Carbon-Neutral Energy Research, Kyushu University, Japan
2021-Present	Professor, International Institute for Carbon-Neutral Energy Research, Kyushu University, Japan
2021-Present	Director, Research Center for Negative Emissions Technologies, Kyushu University, Japan
2021-Present	Distinguished Professor, Kyushu University, Japan

Awards/Publications

Selected Publication

1. Fujikawa, S.; Selyanchyn, R. Direct Air Capture by Membranes. *MRS Bull.* **2022**.
2. Fujikawa, S.; Selyanchyn, R.; Kunitake, T. A New Strategy for Membrane-Based Direct Air Capture. *Polym. J.* **2021**, *53* (1), 111–119.
3. Ariyoshi, M.; Fujikawa, S.; Kunitake, T. Robust, Hyper-Permeable Nanomembrane Composites of Poly(Dimethylsiloxane) and Cellulose Nanofibers. *ACS Appl. Mater. Interfaces* **2021**, *13* (51), 61189–61195.
4. Selyanchyn, O.; Selyanchyn, R.; Fujikawa, S. Critical Role of the Molecular Interface in Double-Layered Pebax-1657/PDMS Nanomembranes for Highly Efficient CO_2/N_2 Gas Separation. *ACS Appl. Mater. Interfaces* **2020**, *12* (29), 33196–33209.
5. Selyanchyn, R.; Fujikawa, S. Molecular Hybridization of Polydimethylsiloxane with Zirconia for Highly Gas Permeable Membranes. *ACS Appl. Polym. Mater.* **2019**, *1* (5), 1165–1174.
6. Fujikawa, S.; Ariyoshi, M.; Selyanchyn, R.; Kunitake, T. Ultra-Fast, Selective CO_2 Permeation by Free-Standing Siloxane Nanomembranes. *Chem. Lett.* **2019**, *48* (11), 1351–1354.
7. Selyanchyn, R.; Fujikawa, S. Membrane Thinning for Efficient CO_2 Capture. *Sci. Technol. Adv. Mater.* **2017**, *18* (1), 816–827.

Awards

2015: ISIT Nanotechnology award, Institute of Systems, Information Technologies and Nanotechnologies, Japan

2007: The Nanofabrication Technology award of International Nanotechnology Exhibition and Conference

2006: Gordon Bell Prize Honorable Mention, Peak Performance, US Supercomputing Conference

Areas of expertise

His research interests include nanofabrication, surface nanoscience, and membrane science. Currently, he is mainly working on carbon dioxide capture directly from the air using nanometer-thick membranes. He is now the project manager of the Moonshot R&D Program, supported by New Energy and Industrial Technology Development Organization (NEDO) in Japan, and is conducting researched on the development of carbon dioxide recycling system for "Beyond-Zero" emissions.