

業績レポート

環境材料創成科学分野

先進社会環境学専攻

基幹講座

資源戦略学講座

環境複合材料創成科学分野

【論文】

● Characteristics of congruent dissolution of silicate minerals enhanced by chelating ligand under ambient conditions
Jiajie Wang, Astin Nurdiana, Yoshinori Sato, Noriaki Watanabe, Noriyoshi Tsuchiya
American Mineralogist, 109(6), 1096-1105, 2024. doi: 10.2138/am-2023-9025

● Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal
Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe
Environmental Science & Technology, 58, 22114-22123, 2024. doi: 10.1021/acs.est.4c07526

【産業財産権】

● 炭素繊維複合材料、及びその製造方法
宮本京介, 入澤 寿平, 佐藤義倫, 佐藤良憲, 西田哲郎, 長谷部類, 村上一孝
特願 2024-206552

環境素材設計学分野

【論文】

● Design of porous calcium phosphate cement composed of spherical porous granules based on precipitation of octacalcium phosphate
Masanobu Kamitakahara, Hiromu Kato, Masaki Umetsu
JOURNAL OF THE CERAMIC SOCIETY OF JAPAN, 132(9), 560-562, 2024. doi: 10.2109/jcersj2.24063

● Effective selenate removal using pH modulated synthesis of biogenic jarosite: Comparative insight with non-biogenic jarosite and biogenic schwertmannite
Upasana Jhariya, Mei-Fang Chien, Masaki Umetsu, Masanobu Kamitakahara
Journal of Hazardous Materials, 480, 136256, 2024. doi: 10.1016/j.jhazmat.2024.136256

● Methanogen Biocathode Microbial Fuel Cell System That Simultaneously Achieves Cattle-Barn Wastewater Treatment and Carbon Dioxide Utilization
Yuta Nakayasu, Hiroto Nakano, Masaki Umetsu, Koji Yokoyama, Hideyuki Takahashi, Chika Tada
Energy Technology, 2401558, 2024. doi: 10.1002/ente.202401558

● Preparation and Evaluation of Cements Using Spherical Porous β -Tricalcium Phosphate Granules
Yuichiro Ito, Hiromu Kato, Masaki Umetsu, Masanobu Kamitakahara
MATERIALS TRANSACTIONS, 65(2), 212-217, 2024. doi: 10.2320/matertrans.mt-y2023006

● 複層体の共焼結および拘束焼結に関する MC・FEM 連携シミュレーション
松本修次, 松原秀彰, 寺坂宗太, 青木英彦, 清水正義, 野村浩, 上高原理暢
粉体および粉末冶金, 71(9), 439-446, 2024. doi: 10.2497/jjspm.24-00020

【MISC】

● リン酸カルシウムの微構造制御による新機能創発
上高原理暢
バイオマテリアル－生体材料－, 42(4), 298-303, 2024

【産業財産権】

● 微生物担体の製造方法
梅津将喜, 上高原理暢, 静岡帆香
特願 2024-193278

環境修復生態学分野

【論文】

● Complete genome sequence of *Pseudomonas moorei* strain m318 isolated from rhizosphere of *Pteris multifida* in high-arsenic-content soil
Ning Han, Chong Yang Yang, Ying Ning Ho, Ryota Moriuchi, Che Chun Chen, Chihiro Inoue, Mei Fang Chien
Microbiology resource announcements, 13(11), 2024. doi: 10.1128/mra.00774-24

● CoNi layered double hydroxides grown on Ag nanowires for high-efficient nitrate-to-ammonia conversion
Xufeng Rao, Shuoshuo Feng, Yanhong Zou, Linlin Wang, Mei-fang Chien, Chihiro Inoue, Yuyu Liu
SEPARATION AND PURIFICATION TECHNOLOGY, 354, 129286, 2024. doi: 10.1016/j.seppur.2024.129286

● Effective selenate removal using pH modulated synthesis of biogenic jarosite: Comparative insight with non-biogenic jarosite and biogenic schwertmannite
Upasana Jhariya, Mei-Fang Chien, Masaki Umetsu, Masanobu Kamitakahara
Journal of Hazardous Materials, 480, 136256, 2024. doi: 10.1016/j.jhazmat.2024.136256

● Effects of temperature on plant growth and arsenic removal efficiency of *Pteris vittata* in purifying arsenic-contaminated water in winter: A two-year year-round field study
Yi Huang-Takeshi Kohda, Keisuke Miyauchi, Farzana Rahman, Haruki Naruse, Mitsuaiki Mito, Nobuyuki Kitajima, Mei-Fang Chien, Ginro Endo, Chihiro Inoue
Chemosphere, 362, 142902, 2024. doi: 10.1016/j.chemosphere.2024.142902

● New evidence of the arsenic uptake and translocation in *As-hyperaccumulator* fern *Pteris cretica* using a modified hydroponic system
Yi Huang-Takeshi Kohda, Takaya Hamai, Kengo Horiuchi, Yuki Semoto, Chihiro Inoue
Journal of Hazardous Materials, 463, 132855, 2024. doi: 10.1016/j.jhazmat.2023.132855

● Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal
Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe
Environmental Science & Technology, 58(50), 22114–22123, 2024. doi: 10.1021/acs.est.4c07526

【MISC】

● ヒ素超蓄積植物根圏のマルチオミクス解析による 圃場環境におけるヒ素吸収促進要因の検討
工藤宏史, 韓凝, 横山大稀, 簡梅芳, 菊地淳, 井上千弘
日本農芸化学会 2024 年度大会要旨集, 2024

地球物質・エネルギー学分野

【論文】

● Characterization of serpentinization in olivine-orthopyroxene-H₂O system revealed by thermogravimetric and multivariate statistical analyses
Atsushi Okamoto, Shuhei Tanaka, Masaoki Uno, Otgonbayar Dandar, Kazuki Yoshida
ISLAND ARC, 33(1), 2024. doi: 10.1111/iar.12519

● Experimental constraints on serpentinite carbonation in the presence of a H₂O-CO₂-NaCl fluid
Yongsheng Huang, Satoshi Okumura, Kazuhisa Matsumoto, Naoko Takahashi, Hong Tang, Guoji Wu, Tatsuki Tsujimori, Michihiko Nakamura, Atsushi Okamoto, Yuan Li
Contributions to Mineralogy and Petrology, 179(11), 2024. doi: 10.1007/s00410-024-02175-4

● Multiscale off-fault brecciation records coseismic energy budget of principal fault zone
Geri Agroli, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya
SCIENTIFIC REPORTS, 14(1), 2024. doi: 10.1038/s41598-024-62838-x

● Porosity generation via spatially uncoupled dissolution precipitation during plagioclase replacement in quartz undersaturated fluids
Astin Nurdiana, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya
Contributions to Mineralogy and Petrology, 179(1), 2024. doi: 10.1007/s00410-023-02088-8

● Subducted carbon weakens the forearc mantle wedge in a warm subduction zone
Ryosuke Oyanagi, Atsushi Okamoto
NATURE COMMUNICATIONS, 15, 7159, 2024. doi: 10.1038/s41467-024-51476-6

● Tracking HFSE associated with high salinity fluid during HP metamorphism in the Zavkhan Terrane, Western Mongolia
Manzshir Bayarbold, Atsushi Okamoto, Masaoki Uno, Otgonbayar Dandar, Mayuko Fukuyama, Geri Agroli, Noriyoshi Tsuchiya
LITHOS, 490-491, 2024. doi: 10.1016/j.lithos.2024.107853

● Ultramafic Rocks from the Sanbagawa Belt: Records of Mantle Wedge Processes
Atsushi Okamoto, Takayoshi Nagaya, Shunsuke Endo, Tomoyuki Mizukami
Elements, 20(2), 83-88, 2024. doi: 10.2138/gselements.20.2.83

● 黒鉱鉱床に特有な鉱石組織と鉱床胚胎場との関連
山田亮一, 杉岡純平, 岡本敦
資源地質, 74(2), 79-94, 2024

【論文】

● Characteristics and effectiveness of water-assisted CO₂ fracturing for creating geothermal reservoirs in volcanic rocks
Eko Pramudyo, Kohei Takuma, Yuto Watanabe, Kiyotoshi Sakaguchi, Yutaro Maeda, Sho Ogata, Kazumasa Sueyoshi, Jiajie Wang, Kazumi Osato, Amane Terai, Noriaki Watanabe
Geoenergy Science and Engineering, 213280, 2024. doi: 10.1016/j.geoen.2024.213280

● CO₂ fracturing of volcanic rocks under geothermal conditions: Characteristics and process
Kohei Takuma, Yutaro Maeda, Yuto Watanabe, Sho Ogata, Kiyotoshi Sakaguchi, Eko Pramudyo, Daisuke Fukuda, Jiajie Wang, Kazumi Osato, Amane Terai, Noriaki Watanabe
GEO THERMICS, 120, 103007, 2024. doi: 10.1016/j.geothermics.2024.103007

● Permeability enhancement by CO₂ injection and chelating agent stimulation for creating geothermal reservoirs in granite
Eko Pramudyo, Luis Salalá, Ryota Goto, Jiajie Wang, Kazumasa Sueyoshi, Lena Muhl, Kiyotoshi Sakaguchi, Noriaki Watanabe

地球開発環境学分野（坂口研）

【論文】

● A CO₂ removal technology based on mineral carbonation and the stability of product carbon storage in a cement matrix
Hsing-Jung Ho, Yoshito Izumi, Atsushi Iizuka
Environmental Technology and Innovation, 34, 103623, 2024. doi: 10.1016/j.eti.2024.103623

● Evaluation of MgO-rich materials obtained from Ferronickel slag for CO₂ sequestration
Fakhreza Abdul, Ken Adachi, Hsing-Jung Ho, Atsushi Iizuka, Etsuro Shibata
Process Safety and Environmental Protection, 191, 2350-2360, 2024. doi: 10.1016/j.psep.2024.09.094

● Magnesium Recovery from Ferronickel Slag by Reaction with Sodium Hydroxide
Fakhreza Abdul, Ken Adachi, Hsing-Jung Ho, Atsushi Iizuka, Etsuro Shibata
Journal of Environmental Chemical Engineering, 12(3), 112516, 2024. doi: 10.1016/j.jece.2024.112516

【MISC】

● Total Resource Circulation of Desalination Brine: A Review
Cheng-Han Lee, Hsing-Jung Ho, Wei-Sheng Chen, Atsushi Iizuka
Advanced Sustainable Systems, 2300460, 2024. doi: 10.1002/adsu.202300460

● カーボンリサイクルによる炭酸塩の製造
飯塚淳
粉体工学会誌, 61(1), 17-20, 2024.

【論文】

● 岩盤破碎方法及びそれを用いた貯留層造成方法
渡邊則昭, 坂口清敏, 宅間康平
特願 2024-09484

【産業財産権】

● 炭素繊維複合材料、及びその製造方法
宮本京介, 入澤 寿平, 佐藤義倫, 佐藤良憲, 西田哲郎, 長谷部類, 村上一孝
特願 2024-206552

地球開発環境学分野（里見研）

【論文】

● 泥土除去機構に作用する力覚情報と土の液性指数との関係評価
船木陸, 里見知昭, 高橋弘
テラメカニクス, 44, 27-32, 2024

● バケット掘削における土の破壊形態判別に及ぼす粘土分の影響
谷口直哉, 里見知昭, LIU Xiaodong, 高橋弘
テラメカニクス, 44, 33-38, 2024

● バケット掘削による碎石の粒度推定のための掘削抵抗力の対数変換と視覚情報の可能性
里見知昭, 小林佑輔, 高橋弘
テラメカニクス, 44, 39-44, 2024

● ブレード掘削における力覚情報に及ぼす粘土分の影響
鈴木涼平, LIU Xiaodong, 里見知昭, 高橋弘
テラメカニクス, 44, 21-26, 2024

【産業財産権】

● 土質推定装置、土質推定方法、及び、土質推定プログラム
里見知昭, 谷口直哉, 高橋弘
特願 2024-189388

● 粒度分布推定装置、粒度分布推定方法、及び、粒度分布推定プログラム
里見知昭, 小林佑輔, 高橋弘
特願 2024-137869

資源循環・環境応用学分野

【論文】

● A CO₂ removal technology based on mineral carbonation and the stability of product carbon storage in a cement matrix
Hsing-Jung Ho, Yoshito Izumi, Atsushi Iizuka
Environmental Technology and Innovation, 34, 103623, 2024. doi: 10.1016/j.eti.2024.103623

● Evaluation of MgO-rich materials obtained from Ferronickel slag for CO₂ sequestration
Fakhreza Abdul, Ken Adachi, Hsing-Jung Ho, Atsushi Iizuka, Etsuro Shibata
Process Safety and Environmental Protection, 191, 2350-2360, 2024. doi: 10.1016/j.psep.2024.09.094

● Magnesium Recovery from Ferronickel Slag by Reaction with Sodium Hydroxide
Fakhreza Abdul, Ken Adachi, Hsing-Jung Ho, Atsushi Iizuka, Etsuro Shibata
Journal of Environmental Chemical Engineering, 12(3), 112516, 2024. doi: 10.1016/j.jece.2024.112516

【MISC】

● Total Resource Circulation of Desalination Brine: A Review
Cheng-Han Lee, Hsing-Jung Ho, Wei-Sheng Chen, Atsushi Iizuka
Advanced Sustainable Systems, 2300460, 2024. doi: 10.1002/adsu.202300460

● カーボンリサイクルによる炭酸塩の製造
飯塚淳
粉体工学会誌, 61(1), 17-20, 2024.

