

先進社会環境学専攻

基幹講座

資源戦略学講座

地圏環境計測・分析学分野

【論文】

- Local initiative hydrogen production by utilization of aluminum waste materials and natural acidic hot-spring water. [Applied Energy, 293(1), (2021), 116909] Vani Novita Alviani, Nobuo Hirano, Noriaki Watanabe, Masahiro Oba, Masaaki Uno, Noriyoshi Tsuchiya

環境複合材料創成科学分野

【論文】

- Functionalization of primary amine groups to single-walled carbon nanotubes by reacting fluorinated SWCNTs with ammonia gas at a low temperature. [Carbon, 172, (2021), 360-371] Koji Yokoyama, Yoshinori Sato, Masashi Yamamoto, Tetsuo Nishida, Takashi Itoh, Kenichi Motomiya, Yoshinori Sato
- Slippage-inhibiting effect of interfacial cross-linking of nanotubes by defluorination on the mechanical properties of free-standing multi-walled carbon nanotube yarns: Comparison with individual multi-walled carbon nanotubes. [Carbon, 179, (2021), 1-12] Hikaru Nishizaka, Tatsuhito Kimura, Yoshinori Sato, Masashi Yamamoto, Tetsuo Nishida, Kenichi Motomiya, Yoshinori Sato
- Corrigendum to “Slippage-inhibiting effect of interfacial cross-linking of nanotubes by defluorination on the mechanical properties of free-standing multi-walled carbon nanotube yarns: Comparison with individual multi-walled carbon nanotubes” [Carbon 179 (2021) 1-12]. [Carbon, 182, (2021), 865-866] Hikaru Nishizaka, Tatsuhito Kimura, Yoshinori Sato, Masashi Yamamoto, Tetsuo Nishida, Kenichi Motomiya, Yoshinori Sato

【総説・解説】

- フッ素化 - 脱フッ素化を用いた炭素ナノ材料の表面改質とその機能 . [日本無機薬品協会会報, 546, (2021), 21-24] 佐藤義倫
- 脱フッ素化により架橋結合させた多層カーボンナノチューブの機械的性質 . [NEW DIAMOND, 37, (2021), 20-23] 佐藤義倫

環境素材設計学分野

【論文】

- Electricity Generation by a Methanogen Cathode Microbial

Fuel Cell. [Journal of Animal Production Environment Science, 19/20(1), (2021), 23-33] Masaki UMETSU, Yasuhiro FUKUDA, Hideyuki TAKAHASHI, Chika TADA

- Enhancement of aragonite mineralization with a chelating agent for CO₂ storage and utilization at low to moderate temperatures. [Scientific Reports, 11, (2021), Article number: 13956] Jiajie Wang, Noriaki Watanabe, Kosuke Inomoto, Masanobu Kamitakahara, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Fabrication and evaluation of ascorbic acid phosphate-loaded spherical porous hydroxyapatite/octacalcium phosphate granules. [Journal of the Ceramic Society of Japan, 129(1), (2021), 60-65] Masanobu KAMITAKAHARA, Airi ISHII, Hideaki MATSUBARA, Masakazu KAWASHITA, Maiko FURUYA, Hiroyasu KANETAKA
- Incorporation of tetracarboxylate ions into octacalcium phosphate for the development of next-generation biofriendly materials. [Communications Chemistry, 4, (2021), Article number: 4] Taishi Yokoi, Tomoyo Goto, Mitsuo Hara, Tohru Sekino, Takahiro Seki, Masanobu Kamitakahara, Chikara Ohtsuki, Satoshi Kitaoka, Seiji Takahashi, Masakazu Kawashita
- アルミナの焼結と粒成長に関するモンテカルロ・シミュレーションと実験の研究 . [粉体および粉末冶金, 68(7), (2021), 271-277] 寺坂宗太, 松原秀彰, 青木英彦, 野村浩, 木村禎一, 上高原理暢