【書籍等出版物】

- Chapter Eighteen -Applications of CO₂ mineralization for carbon capture, utilization, and storage Hsing-Jung Ho, Atsushi Iizuka Advances and Technology Development in Greenhouse Gases: Emission, Capture and Conversion / Greenhouse Gases Emissions and Climate Change, 403-430, Elsevier, 2024. doi: 10.1016/B978-0-443-19231-9.00025-9
- Mineral Carbonation of Alkaline Industrial Waste and Byproducts for CO₂ Sequestration and Utilization Hsing-Jung Ho, Atsushi Iizuka Circular Economy and Sustainable Energy Materials, CRC Press, 2024. ISBN: 9781003463009

エネルギー資源学講座

分散エネルギーシステム学分野

【論文】

- Evaluation of the effect of oxygen incorporation on the thermo-mechanical-mechanical properties of the proton-conducting oxide BaZr_{0.8}Yb_{0.2}O_{3-δ} Taisei Segami, Ryuta Sato, Riyan Achmad Budiman, Mina Yamaguchi, Keiji Yashiro, Tatsuya Kawada Acta Materialia, 273, 2024. doi: 10.1016/j.actamat.2024.119978
- Investigating Ni nanoparticles on CeO₂ for methane dissociation: a comparative study of theoretical calculations and experimental insights Fujisaki, T., Tsuji, Y., Tu, P.H., Doan, T.C.D., Rivera Rocabado, D.S., Staykov, A.T., Yashiro, K., Shiratori Y. PHYSICAL CHEMISTRY CHEMICAL PHYSICS, 2024. doi: 10.1039/d4cp01324g
- Investigation of factors enhancing electrochemical properties of the porous La_{0.6}Sr_{0.4}CoO_{3-δ}–Ce_{0.9}Gd_{0.1}O_{1.95} composite electrode for solid oxide fuel cell Budiman, R.A., Sakuraba, J., Sakai, M., Yamaguchi, M., Hashimoto, S.-I., Yashiro, K., Kawada, T. Solid State Ionics, 417, 2024. doi: 10.1016/j.ssi.2024.116724
- Microstructure Alteration Analysis of Ni/YSZ Cermet by Comb-shaped Ni Patterned Electrode Nanako Bisaka, Takashi Sato, Riyan Achmad Budiman, Mina Yamaguchi, Tatsuya Kawada, Keiji Yashiro JOURNAL OF THE ELECTROCHEMICAL SOCIETY, 171(10), 2024. doi: 10.1149/1945-7111/ad83f6
- Review of factors affecting the performance degradation of Ni-YSZ fuel electrodes in solid oxide electrolyzer cells Xiaolin Shao, Riyan Achmad Budiman, Takashi Sato, Mina Yamaguchi, Tatsuya Kawada, Keiji Yashiro JOURNAL OF POWER SOURCES, 609234651, 2024. doi: 10.1016/j.jpowsour.2024.234651

【MISC】

- Review of factors affecting the performance degradation of Ni-YSZ fuel electrodes in solid oxide electrolyzer cells Xiaolin Shao, Riyan Achmad Budiman, Takashi Sato, Mina Yamaguchi, Tatsuya Kawada, Keiji Yashiro Journal of Power Sources, 609, 2024. doi: 10.1016/j.jpowsour.2024.234651
- 固体酸化物セル燃料極におけるNi移動と劣化機構 Riyan Achmad BUDIMAN, Xiaolin SHAO, 川田達也, 八代圭司 水素エネルギーシステム, 49(1), 6-14, 2024

【産業財産権】

- 膜付き透明基板及び調理器用トッププレート 山崎雄亮, 伊村正明, 高村仁, 石井暁大, 山口実奈 特許第 7540637 号

エネルギー資源リスク評価学分野

【論文】

- A sustainable temperature-swing process for CO₂ capture and mineralization at below 100°C using a recyclable chelating agent and bottom ash Jiajie Wang, Yusuke Maeda, Vani Novita Alviani, Shoichi Kumon, Kimitaka Sato, Noriyoshi Tsuchiya, Noriaki Watanabe Journal of Environmental Chemical Engineering, 12(2), 112301, 2024. doi: 10.1016/j.jece.2024.112301
- Applicability of monitoring data of Hg soil-atmosphere transport in an old mining area for exposure risk assessment Monami Kondo, Jiajie Wang, Takeshi Komai, Noriaki Watanabe Geochemistry: Exploration, Environment, Analysis, 24, 2024. doi: 10.1144/geochem2024-012
- Characteristics and effectiveness of water-assisted CO₂ fracturing for creating geothermal reservoirs in volcanic rocks Eko Pramudyo, Kohei Takuma, Yuto Watanabe, Kiyotoshi Sakaguchi, Yutaro Maeda, Sho Ogata, Kazumasa Sueyoshi, Jiajie Wang, Kazumi Osato, Amane Terai, Noriaki Watanabe American Mineralogist, 109(6), 1096-1105, 2024. doi: 10.2138/am-2023-9025
- CO₂ capture, geological storage, and mineralization using biobased biodegradable chelating agents and seawater Jiajie Wang, Ryota Sekiai, Ryota Tamura, Noriaki Watanabe Science Advances, 10(46), 2024. doi: 10.1126/sciadv.adq0515
- CO₂ fracturing of volcanic rocks under geothermal conditions: Characteristics and process Kohei Takuma, Yutaro Maeda, Yuto Watanabe, Sho Ogata, Kiyotoshi Sakaguchi, Eko Pramudyo, Daisuke Fukuda, Jiajie Wang, Kazumi Osato, Amane Terai, Noriaki Watanabe GEOTHERMICS, 120, 103007, 2024. doi: 10.1016/j.geothermics.2024.103007
- Maximizing permeability of fractured volcanic rocks through chelating-agent-assisted and pH-controlled selective mineral dissolution Luis Salalá, Jonathan Argueta, Jiajie Wang, Noriaki Watanabe, Noriyoshi Tsuchiya GEOTHERMICS, 119, 102949, 2024. doi: 10.1016/j.geothermics.2024.102949
- Multi-layered physical factors govern mercury release from soil: Implications for predicting the environmental fate of mercury Monami Kondo, Anna Korre, Takeshi Komai, Noriaki Watanabe Journal of Environmental Management, 352, 120024, 2024. doi: 10.1016/j.jenvman.2024.120024
- Permeability enhancement by CO₂ injection and chelating agent stimulation for creating geothermal reservoirs in granite Eko Pramudyo, Luis Salalá, Ryota Goto, Jiajie Wang, Kazumasa Sueyoshi, Lena Muhl, Kiyotoshi Sakaguchi, Noriaki Watanabe Geoenergy Science and Engineering, 234, 212586, 2024. doi: 10.1016/j.geoen.2023.212586
- Reactivity and Dissolution Characteristics of Naturally Altered Basalt in CO₂-Rich Brine: Implications for CO₂ Mineralization Jiajie Wang, Masahiko Yagi, Tetsuya Tamagawa, Hitomi Hirano, Noriaki Watanabe ACS Omega, 9(4), 4429-4438, 2024. doi: 10.1021/acsomega.3c06899
- Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe

Environmental Science & Technology, 58(50), 22114–22123, 2024. doi: 10.1021/acs.est.4c07526

【産業財産権】

- 二酸化炭素固定方法及び二酸化炭素固定装置 渡邊則昭, ワンジャジェ, 佐藤王高, 公文翔一 特願 2024-088813
- 二酸化炭素固定方法、二酸化炭素回収方法、並びに二酸化炭素固定装置及 びこれを備えた環境配慮型産業設備 渡邊則昭, ワンジャジェ 特願 2024-088814

環境共生機能学分野

【論文】

- Formation mechanism of micro-sized Cu plates using Br ions as basal plane-specific adsorbent and their application in the preparation of highly conductive and flexible Cu films Yusaku Noda, Shun Yokoyama, Takashi Itoh, Balachandran Jeyadevan Journal of Materials Chemistry C, 12, 15704-15713, 2024. doi: 10.1039/D4TC02694B
- Methanogen Biocathode Microbial Fuel Cell System That Simultaneously Achieves Cattle-Barn Wastewater Treatment and Carbon Dioxide Utilization Yuta Nakayasu, Hiroto Nakano, Masaki Umetsu, Koji Yokoyama, Hideyuki Takahashi, Chika Tada Energy Technology, 2401558, 2024. doi: 10.1002/ente.202401558
- Synthesis of Aggregation-Free Iron Metal Particles Using Amylopectin and Amylase in a Basic Aqueous Solution Koji Yokoyama, Yuma Araya, Kaori Yokosaka, Shoichi Kumon, Kimitaka Sato, Shun Yokoyama, Hideyuki Takahashi J. Magn. Magn. Mater., 172764, 2024. doi: 10.1016/j.jmmm.2024.172764
- Synthesis of low-cost multi-element Pt-based alloy nanoparticles as catalysts for the oxygen reduction reaction Jhon L. Cuya Huaman, Kaneyuki Taniguchi, Daichi Iwata, Kozo Shinoda, Shun Yokoyama, Hiroshi Miyamura, Jeyadevan Balachandran NANOSCALE, 16, 10841-10852, 2024. doi: 10.1039/D4NR00567H
- Ti compound coating of carbonyl iron particles with controlled surface conditions using a peroxotitanium acid solution for stable magnetic particles Yuki Watanabe, Shun Yokoyama, Akira Kishimoto, Takahiro Ito, Masanobu Kawata, Shun Ito, Kenichi Motomiya, Hideyuki Takahashi Colloids and Surfaces A: Physicochemical and Engineering Aspects, 691, 133826, 2024. doi: 10.1016/j.colsurfa.2024.133826

【産業財産権】

- ヨウ化スズペロブスカイト薄膜の製造方法 横山幸司, 横山俊, 高橋英志 特願 2024-157895

国際エネルギー資源学分野

【論文】

- A sustainable temperature-swing process for CO₂ capture and mineralization at below 100°C using a recyclable chelating agent and bottom ash Jiajie Wang, Yusuke Maeda, Vani Novita Alviani, Shoichi Kumon, Kimitaka Sato, Noriyoshi Tsuchiya, Noriaki Watanabe Journal of Environmental Chemical Engineering, 12(2), 112301, 2024. doi: 10.1016/j.jece.2024.112301
- Characteristics and effectiveness of water-assisted CO₂ fracturing for creating geothermal reservoirs in volcanic rocks

- Eko Pramudyo, Kohei Takuma, Yuto Watanabe, Kiyotoshi Sakaguchi, Yutaro Maeda, Sho Ogata, Kazumasa Sueyoshi, Jiajie Wang, Kazumi Osato, Amane Terai, Noriaki Watanabe Geoenergy Science and Engineering, 213280, 2024. doi: 10.1016/j.geoen.2024.213280
- Characteristics of congruent dissolution of silicate minerals enhanced by chelating ligand under ambient conditions Jiajie Wang, Astin Nurdiana, Yoshinori Sato, Noriaki Watanabe, Noriyoshi Tsuchiya American Mineralogist, 109(6), 1096-1105, 2024. doi: 10.2138/am-2023-9025
- Effect of information provision by familial nudging on attitudes toward offshore wind power Hidenori Komatsu, Hiromi Kubota, Kenji Asano, Yu Nagai PLoS ONE, 19(1), e0297199, 2024. doi: 10.1371/journal.pone.0297199
- Maximizing permeability of fractured volcanic rocks through chelating-agent-assisted and pH-controlled selective mineral dissolution Luis Salalá, Jonathan Argueta, Jiajie Wang, Noriaki Watanabe, Noriyoshi Tsuchiya GEOTHERMICS, 119, 102949-102949, 2024. doi: 10.1016/j.geothermics.2024.102949
- Multiscale off-fault brecciation records coseismic energy budget of principal fault zone Geri Agroli, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya SCIENTIFIC REPORTS, 14(1), 2024. doi: 10.1038/s41598-024-62838-x
- Permeability enhancement by CO₂ injection and chelating agent stimulation for creating geothermal reservoirs in granite Eko Pramudyo, Luis Salalá, Ryota Goto, Jiajie Wang, Kazumasa Sueyoshi, Lena Muhl, Kiyotoshi Sakaguchi, Noriaki Watanabe Geoenergy Science and Engineering, 234, 212586, 2024. doi: 10.1016/j.geoen.2023.212586
- Permeability evolution in fine-grained Aji granite during triaxial compression experiments Kazumasa Sueyoshi, Ikuo Katayama, Kazuki Sawayama GEOPHYSICAL PROSPECTING, 72(2), 675-684, 2024. doi: 10.1111/1365-2478.13412
- Porosity generation via spatially uncoupled dissolution precipitation during plagioclase replacement in quartz undersaturated fluids Astin Nurdiana, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya Contributions to Mineralogy and Petrology, 179(1), 2024. doi: 10.1007/s00410-023-02088-8
- Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe

- Environmental Science & Technology, 58, 22114-22123, 2024. doi: 10.1021/acs.est.4c07526
- Tracking HFSE associated with high salinity fluid during HP metamorphism in the Zavkhan Terrane, Western Mongolia Manzshir Bayarbold, Atsushi Okamoto, Masaoki Uno, Otgonbayar Dandar, Mayuko Fukuyama, Geri Agroli, Noriyoshi Tsuchiya LITHOS, 490-491, 2024. doi: 10.1016/j.lithos.2024.107853

【MISC】

- 温泉と自治 地熱発電開発の現状と課題 , 今後の可能性 窪田ひろみ 都市問題 , 115(11), 2024.
- 環境における地下利用 地熱発電開発の地域共生に向けて 窪田ひろみ 環境管理 , 60(8), 2024.

環境政策学講座

環境・都市エネルギー学分野

【論文】

- Assessing urban rooftop PV economics for regional deployment by integrating local socioeconomic, technological, and policy conditions Liya Xue, Junling Liu, Xiaojing Lin, Mengyue Li, Takuro Kobashi APPLIED ENERGY, 353, 122058, 2024. doi: 10.1016/j.apenergy.2023.122058
- Asymmetric Nash bargaining model for operation optimization of multi-integrated energy systems considering peer-to-peer energy trading Meng Yang, Yisheng Liu, Takuro Kobashi Sustainable Cities and Society, 114, 105791, 2024. doi: 10.1016/j.scs.2024.105791
- Solar surge and cost shifts: Heterogenous effects of redistribution in the electricity bills in Japan Tuo Zhang, Maogang Tang Energy Economics, 137, 107806, 2024. doi: 10.1016/j.eneco.2024.107806

環境・エネルギー経済学分野

【論文】

- Adequacy and Distribution Equity of Nutrition Supplies across China Chuan Zhao, Zhengyang Zhang, Kazuyo Matsubae Nutrients, 16(3), 426, 2024. doi: 10.3390/nu16030426
- Agricultural plastic pollution in China: Sources, supply chain drivers, and mitigation strategies Chuan Zhao, Yafei Wang, Zhongmin Lian, Zhengyang Zhang, Shijun Ma, Kazuyo Matsubae Sustainable Horizons, 11, 2024. doi: 10.1016/j.horiz.2024.100102
- Barriers to the adoption of electric cars and electric motorcycles in Vietnam Nhi Truong, Gregory Trencher, Masaru Yarime, Brendan Barrett, Kazuyo Matsubae Transportation Research Part D: Transport and Environment, 131, 104204, 2024. doi: 10.1016/j.trd.2024.104204
- Bibliometric analysis and visualisation of research on life cycle assessment in Africa (1992–2022) Mohammed Engha Isah, Zhengyang Zhang, Kazuyo Matsubae, Norihiro Itsubo INTERNATIONAL JOURNAL OF LIFE CYCLE ASSESSMENT, 29, 1339-1351, 2024. doi: 10.1007/S11367-024-02313-X
- Decreasing resilience of China's coupled nitrogen–phosphorus cycling network requires urgent action Zimeng Luo, Yadong Yu, Ali Kharrazi, Brian D. Fath, Kazuyo Matsubae, Sai Liang, Dingjiang Chen, Bing Zhu, Tiejue Ma, Shanying Hu Nature Food, 5, 48-58, 2024. doi: 10.1038/s43016-023-00889-5
- Development of a policy-based distance-to-target weighting method in life cycle impact assessment for Nigeria Mohammed Engha Isah, Zhengyang Zhang, Kazuyo Matsubae The International Journal of Life Cycle Assessment, 2024. doi: 10.1007/s11367-024-02406-7

産業エコロジー分野

【論文】

- Environmental footprinting in health care: a primer Jacob Fry, Angie Bone, Keiichiro Kanemoto,Carolynn L Smith, Nick Watts Medical Journal of Australia, 221(9), 464-467, 2024. doi: 10.5694/mja2.52481

- Global Freight Transport Emissions Responsibility Jacob Fry, Keiichiro Kanemoto, Alastair Fraser, Keisuke Nansai Environmental Science & Technology, 58(43), 19231-19242, 2024. doi: 10.1021/acs.est.4c05658

寄附講座

環境プロセス学分野

【論文】

- Effective conversion of CO₂ to ethylene urea using zirconium-containing Mg-Al layered double hydroxide Farzana Rahman, Yota Kunii, Tomohito Kameda, Mir Tamzid Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Inorganic Chemistry Communications, 163, 112391, 2024. doi: 10.1016/j.inoche.2024.112391
- Effective synthesis of ethylene urea from CO₂ adsorbed cerium doped Mg-Al layered double hydroxide Farzana Rahman, Xinyi Yang, Fiona Motswaiso, Itsuki Takanashi, Tomohito Kameda, Mir Tamzid Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Journal of Cleaner Production, 434, 140191, 2024. doi: 10.1016/j.jclepro.2023.140191
- Extraction and enrichment of lead from contaminated soil using chelation reactions Tomohito Kameda, Rena Suto, Mir Tamzid Rahman, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka Results in Chemistry, 7, 101473, 2024. doi: 10.1016/j.rechem.2024.101473
- Formation mechanism of micro-sized Cu plates using Br ions as basal plane-specific adsorbent and their application in the preparation of highly conductive and flexible Cu films, Yusaku Noda, Shun Yokoyama, Takashi Itoh and Balachandran Jeyadevan J. Mater. Chem. C, 12, 15704-15713, 2024. doi: 10.1039/D4TC02694B
- Hydrogel synthesis: Incorporating hydrophobically modified graphite oxide with Mg₂Al LDH and alginate coating for evaluating multifarious adsorption utility Mir Tamzid Rahman, Tomohito Kameda, Farzana Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Journal of Water Process Engineering, 63, 105452, 2024. doi: 10.1016/j.jwpe.2024.105452
- Novel sol-gel derived layered double oxides and layered double oxide/*γ*-Al₂O₃ with tunable selectivity as promising adsorbents for L-lactate uptake from the myoblast culture medium Valentina Podolinnaiia, Tomohito Kameda, Fumihiko Kitagawa, Masahiro Suzuki, Shogo Kumagai, Yuko Saito, Masayuki Kondo, Yoichi Jimbo, Toshiaki Yoshioka Journal of Alloys and Compounds Communications, 4, 100042, 2024. doi: 10.1016/j.jacomc.2024.100042
- Synthesis of an Mg-Fe-Al layered double oxide with a high arsenic anion adsorption capacity and the establishment of an arsenic anion desorption process Itsuki Takanashi, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, 190, 112017, 2024. doi: 10.1016/j.jpcs.2024.112017
- Synthesis of ethylene urea using carbon-dioxide-adsorbed titanium–zirconium mixed oxides Fiona Motswaiso, Ukyo Suzuki, Kyosuke Sawaguchi, Farzana Rahman, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Environmental Challenges, 16, 100970, 2024. doi: 10.1016/j.envc.2024.100970
- Synthesis of low-cost multi-element Pt-based alloy nanoparticles as catalysts for the oxygen reduction reaction Jhon L. Cuya Huaman, Kaneyuki Taniguchi, Daichi Iwata, Kozo

- Shinoda, Shun Yokoyama, Hiroshi Miyamura and Jeyadevan Balachandran Nanoscale, 16, 10841-10852, 2024. doi: 10.1039/D4NR00567H

【産業財産権】

- 酸性排ガスの処理方法、酸性排ガスの処理設備、及び、焼却施設 伊藤一郎，韓田野，吉岡敏明，亀田知人 第10-2724286号（韓国特許）
- 酸性排ガスの処理方法、酸性排ガスの処理設備、及び、焼却施設 伊藤一郎，韓田野，吉岡敏明，亀田知人 特許第1202301658X（シンガポール特許）
- 酸性排ガスの処理方法、酸性排ガスの処理設備、及び、焼却施設 伊藤一郎，韓田野，吉岡敏明，亀田知人 特許第1850542号（台湾特許）
- 酸性排ガスの処理方法、酸性排ガスの処理設備、及び、焼却施設 伊藤一郎，韓田野，吉岡敏明，亀田知人 特許CN117042865B号（中国特許）
- 酸性ガス処理剤及び酸性ガス処理方法 森浩一，伊藤一郎，竹綱啓尚，鈴木雅博，吉岡敏明，亀田知人 特許7566291
- 酸性排ガス処理剤、酸性排ガス処理方法、及び酸性排ガス処理設備 伊藤一郎，水品恵一，韓田野，吉岡敏明，亀田知人，内田大貴 特許CN113660996B（中国特許）
- 酸性排ガス処理剤、酸性排ガス処理方法、及び酸性排ガス処理設備 伊藤一郎，水品恵一，韓田野，吉岡敏明，亀田知人，内田大貴 特許Y-205392-A（マレーシア特許）
- 重金属の不溶化方法 吉岡敏明，亀田知人，高梨樹，野村泰之，河村大樹 特願2024-43850
- 乳酸吸着剤および乳酸除去方法 吉岡敏明，亀田知人，ポドリナイア ヴァレンティナ，神保陽一，近藤昌幸，北川文彦，鈴木雅博 特願2024-98592
- 乳酸吸着剤、乳酸除去装置および乳酸除去方法 吉岡敏明，亀田知人，ポドリナイア ヴァレンティナ，神保陽一，近藤昌幸，北川文彦 特願2024-66125
- 被処理液の再生方法、被処理液の再生剤および被処理液の再生装置 吉岡敏明，亀田知人，北川文彦，神保陽一，近藤昌幸 特許7544339
- フェノールレッド吸着剤およびフェノールレッドの除去方法 吉岡敏明，亀田知人，北川文彦，神保陽一，近藤昌幸 特許7606185

環境政策実装学分野

【論文】

- Characteristics of the steam degradation of poly (lactic acid) and poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) Zhuze Shao, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Polymer Journal, 56, 455-462, 2024. doi: 10.1038/s41428-024-00883-z
- Combining hierarchical clustering analysis with a simplex lattice mixture design in rapidly identifying the pyrolytic interactions and predicting the product yields during the co-pyrolysis of cellulose, xylan, and milled wood lignin Shengyu Xie, Shogo Kumagai, Young-Min Kim, Yuko Saito, Toshiaki Yoshioka Chemical Engineering Journal, 493, 152434, 2024. doi: 10.1016/j.cej.2024.152434
- Effective synthesis of ethylene urea from CO₂ adsorbed cerium doped Mg-Al layered double hydroxide Farzana Rahman, Xinyi Yang, Fiona Motswaiso, Itsuki Takanashi, Tomohito Kameda, Mir Tamzid Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Journal of Cleaner Production, 434, 140191, 2024. doi: 10.1016/j.jclepro.2023.140191

- Extraction and enrichment of lead from contaminated soil using chelation reactions Tomohito Kameda, Rena Suto, Mir Tamzid Rahman, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka Results in Chemistry, 7101473, 2024. doi: 10.1016/j.rechem.2024.101473
- Hydrogel synthesis: Incorporating hydrophobically modified graphite oxide with Mg₂Al LDH and alginate coating for evaluating multifarious adsorption utility Mir Tamzid Rahman, Tomohito Kameda, Farzana Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Journal of Water Process Engineering, 63, 105452, 2024. doi: 10.1016/j.jwpe.2024.105452
- Investigating the degradation and products of thermo-oxidation of polyimide-based engineering plastics Chuan Ma, Shogo Kumagai, Masumi Sato, Yumi Nakai, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka Journal of Analytical and Applied Pyrolysis, 181, 106575-106575, 2024. doi: 10.1016/j.jaap.2024.106575
- Latest trends and challenges in PVC and copper recovery technologies for End-of-Life thin cables Harendra Kumar, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Waste Management, 174, 400-410, 2024. doi: 10.1016/j.wasman.2023.12.012
- Recent Advancements in Pyrolysis of Halogen-Containing Plastics for Resource Recovery and Halogen Upcycling: A State-of-the-Art Review Chuan Ma, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka, Xin Huang, Yunlin Shao, Jingyu Ran, Lushi Sun Environmental Science & Technology, 58(3), 1423-1440, 2024. doi: 10.1021/acs.est.3c09451
- Synthesis of an Mg-Fe-Al layered double oxide with a high arsenic anion adsorption capacity and the establishment of an arsenic anion desorption process Itsuki Takanashi, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, 190, 112017, 2024. doi: 10.1016/j.jpcs.2024.112017
- Synthesis of ethylene urea using carbon-dioxide-adsorbed titanium–zirconium mixed oxides Fiona Motswaiso, Ukyo Suzuki, Kyosuke Sawaguchi, Farzana Rahman, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Environmental Challenges, 16, 100970, 2024. doi: 10.1016/j.envc.2024.100970
- EUの「リサイクル材含有義務」によるプラスチック資源循環へのインパクト 齋藤優子，西山徹，熊谷将吾，白鳥寿一，吉岡敏明 廃棄物資源循環学会論文誌, 35, 114-127, 2024. doi: 10.3985/jjismcwm.35.114
- サーカムスタンス適応型資源循環に向けた廃プラスチックの回収およびサイクル可能性 中谷隼，大野肇，齋藤優子，吉岡敏明 廃棄物資源循環学会誌, 35(5), 349-361, 2024. doi: 10.3985/mcwmr.35.349
- 廃太陽光パネルの資源循環 白鳥寿一，齋藤優子 都市清掃, 77(380), 368-374, 2024.

硬質材料環境調和設計学分野

【論文】

- Analysis of Compression Deformation at High-Temperatures and FEM Simulation for BaTiO₃ Sintered Compacts Hiroyuki Tanaka, Hideaki Matsubara, Hideaki Yokota, Toshihiro Iguchi, Yuko Takagi, Hiroshi Nomura, Sota Terasaka, Daisuke Igimi MATERIALS TRANSACTIONS, 65(10), 1327-1340, 2024. doi: 10.2320/matertrans.MT-Y2024003

- Ti(C,N) と Cr₃C₂ を複合添加した超微粒超硬合金の機械的特性に及ぼす炭素量と窒素量と結合相量の影響 堤友浩, 高田真之, 松原秀彰, 森吉弘, 寺坂宗太 粉体および粉末冶金, 71(9), 391-399, 2024. doi: 10.2497/jjspm.24-00008
- Ti(C,N) 粒子を添加した超微粒バインダレス超硬合金の組織と機械的特性 森吉弘, 高田真之, 堤友浩, 寺坂宗太, 松原秀彰 粉体および粉末冶金, 71(9), 416-422, 2024. doi: 10.2497/jjspm.24-00017
- WC-Co 超硬合金丸棒の液相移動と変形一部分加熱装置を用いた結果とその解析― 斉藤武志, 松原秀彰, 福市安春, 梶原太智, 寺坂宗太 粉体および粉末冶金, 71(9), 383-390, 2024. doi: 10.2497/jjspm.24-00025
- WC-Ti(C,N)-Cr₃C₂-Co 超微粒超硬合金の引張強度 堤友浩, 高田真之, 寺坂宗太, 坂口清敏, 渡邊則昭, 松原秀彰 粉体および粉末冶金, 71(9), 409-415, 2024. doi: 10.2497/jjspm.24-00043
- チタン酸バリウム焼結体の高温圧縮変形解析と FEM シミュレーション 田中裕幸, 松原秀彰, 横田英明, 井口俊宏, 高城有子, 野村浩, 寺坂宗太, 伊岐見大輔 粉体および粉末冶金, 71(9), 427-438, 2024. doi: 10.2497/jjspm.23-00087
- 超微粒超硬合金の抗折力および限界強度に及ぼす破壊の起源となる欠陥寸法およびそれら欠陥の相互作用の影響 徳本啓, 高田真之, 堤友浩, 寺坂宗太 粉体および粉末冶金, 71(9), 400-408, 2024. doi: 10.2497/jjspm.24-00041
- 熱遮蔽コーティングの多孔質構造における焼結の計算機シミュレーション 寺坂宗太, 松原秀彰, 山口哲央, 野村浩 粉体および粉末冶金, 71(9), 447-454, 2024. doi: 10.2497/jjspm.24-00033
- 複層体の共焼結および拘束焼結に関する MC・FEM 連携シミュレーション 松本修次, 松原秀彰, 寺坂宗太, 青木英彦, 清水正義, 野村浩, 上高原理暢 粉体および粉末冶金, 71(9), 439-446, 2024. doi: 10.2497/jjspm.24-00020

【MISC】

- 粉末冶金プロセスにおける組織形成と変形のシミュレーション 寺坂宗太, 松原秀彰, 松本修次, 青木英彦, 清水正義, 木村禎一, 野村浩 粉体および粉末冶金, 71(9), 368-375, 2024. doi: 10.2497/jjspm.24-00031
- 粉末冶金による製造プロセスのシミュレーション 寺坂宗太, 松原秀彰 スマートプロセス学会誌 , 13(3), 92-97, 2024

【論文】

- Machine learning automatic picker for geothermal microseismicity analysis for practical procedure to reveal fine reservoir structures Okamoto, K., Mukuhira, Y., Darisma, D., Asanuma, H., Moriya, H. Geothermics ,116, 102832, 2024. doi: 10.1016/j.geothermics.2023.102832
- On the b-value Dependency of Injection-Induced Seismicity on Geomechanical Parameters Mukuhira, Y., Ito, T., Fehler, M., Bjarkason, E. K., Asanuma, H., Häring, M. O. International Journal of Rock Mechanics and Mining Sciences, 174, 105631, 2024. doi: 10.1016/j.ijrmms.2023.105631

【論文】

- A sustainable temperature-swing process for CO₂ capture and mineralization at below 100°C using a recyclable chelating agent and bottom ash Jiajie Wang, Yusuke Maeda, Vani Novita Alviani, Shoichi Kumon, Kimitaka Sato, Noriyoshi Tsuchiya, Noriaki Watanabe Journal of Environmental Chemical Engineering, 12(2), 112301, 2024. doi: 10.1016/j.jece.2024.112301

- Characteristics and effectiveness of water-assisted CO₂ fracturing for creating geothermal reservoirs in volcanic rocks Eko Pramudyo, Kohei Takuma, Yuto Watanabe, Kiyotoshi Sakaguchi, Yutaro Maeda, Sho Ogata, Kazumasa Sueyoshi, Jiajie Wang, Kazumi, Osato, Amane Terai, Noriaki Watanabe Geoenergy Science and Engineering, 213280, 2024. doi: 10.1016/j.geoen.2024.213280