環境修復生態学分野

【論文】

- Biodegradation of binary mixtures of octane with benzene, toluene, ethylbenzene or xylene (BTEX): insights on the potential of Burkholderia, Pseudomonas and Cupriavidus isolates. [World Journal of Microbiology and Biotechnology, 37(7), (2021), 122] Hernando P. Bacosa, Jhonamie A. Mabuhay-Omar, Rodulf Anthony T. Balisco, Dawin M. Omar, Chihiro Inoue
- Biomimetic antibiofouling oil infused honeycomb films fabricated using breath figures. [Polymer Journal, 53, (2021), 713-717] Shimura, R., Abe, H., Yabu, H., Chien, M.-F., Inoue, C.
- Effects of Growth Stage and Cd Chemical Form on Cd and Zn Accumulation in *Arabidopsis halleri* ssp. *gemmaifera*. [International Journal of Environmental Research and Public Health, 18(8), (2021), 4214] Hiroshi Kudo, Chihiro Inoue, Kazuki Sugawara
- Elucidation and application of environmental pollution purifying mechanisms by plants and microorganisms—examples of microbe-assisted phytoextraction against arsenic pollution and rhizodegradation against polycyclic aromatic hydrocarbons—. [Journal of Environmental Biotechnology, 21(2), (2021), 1-7] Mei-Fang Chien, Chongyang Yang, Shujun Wei, John Jewish A. Dominguez, Ying-Ning Ho, Chihiro Inoue

- Expression of *PvPht1;3*, *PvACR2* and *PvACR3* during arsenic processing in root of *Pteris vittata*. [Environmental and Experimental Botany, 182, (2021), 104312] Wei, S., Kohda, Y.H.-T., Inoue, C., Chien, M.-F.
- HMA4 and IRT3 as indicators accounting for different responses to Cd and Zn by hyperaccumulator *Arabidopsis halleri* ssp. *gemmaifera*. [Plant Stress, 2,(2021),100042] Christine D.A.P. Wiyono, Chihiro Inoue, Mei-Fang Chien
- Influence of low temperature on comparative arsenic accumulation and release by three *Pteris* hyperaccumulators. [Journal of Environmental Science and Health, Part A, 56(11), (2021), 1179-1188] Farzana Rahman, Kazuki Sugawara, Shujun Wei, Yi Huang-Takeshi Kohda, Mei-Fang Chien, Chihiro Inoue
- Isolation and characterization of novel bacteria capable of degrading 1,4-dioxane in the presence of diverse co-occurring compounds. [Microorganisms, 9(5), (2021), 887] Tusher, T.R., Shimizu, T., Inoue, C., Chien, M.-F.
- Leaching of As and Se from coal fly ash: fundamental study for coal fly ash recycling. [Environmental Monitoring and Assessment, 193(4), (2021), 225] Seki, T., Nakamura, K., Ogawa, Y., Inoue, C.
- New evidence of arsenic translocation and accumulation in *Pteris vittata* from real-time imaging using positron-emitting ⁷⁴As tracer. [Scientific Reports, 11, (2021), Article number: 12149] Yi Huang-Takeshi Kohda, Zhaojie Qian, Mei-Fang Chien, Keisuke Miyauchi, Ginro Endo, Nobuo Suzui, Yong-Gen Yin, Naoki Kawachi, Hayato Ikeda, Hiroshi Watabe, Hidetoshi Kikunaga, Nobuyuki Kitajima, Chihiro Inoue
- Separation of microplastic from soil by centrifugation and its application to agricultural soil. [Chemosphere, 288, (2021), 132654] Guido Grause, Yamato Kuniyasu, Mei-Fang Chien, Chihiro Inoue.

地球物質・エネルギー学分野

【論文】

- 1-D inversion analysis of a shallow landslide triggered by the 2018 Eastern Iburi earthquake in Hokkaido, Japan. [Earth, Planets and Space, 73, (2021), Article number: 116] Jun Kameda, Atsushi Okamoto
- Albite-K-feldspar-quartz equilibria in hydrothermal fluids at 400, 420°C and 20-35 MPa: Experimental measurements and thermodynamic calculations. [Geothermics, 94, (2021), 102109] Atsushi Okamoto, Hajime Ishii, Ryosuke Oyanagi, Noriyoshi Tsuchiya
- Cataclastic and crystal-plastic deformation in shallow mantle-wedge serpentinite controlled by cyclic changes in pore fluid pressures. [Earth and Planetary Science Letters, 576(15), (2021), 117232] Ken ichi Hirauchi, Yurina Nagata, Kengo Kataoka, Ryosuke Oyanagi, Atsushi Okamoto, Katsuyoshi Michibayashi
- Experimental fracture sealing in reservoir sandstones and its relation to rock texture. [Journal of Structural Geology,

153, (2021), 104447] Benjamin Busch, Atsushi Okamoto, Krassimir Garbev, Christoph Hilgers