- Characteristics of congruent dissolution of silicate minerals enhanced by chelating ligand under ambient conditions Jiajie Wang, Astin Nurdiana, Yoshinori Sato, Noriaki Watanabe, and Noriyoshi Tsuchiya American Mineralogist, 109(6), 1096-1105, 2024. doi: 10.2138/am-2023-9025

- Effects of temperature and pressure on hydrothermal extraction kinetics of green coffee beans Takafumi Sato, Takeru Kudo, Masato Takamatsu, Tetsuo Honma, Naotsugu Itoh The Journal of Supercritical Fluids, 213, 106350, 2024. doi: 10.1016/j.supflu.2024.106350

- Maximizing permeability of fractured volcanic rocks through chelating-agent-assisted and pH-controlled selective mineral dissolution Luis Salalá, Jonathan Argueta, Jiajie Wang, Noriaki Watanabe, Noriyoshi Tsuchiya GEOTHERMICS, 119, 102949, 2024. doi: 10.1016/j.geothermics.2024.102949

- Multiscale off-fault brecciation records coseismic energy budget of principal fault zone Geri Agroli, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya SCIENTIFIC REPORTS, 14(1), 2024. doi: 10.1038/s41598-024-62838-x

- Porosity generation via spatially uncoupled dissolution precipitation during plagioclase replacement in quartz undersaturated fluids Astin Nurdiana, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya Contributions to Mineralogy and Petrology, 179(1), 2024. doi: 10.1007/s00410-023-02088-8

- Sustainably-derived sulfonated pinecone-based hydrochar catalyst for carbohydrate dehydration Haixin Guo, Yukiya Isoda, Tetsuo Honma, Feng Shen, Richard Lee Smith Renewable Energy, 232, 121145, 2024. doi: 10.1016/j.renene.2024.121145

- Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe Environmental Science & Technology, 58, 22114-22123, 2024. doi:10.1021/acs.est.4c07526
- Tracking HFSE associated with high salinity fluid during HP metamorphism in the Zavkhan Terrane, Western Mongolia Manzshir Bayarbold, Atsushi Okamoto, Masaoki Uno, Otgonbayar Dandar, Mayuko Fukuyama, Geri Agroli, Noriyoshi Tsuchiya LITHOS, 490-491, 2024. doi: 10.1016/j.lithos.2024.107853

地域環境イノベーション学分野 (八戸工業高等専門学校)

【論文】

- A sustainable temperature-swing process for CO₂ capture and mineralization at below 100°C using a recyclable chelating agent and bottom ash Jiajie Wang, Yusuke Maeda, Vani Novita Alviani, Shoichi Kumon, Kimitaka Sato, Noriyoshi Tsuchiya, Noriaki Watanabe Journal of Environmental Chemical Engineering, 12(2), 112301, 2024. doi: 10.1016/j.jece.2024.112301

- Characteristics and effectiveness of water-assisted CO₂ fracturing for creating geothermal reservoirs in volcanic rocks Eko Pramudyo, Kohei Takuma, Yuto Watanabe, Kiyotoshi Sakaguchi, Yutaro Maeda, Sho Ogata, Kazumasa Sueyoshi, Jiajie Wang, Kazumi, Osato, Amane Terai, Noriaki Watanabe Geoenergy Science and Engineering, 213280, 2024. doi: 10.1016/j.geoen.2024.213280

- Characteristics of congruent dissolution of silicate minerals enhanced by chelating ligand under ambient conditions Jiajie Wang, Astin Nurdiana, Yoshinori Sato, Noriaki Watanabe, and Noriyoshi Tsuchiya American Mineralogist, 109(6), 1096-1105, 2024. doi: 10.2138/am-2023-9025

- Effects of temperature and pressure on hydrothermal extraction kinetics of green coffee beans Takafumi Sato, Takeru Kudo, Masato Takamatsu, Tetsuo Honma, Naotsugu Itoh The Journal of Supercritical Fluids, 213, 106350, 2024. doi: 10.1016/j.supflu.2024.106350

- Maximizing permeability of fractured volcanic rocks through chelating-agent-assisted and pH-controlled selective mineral dissolution Luis Salalá, Jonathan Argueta, Jiajie Wang, Noriaki Watanabe, Noriyoshi Tsuchiya GEOTHERMICS, 119, 102949, 2024. doi: 10.1016/j.geothermics.2024.102949

- Multiscale off-fault brecciation records coseismic energy budget of principal fault zone Geri Agroli, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya SCIENTIFIC REPORTS, 14(1), 2024. doi: 10.1038/s41598-024-62838-x

- Porosity generation via spatially uncoupled dissolution precipitation during plagioclase replacement in quartz undersaturated fluids Astin Nurdiana, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya Contributions to Mineralogy and Petrology, 179(1), 2024. doi: 10.1007/s00410-023-02088-8

- Sustainably-derived sulfonated pinecone-based hydrochar catalyst for carbohydrate dehydration Haixin Guo, Yukiya Isoda, Tetsuo Honma, Feng Shen, Richard Lee Smith Renewable Energy, 232, 121145, 2024. doi: 10.1016/j.renene.2024.121145

- Synergized Effects of Amino Acids and NaCl to Enhance Silicate Mineral Dissolution in Aqueous Environments for Efficient Atmospheric CO₂ Removal Jiajie Wang, Sena Kikuchi, Noriyoshi Tsuchiya, Yoshinori Sato, Mei-Fang Chien, Noriaki Watanabe Environmental Science & Technology, 58, 22114-22123, 2024. doi:10.1021/acs.est.4c07526
- Tracking HFSE associated with high salinity fluid during HP metamorphism in the Zavkhan Terrane, Western Mongolia Manzshir Bayarbold, Atsushi Okamoto, Masaoki Uno, Otgonbayar Dandar, Mayuko Fukuyama, Geri Agroli, Noriyoshi Tsuchiya LITHOS, 490-491, 2024. doi: 10.1016/j.lithos.2024.107853

先端環境創成学専攻

基幹講座

【論文】

- A Study of Objective and Perceived Neighborhood Environmental Factors Associated with the Subjective Well-Being of Urban Residents Karen UMEDA, Tomoya HANIBUCHI, Ryo TANIMOTO, Tomoki NAKAYA Quarterly Journal of Geography, 76(3), 106-119, 2024. doi: 10.5190/tga.76.3_106

- Active workplace design: current gaps and future pathways Mohammad Javad Koohsari, Andrew T Kaczynski, Akitomo Yasunaga, Tomoya Hanibuchi, Tomoki Nakaya, Gavin R McCormack, Koichiro Oka British Journal of Sports Medicine, 58(19), 1157-1158, 2024. doi: 10.1136/bjsports-2024-108146

- Association of night-shift work with gambling and problem gambling among workers in Japan: A nationwide cross-sectional study Takashi Yoshioka, Ryuhei So, Satoshi Funada, Shiori Tsutsumi, Tomoki Nakaya, Ryo Okubo, Tetsuji Minami, Takahiro Tabuchi Additive Behaviors, 156, 108071, 2024. doi: 10.1016/j.addbeh.2024.108071

- Developing and testing an audit tool for activity-friendly parks in dense urban areas of Asia Yufeng Luo, Monica Motomura, Jing Zhao, Tomoya Hanibuchi, Tomoki Nakaya, Ai Shibata, Kaori Ishii, Akitomo Yasunaga, Shohei Yano, Lei Xiong, Yukari Nagai, Gavin R. McCormack, Andrew T. Kaczynski, Koichiro Oka, Mohammad Javad Koohsari Cities & Health, 1-13, 2024. doi: 10.1080/23748834.2024.2426948

- Enabling space-time kernel density estimation in a 3D geographic information system environment Nakaya, T, Nagata, S Geographical Reports of Tokyo Metropolitan University, 59, 41-48, 2024

- Encapsulating Spatially Varying Relationships with a Generalized Additive Model Alexis Comber, Paul Harris, Daisuke Murakami, Tomoki Nakaya, Narumasa Tsutsumida, Takahiro Yoshida, Chris Brunsdon ISPRS International Journal of Geo-Information, 13(12), 459, 2024. doi: 10.3390/ijgi13120459

- Life-Space Mobility and Frailty in Older Japanese Adults: A Cross-Sectional Study Atsuko Tanide, Daiki Watanabe, Tsukasa Yoshida, Yosuke Yamada, Yuya Watanabe, Minoru Yamada, Hiroyuki Fujita, Tomoki Nakaya, Motohiko Miyachi, Masaru Watanabe, Yoshinori Fujiwara, Hidenori Arai, Misaka Kimura Journal of the American Medical Directors Association, 25(11), 105232, 2024. doi: 10.1016/j.jamda.2024.105232

- Local effects of non-pharmaceutical interventions on mitigation of COVID-19 spread through decreased human mobilities in Japan: a prefecture-level mediation analysis Shohei Nagata, Yuta Takahashi, Hiroki M Adachi, Glen D Johnson, Tomoki Nakaya Scientific Reports, 14(1), 26996, 2024. doi: 10.1038/s41598-024-78583-0

- Moving up and down the urban hierarchy: Age-specific internal migration patterns in Japan based on the 2020 census Masaki Kotsubo, Tomoki Nakaya Population, Space and Place, 30(7), e2786, 2024. doi: 10.1002/psp.2786

- Multiple Hazards and Population Change in Japan's Suzu City after the 2024 Noto Peninsula Earthquake Shohei Nagata, Erick Mas, Yuriko Takeda, Tomoki Nakaya, Shunichi Koshimura Progress in Disaster Science, 25, 100396, 2024. doi: 10.2139/ssrn.4853994

- Park proximity and older adults' physical activity and sedentary behaviors in dense urban areas Monica Motomura, Mohammad Javad Koohsari, Kaori Ishii, Ai Shibata, Tomoki Nakaya, Tomoya Hanibuchi, Andrew T. Kaczynski, Jenny Veitch, Koichiro Oka Urban Forestry and Urban Greening, 95, 2024. doi: 10.1016/j.ufug.2024.128275

- Regional disparities in measles vaccination coverage and their associated factors: an ecological study in Japan Masaki Machida, Shinji Fukushima, Takahiro Tabuchi, Tomoki Nakaya, Wakaba Fukushima, Shigeru Inoue Journal of Epidemiology, JE20240129, 2024. doi: 10.2188/jea.JE20240129

- Relative age effect on the physical activity and sedentary behavior in children and adolescents aged 10 to 18 years old: a cross-sectional study in Japan Takaaki Mori, Takumi Aoki, Kan Oishi, Tetsuo Harada, Chiaki Tanaka, Shigeho Tanaka, Hideki Tanaka, Kazuhiko Fukuda, Yasuko Kamikawa, Nobuhiro Tsuji, Keisuke Komura, Shohei Kokudo, Noriteru Morita, Kazuhiro Suzuki, Masashi Watanabe, Ryoji Kasanami, Taketaka Hara, Ryo Miyazaki, Takafumi Abe, Koji Yamatsu, Daisuke Kume, Hedenori Asai, Naofumi Yamamoto, Taishi Tsuji, Tomoki Nakaya, Kojiro Ishii BMC Public Health, 24(1), 3273, 2024. doi: 10.1186/s12889-024-20659-7

- Settlement Intentions among Migrants in Japan and Changes Due to the COVID-19 Pandemic TENG Yuanyuan, HANIBUCHI Tomoya, NAKAYA Tomoki E-journal GEO, 19(1), 208-225, 2024. doi: 10.4157/ejgeo.19.208

- Spatial analysis of outdoor indecent assault risk: A study using ambient population data Hiroki M Adachi and Tomoki Nakaya Crime Science, 13, 7, 2024. doi: 10.1186/s40163-024-00205-x

- The effects of neighbourhood green spaces on mental health of disadvantaged groups: a systematic review Zheng Xian, Tomoki Nakaya, Kun Liu, Bing Zhao, Junhua Zhang, Jiao Zhang, Yuxuan Lin, Jinguang Zhang Humanities and Social Sciences Communications, 11, 488, 2024. doi: 10.1057/s41599-024-02970-1

- Urban exodus or suburbanisation? Medium-term COVID-19 pandemic impacts on internal migration in Japan Masaki Kotsubo, Tomoki Nakaya GeoJournal, 89, 149, 2024. doi: 10.1007/s10708-024-11162-y

- Urban Streetscape Changes in Portland, Oregon: A Longitudinal Virtual Audit Tomoya Hanibuchi, Shohei Nagata, David Banis, Hunter Shobe, Tomoki Nakaya The Professional Geographer, 76(2), 180-193, 2024. doi: 10.1080/00330124.2023.2287166

- 日本における SARS-CoV-2 オミクロン株流行波の空間的拡散過程：人流を用いた拡散非負値行列因子分解の適用 高橋侑太, 中谷友樹 GIS 理論と応用 , 32(2), 37-45, 2024.

- Multiple Hazards and Population Change in Japan's Suzu City after the 2024 Noto Peninsula Earthquake Shohei Nagata, Erick Mas, Yuriko Takeda, Tomoki Nakaya, Shunichi Koshimura Progress in Disaster Science, 25, 100396, 2024. doi: 10.2139/ssrn.4853994

- Park proximity and older adults' physical activity and sedentary behaviors in dense urban areas Monica Motomura, Mohammad Javad Koohsari, Kaori Ishii, Ai Shibata, Tomoki Nakaya, Tomoya Hanibuchi, Andrew T. Kaczynski, Jenny Veitch, Koichiro Oka Urban Forestry and Urban Greening, 95, 2024. doi: 10.1016/j.ufug.2024.128275

- Regional disparities in measles vaccination coverage and their associated factors: an ecological study in Japan Masaki Machida, Shinji Fukushima, Takahiro Tabuchi, Tomoki Nakaya, Wakaba Fukushima, Shigeru Inoue Journal of Epidemiology, JE20240129, 2024. doi: 10.2188/jea.JE20240129

- Relative age effect on the physical activity and sedentary behavior in children and adolescents aged 10 to 18 years old: a cross-sectional study in Japan Takaaki Mori, Takumi Aoki, Kan Oishi, Tetsuo Harada, Chiaki Tanaka, Shigeho Tanaka, Hideki Tanaka, Kazuhiko Fukuda, Yasuko Kamikawa, Nobuhiro Tsuji, Keisuke Komura, Shohei Kokudo, Noriteru Morita, Kazuhiro Suzuki, Masashi Watanabe, Ryoji Kasanami, Taketaka Hara, Ryo Miyazaki, Takafumi Abe, Koji Yamatsu, Daisuke Kume, Hedenori Asai, Naofumi Yamamoto, Taishi Tsuji, Tomoki Nakaya, Kojiro Ishii BMC Public Health, 24(1), 3273, 2024. doi: 10.1186/s12889-024-20659-7

- Settlement Intentions among Migrants in Japan and Changes Due to the COVID-19 Pandemic TENG Yuanyuan, HANIBUCHI Tomoya, NAKAYA Tomoki E-journal GEO, 19(1), 208-225, 2024. doi: 10.4157/ejgeo.19.208

- Spatial analysis of outdoor indecent assault risk: A study using ambient population data Hiroki M Adachi and Tomoki Nakaya Crime Science, 13, 7, 2024. doi: 10.1186/s40163-024-00205-x

- The effects of neighbourhood green spaces on mental health of disadvantaged groups: a systematic review Zheng Xian, Tomoki Nakaya, Kun Liu, Bing Zhao, Junhua Zhang, Jiao Zhang, Yuxuan Lin, Jinguang Zhang Humanities and Social Sciences Communications, 11, 488, 2024. doi: 10.1057/s41599-024-02970-1

- Urban exodus or suburbanisation? Medium-term COVID-19 pandemic impacts on internal migration in Japan Masaki Kotsubo, Tomoki Nakaya GeoJournal, 89, 149, 2024. doi: 10.1007/s10708-024-11162-y

- Urban Streetscape Changes in Portland, Oregon: A Longitudinal Virtual Audit Tomoya Hanibuchi, Shohei Nagata, David Banis, Hunter Shobe, Tomoki Nakaya The Professional Geographer, 76(2), 180-193, 2024. doi: 10.1080/00330124.2023.2287166

- 日本における SARS-CoV-2 オミクロン株流行波の空間的拡散過程：人流を用いた拡散非負値行列因子分解の適用 高橋侑太, 中谷友樹 GIS 理論と応用 , 32(2), 37-45, 2024.

- Multiple Hazards and Population Change in Japan's Suzu City after the 2024 Noto Peninsula Earthquake Shohei Nagata, Erick Mas, Yuriko Takeda, Tomoki Nakaya, Shunichi Koshimura Progress in Disaster Science, 25, 100396, 2024. doi: 10.2139/ssrn.4853994

- Park proximity and older adults' physical activity and sedentary behaviors in dense urban areas Monica Motomura, Mohammad Javad Koohsari, Kaori Ishii, Ai Shibata, Tomoki Nakaya, Tomoya Hanibuchi, Andrew T. Kaczynski, Jenny Veitch, Koichiro Oka Urban Forestry and Urban Greening, 95, 2024. doi: 10.1016/j.ufug.2024.128275

- Regional disparities in measles vaccination coverage and their associated factors: an ecological study in Japan Masaki Machida, Shinji Fukushima, Takahiro Tabuchi, Tomoki Nakaya, Wakaba Fukushima, Shigeru Inoue Journal of Epidemiology, JE20240129, 2024. doi: 10.2188/jea.JE20240129

- Relative age effect on the physical activity and sedentary behavior in children and adolescents aged 10 to 18 years old: a cross-sectional study in Japan Takaaki Mori, Takumi Aoki, Kan Oishi, Tetsuo Harada, Chiaki Tanaka, Shigeho Tanaka, Hideki Tanaka, Kazuhiko Fukuda, Yasuko Kamikawa, Nobuhiro Tsuji, Keisuke Komura, Shohei Kokudo, Noriteru Morita, Kazuhiro Suzuki, Masashi Watanabe, Ryoji Kasanami, Taketaka Hara, Ryo Miyazaki, Takafumi Abe, Koji Yamatsu, Daisuke Kume, Hedenori Asai, Naofumi Yamamoto, Taishi Tsuji, Tomoki Nakaya, Kojiro Ishii BMC Public Health, 24(1), 3273, 2024. doi: 10.1186/s12889-024-20659-7

- Settlement Intentions among Migrants in Japan and Changes Due to the COVID-19 Pandemic TENG Yuanyuan, HANIBUCHI Tomoya, NAKAYA Tomoki E-journal GEO, 19(1), 208-225, 2024. doi: 10.4157/ejgeo.19.208

- Spatial analysis of outdoor indecent assault risk: A study using ambient population data Hiroki M Adachi and Tomoki Nakaya Crime Science, 13, 7, 2024. doi: 10.1186/s40163-024-00205-x

- The effects of neighbourhood green spaces on mental health of disadvantaged groups: a systematic review Zheng Xian, Tomoki Nakaya, Kun Liu, Bing Zhao, Junhua Zhang, Jiao Zhang, Yuxuan Lin, Jinguang Zhang Humanities and Social Sciences Communications, 11, 488, 2024. doi: 10.1057/s41599-024-02970-1

- Urban exodus or suburbanisation? Medium-term COVID-19 pandemic impacts on internal migration in Japan Masaki Kotsubo, Tomoki Nakaya GeoJournal, 89, 149, 2024. doi: 10.1007/s10708-024-11162-y

- Urban Streetscape Changes in Portland, Oregon: A Longitudinal Virtual Audit Tomoya Hanibuchi, Shohei Nagata, David Banis, Hunter Shobe, Tomoki Nakaya The Professional Geographer, 76(2), 180-193, 2024. doi: 10.1080/00330124.2023.2287166

- 日本における SARS-CoV-2 オミクロン株流行波の空間的拡散過程：人流を用いた拡散非負値行列因子分解の適用 高橋侑太, 中谷友樹 GIS 理論と応用 , 32(2), 37-45, 2024.

- Multiple Hazards and Population Change in Japan's Suzu City after the 2024 Noto Peninsula Earthquake Shohei Nagata, Erick Mas, Yuriko Takeda, Tomoki Nakaya, Shunichi Koshimura Progress in Disaster Science, 25, 100396, 2024. doi: 10.2139/ssrn.4853994

- Park proximity and older adults' physical activity and sedentary behaviors in dense urban areas Monica Motomura, Mohammad Javad Koohsari, Kaori Ishii, Ai Shibata, Tomoki Nakaya, Tomoya Hanibuchi, Andrew T. Kaczynski, Jenny Veitch, Koichiro Oka Urban Forestry and Urban Greening, 95, 2024. doi: 10.1016/j.ufug.2024.128275

- Regional disparities in measles vaccination coverage and their associated factors: an ecological study in Japan Masaki Machida, Shinji Fukushima, Takahiro Tabuchi, Tomoki Nakaya, Wakaba Fukushima, Shigeru Inoue Journal of Epidemiology, JE20240129, 2024. doi: 10.2188/jea.JE20240129

- Relative age effect on the physical activity and sedentary behavior in children and adolescents aged 10 to 18 years old: a cross-sectional study in Japan Takaaki Mori, Takumi Aoki, Kan Oishi, Tetsuo Harada, Chiaki Tanaka, Shigeho Tanaka, Hideki Tanaka, Kazuhiko Fukuda, Yasuko Kamikawa, Nobuhiro Tsuji, Keisuke Komura, Shohei Kokudo, Noriteru Morita, Kazuhiro Suzuki, Masashi Watanabe, Ryoji Kasanami, Taketaka Hara, Ryo Miyazaki, Takafumi Abe, Koji Yamatsu, Daisuke Kume, Hedenori Asai, Naofumi Yamamoto, Taishi Tsuji, Tomoki Nakaya, Kojiro Ishii BMC Public Health, 24(1), 3273, 2024. doi: 10.1186/s12889-024-20659-7

- Settlement Intentions among Migrants in Japan and Changes Due to the COVID-19 Pandemic TENG Yuanyuan, HANIBUCHI Tomoya, NAKAYA Tomoki E-journal GEO, 19(1), 208-225, 2024. doi: 10.4157/ejgeo.19.208

- Spatial analysis of outdoor indecent assault risk: A study using ambient population data Hiroki M Adachi and Tomoki Nakaya Crime Science, 13, 7, 2024. doi: 10.1186/s40163-024-00205-x

- The effects of neighbourhood green spaces on mental health of disadvantaged groups: a systematic review Zheng Xian, Tomoki Nakaya, Kun Liu, Bing Zhao, Junhua Zhang, Jiao Zhang, Yuxuan Lin, Jinguang Zhang Humanities and Social Sciences Communications, 11, 488, 2024. doi: 10.1057/s41599-024-02970-1

- Urban exodus or suburbanisation? Medium-term COVID-19 pandemic impacts on internal migration in Japan Masaki Kotsubo, Tomoki Nakaya GeoJournal, 89, 149, 2024. doi: 10.1007/s10708-024-11162-y

- Urban Streetscape Changes in Portland, Oregon: A Longitudinal Virtual Audit Tomoya Hanibuchi, Shohei Nagata, David Banis, Hunter Shobe, Tomoki Nakaya The Professional Geographer, 76(2), 180-193, 2024. doi: 10.1080/00330124.2023.2287166

- 日本における SARS-CoV-2 オミクロン株流行波の空間的拡散過程：人流を用いた拡散非負値行列因子分解の適用 高橋侑太, 中谷友樹 GIS 理論と応用 , 32(2), 37-45, 2024.

- Enhancing Disaster Resilience for Sustainable Urban Development: Public–Private Partnerships in Japan Mikio Ishiwatari, Haruki Kawakami, Daisuke Sasaki, Akiko Sakamoto, Mikiyasu Nakayama Sustainability, 16(9), 3586, 2024. doi: 10.3390/su16093586
- Facilitating the Smooth Migration of Inhabitants of Atoll Countries to Artificial Islands: Case of the Maldives Daisuke Sasaki, Akiko Sakamoto, Aishath Laila, Ahmed Aslam, Shuxian Feng, Takuto Kaku, Takumi Sasaki, Natsuya Shinomura, Mikiyasu Nakayama Sustainability, 16(11), 4582, 2024. doi: 10.3390/su16114582
- Inclusive disaster risk reduction toward a society wherein all people can choose how they live HARA Yuta, IZUTSU Takashi, NARITA Eiko, TANAKA Koichi, SODA Natsuki, SUGATA Rika, SASAKI Daisuke, ONO Yuichi Journal of Disaster Research, 19(3), 539-549, 2024. doi: 10.20965/jdr.2024.p0539
- Special Issue on World BOSAI Forum 2023 / IDRC 2023 in SENDAI Fumihiko Imamura, Yuichi Ono, Daisuke Sasaki, Yuta Hara Journal of Disaster Research, 19(3), 487-488, 2024. doi: 10.20965/jdr.2024.p0487
- Transition of the World BOSAI Forum: Looking Back at the Past Three Forums Soraya Ono, Daisuke Sasaki, Yuta Hara, Yuichi Ono Journal of Disaster Research, 19(3), 512-522, 2024. doi: 10.20965/jdr.2024.p0512
- プラスチック製容器包装の分別収集と生活系ごみ総排出量との関係に関する研究 庄子真憲 , 佐々木大輔 , 藤倉良 環境科学会誌 , 37(4), 121-130, 2024. doi: 10.11353/sesj.37.121

【MISC】

- 古写真にみる民国期内陸中国の雑穀景観—米国人林学者 W.C. ローダミルクの記録より 原裕太 雑穀研究 , 39, 17-18, 2024

太陽地球システム・エネルギー学講座

資源利用プロセス学分野

【論文】

- Evaluation for Carbonization Rate of Porous Iron Whisker with CO Ryota Higashi, Daisuke Maruoka, Yuji Iwami, Taichi Murakami ISIJ INTERNATIONAL, 64(12), 1768-1774, 2024. doi: 10.2355/isijinternational.ISIJINT-2024-238
- Influence of Crystal Structure and Chemical Composition on the Reducibility of Silico-Ferrite of Calcium and Aluminum in CO-CO₂-H₂-H₂O atmosphere Daisuke Maruoka, Shojiro Mataoka, Eiki Kasai, Taichi Murakami ISIJ INTERNATIONAL, 64(5), 795-802, 2024. doi: 10.2355/isijinternational.isijint-2023-357
- Recycling Process for Net-Zero CO₂ Emissions in Steel Production Ryota Higashi, Daisuke Maruoka, Yuji Iwami, Taichi Murakami ISIJ INTERNATIONAL, 64(9), 1486-1492, 2024. doi: 10.2355/isijinternational.ISIJINT-2024-073
- Reduction and Melting Behaviors of Iron Oxide Composite with Carbon Deposited Using CO-CO₂-H₂ Mixed Gas Ryota Higashi, Daisuke Maruoka, Yuji Iwami, Taichi Murakami ISIJ INTERNATIONAL, 64(15), 2115-2122, 2024. doi: 10.2355/isijinternational.isijint-2024-272

地球システム計測学分野

【論文】

- Bias correction of OMI HCHO columns based on FTIR and aircraft measurements and impact on top-down emission estimates Jean-François Müller, Trissevgeni Stavrakou, Glenn-Michael Oomen, Beata Opacka, Isabelle De Smedt, Alex Guenther, Corinne Vigouroux, Bavo Langerock, Carlos Augusto Bauer Aquino, Michel Grutter, James Hannigan, Frank Hase, Rigel Kivi, Erik Lutsch, Emmanuel Mahieu, Maria Makarova, Jean-Marc Metzger, Isamu Morino, Isao Murata, Tomoo Nagahama, Justus Notholt, Ivan Ortega, Mathias Palm, Amelie Röhling, Wolfgang Stremme, Kimberly Strong, Ralf Sussmann, Yao Té, Alan Fried ATMOSPHERIC CHEMISTRY AND PHYSICS, 24(4), 2207-2237, 2024. doi: 10.5194/acp-24-2207-2024
- Flight Performance of Super-Pressure Balloon for LODEWAVE Yoshitaka Saito, Yoshihiro Tomikawa, Isao Murata, Daisuke Akita, Kyoichi Nakashino, Takuma Matsuo, Takuji Sugidachi Journal of Evolving Space Activities, Vol. 2, Article No. 217, 2024. doi: 10.57350/jesa.217
- Recent Decreases in the Growth Rate of Atmospheric HCFC-22 Column Derived From the Ground-Based FTIR Harmonized Retrievals at 16 NDACC Sites Minqiang Zhou, Bavo Langerock, Corinne Vigouroux, Dan Smale, Geoff Toon, Alexander Polyakov, James W. Hannigan, Johan Mellqvist, John Robinson, Justus Notholt, Kimberly Strong, Emmanuel Mahieu, Mathias Palm, Maxime Prignon, Nicolas Jones, Omaira García, Isamu Morino, Isao Murata, Ivan Ortega, Tomoo Nagahama, Tyler Wizenberg, Victoria Flood, Kaley Walker, Martine De Mazière Geophysical Research Letters, 51(22), 2024. doi: 10.1029/2024gl112470
- Simultaneous Observation of Near-Inertial Frequency Gravity Waves by a Long-Duration Balloon and the PANSY Radar in the Antarctic Yoshihiro TOMIKAWA, Isao MURATA, Masashi KOHMA, Kaoru SATO Journal of the Meteorological Society of Japan. Ser. II, 102(6), 655-664, 2024. doi: 10.2151/jmsj.2024-034
- 南極域における大気重力波のスーパーレッシュャー気球観測 (LODEWAVE：LOng-Duration balloon Experiment of gravity WAVE over Antarctica)：第1回キャンペーン観測の報告 富川喜弘 , 齋藤芳隆 , 村田功 , 佐藤薫 , 平沢尚彦 , 高麗正史 , 中篠恭一 , 秋田大輔 , 松尾卓摩 , 藤原正智 , 加保貴奈 , 吉田理人 宇宙航空研究開発機構研究開発報告：大気球研究報告 (JAXA-RR-23-003) , 23-36, 2024.

水資源システム学分野

【論文】

- Beyond Fixed Dates and Coarse Resolution: Developing a Dynamic Dry Season Crop Calendar for Paddy in Indonesia from 2001 to 2021 ANR Irawan, D Komori Agronomy. 14(3), 564, 2024. doi: 10.3390/agronomy14030564
- Biochar-mediated synergistic promotion of DIET and IHT: Kinetic and thermodynamic insights into propionate two-step syntrophic methanogenesis Danyang Zhao, Peiyun Zhang, Yaqian Liu, Qian Li, Gaojun Wang, Rong Chen, Yu-You Li Chemical Engineering Journal, 486, 150310, 2024. doi: 10.1016/j.cej.2024.150310
- Biokinetic and microbial insights into regulatory mechanisms of long-chain fatty acid degradation during food waste-lipid co-digestion within anaerobic membrane bioreactor Yaqian Liu, Yu Xi, Qian Li, Mawuli Dzakpasu, Rong Chen, Yu-You Li Bioresource Technology, 408, 131223, 2024. doi: 10.1016/j.biortech.2024.131223

- Biomethane recovery and prokaryotic shifts in anaerobic co-digestion of food waste and paper waste in organic fraction of municipal solid waste: Effect of paper content Lu Li, Yi Bu, Wen Feng, Kengo Kubota, Yang Pan, Yong Huang, Yu-You Li, Yu Qin Bioresource Technology, 406130964, 2024. doi: 10.1016/j.biortech.2024.130964
- Comparative study of high-performance mesophilic and thermophilic anaerobic membrane bioreactors in the co-digestion of sewage sludge and food waste: Methanogenic performance and energy recovery potential Hui Cheng, Haojie Qin, Yemei Li, Guangze Guo, Jianyong Liu, & Yu-You Li Science of the Total Environment, 912, 169518, 2024. doi: 10.1016/j.scitotenv.2023.169518
- Comparison of bipolar membrane electrodialysis, electrodialysis metathesis, and bipolar membrane electrodialysis multifunction for the conversion of waste Na₂SO₄: Process performance and economic analysis Ming Zhu, Feiyu He , Ling Feng, Yongzhi Chi, Yu-You Li, Binghui Tian Journal of Environmental Management, 370, 122513, 2024. doi: 10.1016/j.jenvman.2024.122513
- Effect of environmental factors on conjugative transfer of antibiotic resistance genes in aquatic settings Katayoun Dadeh Amirfard, Momoko Moriyama, Satoru Suzuki, Daisuke Sano Journal of Applied Microbiology, 135(6), Ixae129, 2024. doi: 10.1093/jambio/ixae129
- Enhanced methanogenic degradation and membrane fouling associated with protein-EPS by extending sludge retention time in a high-solid anaerobic membrane bioreactor treating concentrated organic sludge Guangze Guo, Shitong Zhou, Yujie Chen, Yu Qin, Xia Huang, Yu-You Li Water Research, 248, 120879, 2024. doi: 10.1016/j.watres.2023.120879
- Effective partial nitritation of dewatered liquor from dry methane fermentation using the submerged aerobic fixed film reactor (SAFFR). Ying Song, Yue Huang, Zhen Ma, Jialing Ni, Tong Zhang, Yu-You Li Chemical Engineering Journal, 502, 157765, 2024. doi: 10.1016/j.cej.2024.157765
- Evaluation of sewage treatment performance and duckweed biomass production efficiency in a primary sedimentation basin + duckweed pond + downflow hanging sponge (PSB + DWP + DHS) system Kengo Kubota, Takashi Otani, Teruki Hariu, Takumi Jin, Tadashi Tagawa, Masaaki Morikawa, Yu-You Li Journal of Water Process Engineering, 65, 105818, 2024. doi: 10.1016/j.jwpe.2024.105818
- Genetic diversity of murine norovirus populations less susceptible to chlorine Aken Puti Wanguyun, Wakana Oishi, Andri Rachmadi, Kazuhiko Katayama, Daisuke Sano Frontiers in Microbiology, section Virology, 15, 1372641, 2024. doi: 10.3389/fmicb.2024.1372641
- Identification of environmental, socioeconomic, Water, Sanitation, and Hygiene (WaSH) factors associated with COVID-19 incidence in the Philippines: A nationwide modelling study Sewwandi Bandara, Clyde Dapat, Wakana Oishi, Emmanuel Kagning Tsinda, Lea Necitas G. Apostol, Naoko Hirayama, Mayuko Saito, Daisuke Sano Science of the Total Environment, 946, 174214, 2024. doi: 10.1016/j.scitotenv.2024.174214
- Identification of protein biomarkers in wastewater linked to the incidence of COVID-19 Luhur Akbar Devianto, Mohan Amarasiri, Luyao Wang, Takehito Iizuka, Daisuke Sano Science of the Total Environment, 951, 175649, 2024. doi: 10.1016/j.scitotenv.2024.175649

- Inorganic carbon as a key factor governing competition between methanogens and acetogens in high-rate anaerobic treatment of methanol wastewater. Liuying Song, Juntong Ha, Min Ye, Yu Qin, Qian Li, Qigui Niu, & Yu-You Li Chemical Engineering Journal, 481, 148368, 2024. doi: 10.1016/j.cej.2023.148368
- Impact of Varying Temperatures on Performance and Stability of Hydroxyapatite (HAP)-Enhanced Granule-Type One-Stage Partial Nitritation/Anammox System Gaoxuefeng FENG, Yujie CHEN, Kengo KUBOTA, Yu-You LI Journal of JSCE, 12(2), 24-25027, 2024
- Improved performance of single-stage partial nitritation-anammox membrane bioreactor (PN/A MBR) by adding biofilm carriers: start-up, membrane operation and microbial structure Fuqiang Chen, Hui Cheng, Yunzhi Qian, Junhao Shen, Wenzhao Zhao, Yu Qin, Yu-You Li Chemical Engineering Journal, 480, 148112, 2024. doi: 10.1016/j.cej.2023.148112
- Kinetic and elemental characterization of HAP-based high-rate partial nitritation/anammox system orienting stability and inorganic elemental requirements Yujie Chen, Guangze Guo, & Yu-You Li Water Research, 251, 121169, 2024. doi: 10.1016/j.watres.2024.121169
- Mass flow and microbial shifts in recirculated two-phase anaerobic digestion for biohythane production: Effect of hydraulic retention time Yu Qin, Aijun Zhu, Jing Wu, Lu Li, Toshimasa Hojo, Kengo Kubota, Yu-You Li Journal of Cleaner Production, 468, 143092, 2024. doi: 10.1016/j.jclepro.2024.143092
- Methanogenic degradation of long-chain fatty acids associated with syntrophic microbial dynamics during thermophilic AnMBR treatment of lipid-rich dairy wastes Liuying Song, Min Ye, Chunxiao Wang, Yuanyuan Ren, Dunjie Li, Juntong Ha, Yu Qin, Qian Li, Qigui Niu, Yu-You Li Chemical Engineering Journal, 498, 155702, 2024. doi: 10.1016/j.cej.2024.155702
- Microbiological insights into anaerobic phenol degradation mechanisms and bulking phenomenon in a mesophilic upflow anaerobic sludge blanket reactor in long-term operation Kyohei Kuroda, Ryota Maeda, Futaba Shinshima, Kampachiro Urasaki, Kengo Kubota, Masaru K. Nobu, Taro Q.P. Noguchi, Hisashi Satoh, Masahito Yamauchi, Takashi Narihiro, Masayoshi Yamada Water Research, 253, 121271, 2024. doi: 10.1016/j.watres.2024.121271
- Microscopic and metatranscriptomic analyses revealed unique cross-domain parasitism between phylum *Candidatus* Patescibacteria/candidate phyla radiation and methanogenic archaea in anaerobic ecosystems Kyohei Kuroda, Meri Nakajima, Ryosuke Nakai, Yuga Hirakata, Shuka Kagemasa, Kengo Kubota, Taro Q. P. Noguchi, Kyosuke Yamamoto, Hisashi Satoh, Masaru K. Nobu, Takashi Narihiro mBio, 15(3), e03102-23, 2024. doi: 10.1128/mbio.03102-23
- Nondestructive and three-dimensional visualization by identifying elements using synchrotron radiation microscale X-ray CT reveals microbial and cavity distributions in anaerobic granular sludge Kampachiro Urasaki, Yuki Morono, Go-Ichiro Uramoto, Kentaro Uesugi, Masahiro Yasutake, Manato Akishiba, Guangze Guo, Yu-You Li, Kengo Kubota APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 90(8), e00563-24, 2024. doi: 10.1128/aem.00563-24
- Optimizing hydraulic retention time of high-rate activated sludge designed for potential integration with partial nitritation/anammox in municipal wastewater treatment Yanxiao Wei, Weizhe Xia, Min Ye, Fuqiang Chen, Yunzhi Qian, & Yu-You Li Bioresource Technology, 401, 130710, 2024. doi: 10.1016/j.biortech.2024.130710

- Phosphorus recovery coupling with one-stage partial nitrification/anammox process for the treatment of high-nutrient permeate from anaerobic membrane bioreactor treating concentrated organic sludge Guangze Guo, Shitong Zhou, Yujie Chen, Yu-You Li Chemical Engineering Journal, 484, 149474, 2024. doi: 10.1016/j.ccej.2024.149474
- Quantitative evaluation of water, sanitation, and hygiene measures on COVID-19 pandemic peak reduction in the Philippines Sewwandi Bandara, Clyde Dapat, Wakana Oishi, Emmanuel Kagning Tsinda, Mayuko Saito, Daisuke Sano Science of the Total Environment, 949, 175055, 2024. doi: 10.1016/j.scitotenv.2024.175055
- Recovery of ammonia nitrogen from simulated reject water by bipolar membrane electrodialysis Ming Zhu, Yongzhi, Weifeng Zhou, Fuqiang Chen, Hanwen Huang, Feiyu He, Sufeng Tian, Xueke Wang, Yu-You Li & Cuilian Fu Environmental Technology, 1-13, 2024. doi: 10.1080/09593330.2024.2377795
- Re-evaluating the impact of feeding shock on anaerobic co-digestion of food waste and waste activated sludge: Trade-off between efficiency and stability Yaqian Liu, Qian Li, Mawuli Dzakpasu, Rong Chen, Yu-You Li Chemical Engineering Journal, 484, 149476, 2024. doi: 10.1016/j.ccej.2024.149476
- Rising water temperature in rivers: Ecological impacts and future resilience Matthew F. Johnson, Lindsey K. Albertson, Adam C. Algar, Stephen J. Dugdale, Patrick Edwards, Judy England, Christopher Gibbins, So Kazama, Daisuke Komori, Andrew D. C. MacColl, Eric A. Scholl, Robert L. Wilby, Fabio de Oliveira Roque, Paul J. Wood WIREs Water, 11(4), e1724, 2024. doi: 10.1002/wat2.1724
- Sensitivity evaluation of enveloped and non-enveloped viruses to ethanol using machine learning: a systematic review Aken Puti Wanguyun, Wakana Oishi, Daisuke Sano Food and Environmental Virology, 16(1), 1-13, 2024. doi: 10.1007/s12560-023-09571-2
- System stability associated with different lipid contents during mesophilic anaerobic digestion of lipid-rich food waste Yuanyuan Ren, Yemei Li, Ziang He, Yu Qin, Takashi Sakamaki, Yu-You Li Journal of Cleaner Production, 443, 141171, 2024. doi: 10.1016/j.jclepro.2024.141171
- The Relationship between Large Wood Export and the Long-Term Large Wood Budget on an Annual Scale in Japan, Using Storage Function with the Lumped Hydrological Method Yuta Abe, Sartsin Phakdimek, Daisuke Komori Water, 16(7), 920, 2024. doi: 10.3390/w16070920
- AnMBRを用いたバイオメタネーションにおける脱炭素効率及び微生物群集構造 哈俊彤, 宋柳莹, 曾慶康, 覃宇, 李玉友 土木学会論文集, 80(25), 24-25014, 2024.
- 嫌気性膜分離法と一槽式 HAP-PNA 法の融合による濃縮浄化槽汚泥のリサイクル処理 郭広澤, 陳玉潔, 久保田健吾, 李玉友 土木学会論文集, 80(25), 24-25013, 2024.
- 社会水文学の進展と日本における学際研究の可能性：価値システム, ガバナンス, 文化, 歴史からのアプローチ 中村晋一郎, 坂本麻衣子, 高橋そよ, 千葉知世, 飯泉佳子, 小森大輔, 橋本禪, 檜山哲哉, 森田敦郎, 吉田丈人, 沖大幹 水文・水資源学会誌, 38.1829, 2024. doi: 10.3178/jjshwr.38.1829

【MISC】

- Mitigating nitrous oxide emission by an ultra-fast bioprocess enabling the removal of high concentration N₂O Ryota Maeda, Mikiko Sato, Kiwamu Minamisawa, Kengo Kubota bioRxiv, 2024. doi: 10.1101/2024.10.08.615939

自然共生システム学講座

資源再生プロセス学分野

【論文】

- Characteristics of the steam degradation of poly(lactic acid) and poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) Zhuze Shao, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Polymer Journal, 56, 455-462, 2024. doi: 10.1038/s41428-024-00883-z
- Combining hierarchical clustering analysis with a simplex lattice mixture design in rapidly identifying the pyrolytic interactions and predicting the product yields during the co-pyrolysis of cellulose, xylan, and milled wood lignin Shengyu Xie, Shogo Kumagai, Young-Min Kim, Yuko Saito, Toshiaki Yoshioka Chemical Engineering Journal, 493, 152434, 2024. doi: 10.1016/j.ccej.2024.152434
- Effective conversion of CO₂ to ethylene urea using zirconium-containing Mg-Al layered double hydroxide Farzana Rahman, Yota Kunii, Tomohito Kameda, Mir Tamzid Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Inorganic Chemistry Communications, 163, 112391, 2024. doi: 10.1016/j.inoche.2024.112391
- Enhancement of liquid/gas production during co-pyrolysis of vacuum residue and plastics due to synergistic interactions Ryo Kusumi, Miranti Budi Kusumawati, Siqingaowa Borjigin, Shogo Kumagai, Akihiro Yoshida, Yasuo Nakatsuka, Ryuichi Takasawa, Yoshiyuki Toyooka, Toshiaki Yoshioka SCIENTIFIC REPORTS, 14(1), 2024. doi: 10.1038/s41598-024-74053-9
- Extraction and enrichment of lead from contaminated soil using chelation reactions Tomohito Kameda, Rena Suto, Mir Tamzid Rahman, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka Results in Chemistry, 7, 101473, 2024. doi: 10.1016/j.rechem.2024.101473
- Feedstock recycling of waste plastics in an oil refinery: Scenario development based on sorting and pyrolysis experiments Hajime Ohno, Shogo Kumagai, Jun Nakatani, Yasuhiro Fukushima, Toshiaki Yoshioka Resources, Conservation and Recycling, 208, 107714, 2024. doi: 10.1016/j.resconrec.2024.107714
- Hydrogel synthesis: Incorporating hydrophobically modified graphite oxide with Mg₂Al LDH and alginate coating for evaluating multifarious adsorption utility Mir Tamzid Rahman, Tomohito Kameda, Farzana Rahman, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka Journal of Water Process Engineering, 63, 105452, 2024. doi: 10.1016/j.jwpe.2024.105452
- Into the Nanograms — Sensitive Detection of Microplastics in Passively Sampled Indoor Air Using F-Splitless Pyrolysis Gas Chromatography Mass Spectrometry William Pipkin, Masumi Sato, Shogo Kumagai, Chuichi Watanabe, Atsushi Watanabe, Norio Teramae, Toshiaki Yoshioka ACS ES&T Air, 1(4), 234-246, 2024. doi: 10.1021/acsestair.3c00035
- Investigating the degradation and products of thermo-oxidation of polyimide-based engineering plastics Chuan Ma, Shogo Kumagai, Masumi Sato, Yumi Nakai, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka Journal of Analytical and Applied Pyrolysis, 181, 106575, 2024. doi: 10.1016/j.jaap.2024.106575
- Latest trends and challenges in PVC and copper recovery technologies for End-of-Life thin cables Harendra Kumar, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Waste Management, 174, 400-410, 2024. doi: 10.1016/j.wasman.2023.12.012
- Recent Advancements in Pyrolysis of Halogen-Containing Plastics for Resource Recovery and Halogen Upcycling: A State-of-the-Art Review

- Chuan Ma, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka, Xin Huang, Yunlin Shao, Jingyu Ran, Lushi Sun Environmental Science & Technology, 58(3), 1423-1440, 2024. doi: 10.1021/acs.est.3c09451
- Synthesis of an Mg-Fe-Al layered double oxide with a high arsenic anion adsorption capacity and the establishment of an arsenic anion desorption process Itsuki Takanashi, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Yasuyuki Nomura, Daiki Kawamura, Toshiaki Yoshioka JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, 190, 112017, 2024. doi: 10.1016/j.jpjcs.2024.112017
- Synthesis of ethylene urea using carbon-dioxide-adsorbed titanium–zirconium mixed oxides Fiona Motswaiso, Ukyo Suzuki, Kyosuke Sawaguchi, Farzana Rahman, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka Environmental Challenges, 16, 100970, 2024. doi: 10.1016/j.envc.2024.100970
- Thermal and catalytic fast hydrolysis of lignin: Optimization for selective production of aromatics using high-pressure tandem μ -reactor – gas chromatography/mass spectrometry Chuan Ma, Shogo Kumagai, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka, Young-Min Kim Chemical Engineering Journal, 479, 147524, 2024. doi: 10.1016/j.ccej.2023.147524

環境分析化学分野

【論文】

- Albumin nanoparticle electrostatically loaded with highly anionic Gd-thiacalixarene complex for MRI-guided neutron capture therapy Kohei Ohama, Miku Komiya, Takumi Yamatoya, Ryota Sawamura, Ryunosuke Karashimada, Shan Gao, Yoshikazu Ozawa, Kensuke Osada, Ichio Aoki, Takeshi Nagasaki, Minoru Suzuki, Nobuhiko Iki Colloids and Surfaces A: Physicochemical and Engineering Aspects, 699, 134579, 2024. doi: 10.1016/j.colsurfa.2024.134579
- Alcohol adsorption behavior of flexible porous coordination polymer in the liquid phase Atsuko Masuya-Suzuki, Taro Kitagawa, Koji Hosobori, Ryota Sawamura, Ryo Tunashima, Nobuhiko Iki BUNSEKI KAGAKU, 73(10. 11), 627-632, 2024. doi: 10.2116/bunsekikagaku.73.627
- Doping a highly charged, water-soluble lanthanide complex into a hydrophobic polymer for the preparation of luminescent films Narumi Shiraishi, Daisuke Iikura, Ryunosuke Karashimada, Nobuhiko Iki JOURNAL OF LUMINESCENCE, 269, 120521, 2024. doi: 10.1016/j.jlumin.2024.120521
- Multifunctional Metal Complexes for Cancer Theranostics Nobuhiko Iki Nanomedicine and Nanotoxicology, 89105, 2024. doi: 10.1007/978-981-97-5288-1_6
- Study on cellular uptake of a hydrophobic near-infrared-absorbing diradical-platinum(II) complex solubilized by albumin using hyperspectral imaging, spectrophotometry, and spectrofluorimetry Ryota Sawamura, Atsuko Masuya-Suzuki, Nobuhiko Iki Analytical Sciences, 40(10), 1857-1865, 2024. doi: 10.1007/s44211-024-00621-8

【MISC】

- MRI 誘導中性子捕捉療法を志向した Gd- チアカリックスアレーン錯体搭載アルブミンナノ粒子の創製 大濱康平, 小宮未来, 澤村瞭太, 唐島田龍之介, 高山, 尾澤芳和, 長田健介, 青木伊知男, 長崎健, 鈴木実, 壺岐伸彦 電子情報通信学会技術研究報告, 124(172),1-2, 2024.

環境生命機能学分野

【論文】

- Comprehensive cell adhesion analysis using electrochemiluminescence imaging and electrochemical impedance spectroscopy Kimiharu Oba, Kosuke Ino, Yoshinobu Utagawa, Hiroya Abe, Hitoshi Shiku Electrochemistry, 92(2), 022009, 2024. doi: 10.5796/electrochemistry.23-68109
- Comprehensive electrochemical imaging analyses of redox activities correlated to multilayer graphene and graphite structures Akichika Kumatani, Chiho Miura, Hiroki Ida, Yasufumi Takahashi, Yuichi Ikuhara, Hitoshi Shiku, Tomokazu Matsue, Takeru Okada Electrochimica Acta, 144688-144688, 2024. doi: 10.1016/j.electacta.2024.144688
- Crystalline Formation Enhances Hydrogen Evolution Reaction Property of Copper Azaphthalocyanine on Carbon Electrodes Kosuke Ishibashi, Tengyi Liu, Yuya Ishizaki, Shusaku Nagano, Junya Yoshida, Shimpei Ono, Yasufumi Takahashi, Akichika Kumatani, Hiroshi Yabu ACS Applied Energy Materials, 7(22), 10466-10473, 2024. doi: 10.1021/acsaem.4c02102
- Electrochemical catalysis of aluminum diboride thin film fabricated by radio-frequency magnetron sputtering Kazuki Nashimoto, Yoshiko Horiguchi, Akichika Kumatani, Takeru Okada Japanese Journal of Applied Physics, 63, 04SP24, 2024. doi: 10.35848/1347-4065/ad2fde
- Electrochemiluminescence microscopy for the investigation of peptides interactions within planar lipid membranes Kaoru Hiramoto, Kosuke Ino, Ibuki Takahashi, Ayumi Hirano-Iwata, Hitoshi Shiku Faraday Discussions, 2024. doi: 10.1039/D4FD00137K
- Emergence of electrochemical catalytic activity via an electrochemical-probe on defective transition metal dichalcogenide nanosheets A. Kumatani, H. Ogawa, T. Endo, J. Lustikova, H. Ida, Y. Takahashi, Y. Miyata, Y. Ikuhara, H. Shiku, Y. Wakayama APL Energy 2, 016107, 2024. doi: 10.1063/5.0175653
- Enzyme-free in-situ electrochemical measurement using a porous membrane electrode for glucose transport into cell spheroids Yoshinobu Utagawa, Kosuke Ino, Yasuhiko Shinoda, Masateru Yamazaki, Hiroya Abe, Hitoshi Shiku ACS Sensors, 9(8), 4248-4255, 2024. doi: 10.1021/acssensors.4c01230
- Extended spherical diffusion theory: Electrochemiluminescence imaging analysis of diffusive molecules from spherical biosamples Kosuke Ino, Miyu Mashiko, Yusuke Kanno, Yeyi Tang, Shuzo Masui, Takasi Nisisako, Kaoru Hiramoto, Hiroya Abe, Hitoshi Shiku Analytical Chemistry, 96(48), 18967-18976, 2024. doi: 10.1021/acs.analchem.4c03167
- Fabrication of two-layer microfluidic devices with porous electrodes using printed sacrificial layers Kosuke Ino, An Konno, Yoshinobu Utagawa, Taiyo Kanno, Kazuyuki Iwase, Hiroya Abe, Hitoshi Shiku Micromachines, 15(8), 1054, 2024. doi: 10.3390/mi15081054
- In-situ Observation of Hydrogen Nanobubbles Formation on Graphene Surface by AFM-SECM Septia Kholimatussadiyah, Chia-Ling Hsu, Shang-Wei Ke, Tsu-Chin Chou, Yung-Fu Wu, Rositsa Yakimova, Akichika Kumatani, Kuei-Hsien Chen, Li-Chyong Chen, He-Yun Du Electrochimica Acta, 493, 144425-144425, 2024. doi: 10.1016/j.electacta.2024.144425
- Microarray-based electrochemical biosensing Kosuke Ino, Yoshinobu Utagawa, Hitoshi Shiku Advances in Biochemical Engineering/Biotechnology, 187, 317-338, 2024. doi: 10.1007/10_2023_229

● Microfluidic vascular formation model for assessing angiogenic capacities of single islets

Yuji Nashimoto, An Konno, Takuto Imaizumi, Kaori Nishikawa, Kosuke Ino, Takeshi Hori, Hirokazu Kaji, Hirofumi Shintaku, Masafumi Goto, Hitoshi Shiku
Biotechnology and Bioengineering, 121(3), 1050-1059, 2024. doi: 10.1002/bit.28631

● Origin of electrocatalytic nitrogen reduction activity over transition metal disulfides: critical role of in situ generation of S vacancy
Tianyi Wang, Zhongyuan Guo, Hirofumi Oka, Akichika Kumatani, Chuangwei Liu, Hao Li
Journal of Materials Chemistry A, 12, 8438-8446, 2024. doi: 10.1039/D4TA00307A

● Osteogenic differentiation of mesenchymal stem cell spheroids: A microfluidic device and electrochemiluminescence imaging study
Kaoru Hiramotoa, An Konno, Yuji Nashimoto, Ayumi Hirano-Iwatad, Kosuke Ino, Hitoshi Shiku
Electrochimica Acta, 491, 144291, 2024. doi: 10.1016/j.electacta.2024.144291

● Polarization-Switchable Electrochemistry of 2D Layered Bi₂O₂Se Bifunctional Microreactors by Ferroelectric Modulation
Chun-Hao Chiang, Chun-Hung Yu, Yang-Sheng Lu, Yueh-Chiang Yang, Yin-Cheng Lin, Hsin-An Chen, Sheng-Zhu Ho, Yi-Chun Chen, Akichika Kumatani, Chen Chang, Pai-Chia Kuo, Jessie Shiue, Shao-Sian Li, Po-Wen Chiu, Chun-Wei Chen
Nano Letters, 24(35), 11012-11019, 2024. doi: 10.1021/acs.nanolett.4c03128

● Porous membranes integrated into electrochemical systems for bioanalysis
Kosuke Ino, Yoshinobu Utagawa, Kaoru Hiramoto, Hiroya Abe, Hitoshi Shiku

Electrochemical Science Advances, 4, e2300026, 2024. doi: 10.1002/elsa.202300026

● Probing Non-Faradaic Process during Elastic Deformation in a Single Sphere of Extremely Soft Mesoporous Carbon
Kritin Pirabul, Zheng-Ze Pan, Kazuya Kanamaru, Yoshiko Horiguchi, Yasufumi Takahashi, Akichika Kumatani, Hirotomo Nishihara
Carbon, 228, 119376, 2024. doi: 10.1016/j.carbon.2024.119376

● Scanning electrochemical microscopy for determining oxygen consumption rates of cells in hydrogel fibers fabricated using an extrusion 3D bioprinter

Kosuke Ino, Mana Wachi, Yoshinobu Utagawa, An Konno, Masahiro Takinoue, Hiroya Abe, Hitoshi Shiku
Analytica Chimica Acta, 1304, 342539, 2024. doi: 10.1016/j.aca.2024.342539

資源循環プロセス学講座

環境グリーンプロセス学分野

【論文】

● An automatic distillation sequence synthesis framework based on a preorder traversal algorithm
Anqing Wang, Alexander Guzman-Urbina, Hajime Ohno, Yasuhiro Fukushima
Computers & Chemical Engineering, 181, 108549, 2024. doi: 10.1016/j.compchemeng.2023.108549

● Assessing economic trade-off for advances in amine-based post-combustion capture technology
Koki Yagihara, Kazuki Fukushima, Hajime Ohno, Alexander Guzman-Urbina, Jialing Ni, Yasuhiro Fukushima
International Journal of Greenhouse Gas Control, 132, 104068, 2024. doi: 10.1016/j.ijggc.2024.104068

● Automated hybrid distillation sequence synthesis framework of mixed azeotropes and nonazeotropes

Anqing Wang, Alexander Guzman-Urbina, Tsai-Wei Wu, Hajime Ohno, Yasuhiro Fukushima

Chemical Engineering Research and Design, 209, 26-36, 2024. doi: 10.1016/j.cherd.2024.07.045

● EcoBalance 2022: Shifting Paradigms with Life Cycle Thinking (30 October–2 November 2022, Fukuoka, Japan) -English version-
Masaharu MOTOSHITA, Yusuke KISHITA, Hajime OHNO, Hiroki HATAYAMA, Kenichi NAKAJIMA, Jun NAKATANI, Eri AMASAWA, Ryota II, Mayumi ISOBE, Tomohiko IHARA, Shogo EGUCHI, Keiichiro KANEMOTO, Yoshinori KOBAYASHI, Yosuke SHIGETOMI, Koichi SHOBATAKE, Mélanie DESPEISSE, Nariaki NISHINO, Seiji HASHIMOTO, Kiyotada HAYASHI, Minako HARA, Mayumi HAYASHI, Yasuhiro FUKUSHIMA, Hidemichi FUJII, Yasushi FURUSHIMA, Keitaro MAENO, Tomoko MORI, Eiji YAMASUE, Ryosuke YOKOI, Naoki YOSHIKAWA, Akihiro YOSHIMURA

Journal of Life Cycle Assessment, Japan, 20(2), 104-114, 2024. doi: 10.3370/lca.20.104

● Feedstock recycling of waste plastics in an oil refinery: Scenario development based on sorting and pyrolysis experiments

Hajime Ohno, Shogo Kumagai, Jun Nakatani, Yasuhiro Fukushima, Toshiaki Yoshioka
Resources, Conservation and Recycling, 208, 107714, 2024. doi: 10.1016/j.resconrec.2024.107714

● 第15回 エコバランス国際会議 (EcoBalance 2022) : ライフサイクル思考によるパラダイム転換 (2022年10月30日～11月2日、福岡) -日本語版 -

Masaharu MOTOSHITA, Yusuke KISHITA, Hajime OHNO, Hiroki HATAYAMA, Kenichi NAKAJIMA, Jun NAKATANI, Eri AMASAWA, Ryota II, Mayumi ISOBE, Tomohiko IHARA, Shogo EGUCHI, Keiichiro KANEMOTO, Yoshinori KOBAYASHI, Yosuke SHIGETOMI, Koichi SHOBATAKE, Mélanie DESPEISSE, Nariaki NISHINO, Seiji HASHIMOTO, Kiyotada HAYASHI, Minako HARA, Mayumi HAYASHI, Yasuhiro FUKUSHIMA, Hidemichi FUJII, Yasushi FURUSHIMA, Keitaro MAENO, Tomoko MORI, Eiji YAMASUE, Ryosuke YOKOI, Naoki YOSHIKAWA, Akihiro YOSHIMURA

Journal of Life Cycle Assessment, Japan, 20(2), 94-103, 2024. doi: 10.3370/lca.20.94

複合材料設計学分野

【論文】

● An amorphous Cr₂Ge₂Te₆/polyimide double-layer foil with an extraordinarily outstanding strain sensing ability

Yinli Wang, Yi Shuang, Mihyeon Kim, Daisuke Ando, Fumio Narita, Yuji Sutou
Materials Horizons, 11(22), 5631-5640, 2024. doi: 10.1039/d4mh00616j

● Effect of carbon black addition on electromechanical performance of flexible piezoelectric composite films

Ziwen Zhao, Yaonan Yu, Longfei He, Zhenjin Wang, Hiroki Kurita, Fumio Narita
Composites Part A: Applied Science and Manufacturing, 180, 2024. doi: 10.1016/j.compositesa.2024.108103

● Effect of carbon black addition on electromechanical performance of flexible piezoelectric composite films

Ziwen Zhao, Yaonan Yu, Longfei He, Zhenjin Wang, Hiroki Kurita, Fumio Narita

Composites Part A: Applied Science and Manufacturing, 180, 108103, 2024. doi: 10.1016/j.compositesa.2024.108103

● Enhanced mechanical qualities of sericin-removed silk by direct feeding of silkworms with cellulose nanofiber

Genki Kobayashi, Hiroki Kurita, Atsuhiko Nagasawa, Masatoshi Hori, Fumio Narita

JOURNAL OF APPLIED POLYMER SCIENCE, 141(24), 2024. doi: 10.1002/app.55512

● Fatigue characterization of cellulose nanofiber–reinforced silk yarns for enhanced structural applications

Maëlle Richard, Zhenjin Wang, Hiroki Kurita, Fumio Narita
COMPOSITES SCIENCE AND TECHNOLOGY, 257, 110793, 2024. doi: 10.1016/j.compscitech.2024.110793

● Japanese washi-paper-based green composites: Fabrication, mechanical characterization, and evaluation of biodegradability
Lovisa Rova, Alia Gallet--Pandellé, Zhenjin Wang, Hiroki Kurita, Fumio Narita

Composites Part A: Applied Science and Manufacturing, 184, 2024. doi: 10.1016/j.compositesa.2024.108261

● Local impact sensing via flexible piezoelectric composite film based on highly elastic resin

Ziwen Zhao, Zhenjin Wang, Longfei He, Hiroshi Yokota, Yutaka Okada, Fumio Narita

Sensors and Actuators A: Physical, 368, 115089, 2024. doi: 10.1016/j.sna.2024.115089

● Measurement of Magnetic Flux Density Changes in Mode I Interlaminar Fracture in Magnetostrictive Fiber–Embedded Glass Fiber-Reinforced Polymer Composites

Tomoki Miyashita, Kenichi Katabira, Hiroki Kurita, Fumio Narita
Journal of Composites Science, 8(1), 8, 2024. doi: 10.3390/jcs8010008

● Mechanical Properties of Twisted Cellulose Nanofiber-Reinforced Silk Yarns

Maëlle Richard, Genki Kobayashi, Zhenjin Wang, Hiroki Kurita, Fumio Narita

ACS Biomaterials Science & Engineering, 10(7), 4237-4244, 2024. doi: 10.1021/acsbiomaterials.4c00071

● Monitoring of Allowable Bending Stress Overload in Glass-Fiber-Reinforced Polymer Composites Using Magnetostrictive Fe-Co Fibers
Kenichi Katabira, Hiroki Kurita, Kotaro Mori, Hitoshi Tamura, Fumio Narita

Advanced Engineering Materials, 26(4), 2300529, 2024. doi: 10.1002/adem.202300529

● Multimode auxetic piezoelectric energy harvester for low-frequency vibration

Longfei He, Hiroki Kurita, Fumio Narita
Smart Materials and Structures, 33(3), 2024. doi: 10.1088/1361-665x/ad254f

● Novel process for monitoring stress in carbon fiber reinforced polymer composites using magnetostrictive wires from cryogenic to high temperatures

Kenichi Katabira, Ryosuke Komagome, Fumio Narita
Mechanics of Advanced Materials and Structures, 31(3), 586-594, 2024. doi: 10.1080/15376494.2022.2116755

● On the use of cellulose acetate as a structural material for parts produced by fused filament fabrication

Alia Gallet--Pandellé, Renaud G. Rinaldi, Florent Dalmas, Hiroki Kurita, Fumio Narita
CELLULOSE, 31, 9265-9279, 2024. doi: 10.1007/s10570-024-06092-4

● Piezoelectric flutter energy harvesting: absolute nodal coordinate formulation model and wind tunnel experiment

Taisei Mukogawa, Kento Shimura, Shuonan Dong, Koji Fujita, Hiroki Nagai, Masaki Kameyama, Yu Shi, Yu Jia, Constantinos Soutis, Hiroki Kurita, Fumio Narita, Yushin Hara, Kanjuro Makihara, Keisuke Otsuka

Mechanics Research Communications, 143, 104351, 2024. doi: 10.1016/j.mechrescom.2024.104351

● Prediction of internal stress in alumina laminates induced by shrinkage mismatch based on elastic model modification

Teruyoshi Kanno, Arisa Sakatani, Hiroki Kurita, Fumio Narita
JOURNAL OF THE AMERICAN CERAMIC SOCIETY, 107(11), 7201-7211, 2024. doi: 10.1111/jace.20041

● Reproducibility and Compressive Strength Enhancement of Printed Silk Fibroin-Polyethylene Glycidyl Methacrylate Composite Hydrogels Via Cellulose Nanofibers

L. Rova, M. Saito, H. Kurita, T. Kanno, A. Gallet-Pandellé, F. Narita
STRENGTH OF MATERIALS, 55(6), 1201-1208, 2024. doi: 10.1007/

s11223-024-00610-2

● Screen-printed piezoelectric composites for vibrational energy harvesting in combination with structural composite laminates for powering a sensing node

Boyue Chen, Yu Jia, Fumio Narita, Hiroki Kurita, Yu Shi
Composites Part B: Engineering, 273, 111274, 2024. doi: 10.1016/j.compositesb.2024.111274

● Structural optimization of PVDF cellular resonators for energy-harvesting enhancement based on backpropagation neural network and NSGA-II algorithm

Longfei He, Hiroki Kurita, Zhenjin Wang, Fumio Narita
Sensors and Actuators A: Physical, 376, 115608, 2024. doi: 10.1016/j.sna.2024.115608

● Thick piezoelectric films by aerosol deposition at room temperature: corona poling and force sensing

Kohei Maruyama, Yoshihiro Kawakami, Fumio Narita
JAPANESE JOURNAL OF APPLIED PHYSICS, 63(9), 09SP22, 2024. doi: 10.35848/1347-4065/ad6e96

● Transforming Tree BarkWaste into a Green Composite: Mechanical Properties and Biodegradability

Lovisa Rova, Juson Kokubo, Zhenjin Wang, Hiroki Kurita, Fumio Narita

Journal of Composites Science, 8(11), 465, 2024. doi: 10.3390/jcs8110465

【書籍等出版物】

● 圧電材料の基礎と応用 原理・構造・デバイス

成田史生, 川上祥広

内田老鶴圃, 2024. ISBN:9784753650521

【産業財産権】

● 荷重センサおよび荷重検出装置

成田史生, 井上久美, 栗田大樹, 長名シオン, シティ マストゥラ ピンティ ファクルッティン, 宮本直人, 渡辺将仁, 千葉大喜, 小野寺隆一, 田山巖, 佐藤武信, 江幡貴司

特許 7491540 号

● 磁歪複合材料および磁歪複合材料の製造方法

王真金, 成田史生

特許 7496981

● 野球用投球練習具

清水紀弘, 成田史生

特許 1768807

環境創成計画学講座

環境分子化学分野

【論文】

● Local composition-regular solution theory for analysis of pharmaceutical solubility in mixed-solvents

Jia Lin Lee, Gun Hean Chong, Asami Kanno, Masaki Ota, Haixin Guo, Richard Lee Smith

Journal of Molecular Liquids, 397, 2024. doi: 10.1016/j.molliq.2024.124012

環境材料表面科学分野

【論文】

● Efficient Ozone Evolution Anode of Tantalum Nitride with Cubic Crystal Structure

Ryoma Sakata, Ouga Ishibashi, Takafumi Kanauchi, Hiroyuki Kasumi, Naoto Todoroki, Satoru Matsumoto, Koki Ishigame, Toshimasa Wadayama

ACS Sustainable Chemistry & Engineering, 12(31), 11590-11596, 2024. doi: 10.1021/acssuschemeng.4c02246

● Enhanced Oxygen Reduction Reaction Activity on the Melamine-Modified Pt-High-Entropy Alloy Single-Crystal Lattice Stacking Surface

Takumi Kobayashi, Yoshihiro Chida, Naoto Todoroki, Toshimasa Wadayama

ACS Catalysis, 14(15), 11512-11521, 2024. doi: 10.1021/acscatal.4c02191

● Impact of Applied Potential Range on Corrosion Behavior of Stainless Steel Oxygen Evolution Electrode Under Potential Cycle Loading

Naoto Todoroki, Toshimasa Wadayama

JOURNAL OF POWER SOURCES, 613, 234854, 2024. doi: 10.1016/j.jpowsour.2024.234854

● Oxygen Reduction Reaction Activity Enhancement of Dry-Process-Synthesized Pt(111)/Nb:SnO₂(101)/Pt(111) Coherent Lattice Stacking Model Catalyst Surface

Yoshihiro Chida, Hikaru Kamikawa, Naoto Todoroki, Toshimasa Wadayama

MATERIALS TRANSACTIONS, 2(65), 125-129, 2024. doi: 10.2320/matertrans.mt-m2023172

【書籍等出版物】

● 第7章 表面処理によるステンレス鋼電極へのナノ構造酸素発生触媒層の形成

轟直人

水電解による水素製造技術の開発と市場, シーエムシー出版, 2024. ISBN: 9784781318158

【産業財産権】

● アルカリ水電解用アノード電極およびその製造方法

藤原義行, 轟直人

特願 2024-166481, 特許 7529340 号

寄附講座

反応解析機器開発学分野

【論文】

● Into the Nanograms — Sensitive Detection of Microplastics in Passively Sampled Indoor Air Using F-Splitless Pyrolysis Gas Chromatography Mass Spectrometry

William Pipkin, Masumi Sato, Shogo Kumagai, Chuichi Watanabe, Atsushi Watanabe, Norio Teramae, Toshiaki Yoshioka

ACS ES&T Air, 1(4), 234-246, 2024. doi: 10.1021/acsestair.3c00035

● Investigating the degradation and products of thermo-oxidation of polyimide-based engineering plastics

Chuan Ma, Shogo Kumagai, Masumi Sato, Yumi Nakai, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka

Journal of Analytical and Applied Pyrolysis, 181, 106575, 2024. doi: 10.1016/j.jaap.2024.106575

● Thermal and catalytic fast hydrolysis of lignin: Optimization for selective production of aromatics using high-pressure tandem μ -reactor – gas chromatography/mass spectrometry

Chuan Ma, Shogo Kumagai, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka, Young-Min Kim

Chemical Engineering Journal, 479, 147524, 2024. doi: 10.1016/j.cej.2023.147524

連携講座

環境適合材料創製学分野（日本製鉄株式会社）

【論文】

● Effects of the Addition of Alloying Elements on Hydrogen Diffusion and Hydrogen Embrittlement in Martensitic Steel

Tomohiko OMURA and Takumi OYAMA

ISIJ International, 64(4), 620-629, 2024. doi: 10.2355/isijinternational.

ISIJINT-2023-191

● Pair potential description on phase stability variations in close-packed polytypism

Shinya Ogane, Koji Moriguchi

MRS Advances, 9, 883-889, 2024. doi: 10.1557/s43580-023-00755-3

地球環境変動学分野（国立環境研究所）

【論文】

● Assessment of WRF-CO₂ simulated vertical profiles of CO₂ over Delhi region using aircraft and global model data

Ballav, S., Patra, P.K., Naja, M. and Machida, T.

Asian J. Atmos. Environ., 18(8), 2024. doi: 10.1007/s44273-024-00030-3

● Observed APO Seasonal Cycle in the Pacific: Estimation of Autumn O₂ Oceanic Emissions

Tohjima Y., Shirai T., Ishizawa M., Mukai H., Machida T., Sasakawa M., Terao Y., Tsuboi K., Takao S., Nakaoka S.

Global Biogeochemical Cycles, 38(9), e2024GB008230, 2024. doi: 10.1029/2024GB008230

● Ship- and aircraft-based XCH₄ over oceans as a new tool for satellite validation

Müller, A., Tanimoto, H., Sugita, T., Patra, P. K., Nakaoka, S., Machida, T., Morino, I., Butz, A., and Shiomi, K.

Atmos. Meas. Tech., 17(4), 1297-1316, 2024. doi: 10.5194/amt-17-1297-2024.

地域連携・アウトリーチ

環境研究推進センター

【論文】

● 宮城県内におけるオープンループ方式地中熱システム導入に係る地下水利用規制の諸課題

大庭雅寛, 土屋範芳

日本地熱学誌, 46(4), 147-156, 2024.

資源戦略研究センター

【MISC】

● Leveraging Emerging Technologies to Overcome Mobility Challenges Caused by Population Ageing: A Case Study of Japan

Gregory TRENCHER, Masaru YARIME, Jeongsoo YU

PPOL Public Policy Bulletin, 11,1-4, 2024.