- Formation of amorphous silica nanoparticles and its impact on permeability of fractured granite in superhot geothermal environments. [Scientific Reports, 11, (2021), Article number: 5340] Noriaki Watanabe, Hikaru Abe, Atsushi Okamoto, Kengo Nakamura, Takeshi Komai
- Generation of oxidising fluids by comminution of fault rocks. [Geochemical Perspectives Letters, 19, (2021), 32-35] J. Kameda, A. Okamoto
- Hadal aragonite records venting of stagnant paleoseawater in the hydrated forearc mantle. [Communications Earth & Environment, 2, (2021), Article number: 243] Ryosuke Oyanagi, Atsushi Okamoto, Madhusoodhan Satish-Kumar, Masayo Minami, Yumiko Harigane, Katsuyoshi Michibayashi
- Local initiative hydrogen production by utilization of aluminum waste materials and natural acidic hot-spring water. [Applied Energy, 293, (2021), 116909] Vani Novita Alviani, Nobuo Hirano, Noriaki Watanabe, Masahiro Oba, Masaaki Uno, Noriyoshi Tsuchiya
- Multi-stage infiltration of Na- and K-rich fluids from pegmatites at mid-crustal depths as revealed by feldspar replacement textures. [Lithos, 388-389, (2021), 106096] Astin Nurdiana, Atsushi Okamoto, Kenta Yoshida, Masaaki Uno, Takayoshi Nagaya, Noriyoshi Tsuchiya
- Multi-stage serpentinization of ultramafic rocks in the Manlay Ophiolite, southern Mongolia. [Mongolian Geoscientist, 26(53), (2021), 1-17] Amarbayar Nomuulin, Noriyoshi Tsuchiya, Otgonbayar Dandar, Atsushi Okamoto, Masaaki Uno, Undarmaa Batsaikhan, Jiajie Wang
- Redistribution of magnetite during multi-stage serpentinization: Evidence from the Taishir Massif, Khantaishir ophiolite, western Mongolia. [Journal of Mineralogical and Petrological Sciences, 116(3), (2021), 176-181] Otgonbayar Dandar, Atsushi Okamoto, Masaaki Uno, Noriyoshi Tsuchiya
- Rupture of wet mantle wedge by self-promoting carbonation. [Communications Earth & Environment, 2, (2021), Article number: 151] Atsushi Okamoto, Ryosuke Oyanagi, Kazuki Yoshida, Masaaki Uno, Hiroyuki Shimizu, Madhusoodhan Satish-Kumar
- マントル掘削でのみ解明される地球科学問題：生命惑星海洋プレートの今を理解する . [地学雑誌, 130 (4) , (2021), 483-506] 森下知見, 藤江剛, 平内健一, 片山郁夫, 瀧野佑衣, 黒田潤一郎, 岡本 敦, 小野重明, 道林 克禎, 諸野祐樹, 山本伸次

地球開発環境学分野 (高橋弘研)

【論文】

- Experimental Investigation on Flow Suppression and Modification of High Water Content Soil Using Water Absorbent Polymer and Fiber Cement Stabilization. [Advanced Experimental Mechanics, 6, (2021), 99-103] Kohei UENO, Kazumi RYUO, Tomoaki SATOMI, Hiroshi TAKAHASHI

- Study on Mechanical Properties of Cemented Soil Reinforced by Empty Fruit Bunch (EFB). [Proc. of International Symposium on Earth Science and Technology 2021, 1, (2021), 65-70] Delima Canny Valentine Simarmata, Tomoaki Satomi, Hiroshi Takahashi
- Study on Stability of Slope Covered by Modified Landslide Sludge. [Advanced Experimental Mechanics, 6, (2021), 104-109] Delima Canny Valentine, SIMARMATA, Thomas Teguh WIJAYA, Tomoaki SATOMI, Hiroshi TAKAHASHI
- スクリュュー式土砂サンプリング機構の試作およびその性能評価. [テラメカニクス, 41, (2021), 7-12] 石田真英, 里見知昭, 高橋弘
- 吸水材添加による高含水泥土の流動性低減と再利用性に関する研究. [テラメカニクス, 41, (2021), 17-22] 上野耕平, 里見知昭, 高橋弘
- 掘削バケットによる土の掘削抵抗力および地盤強度に及ぼす礫の影響. [テラメカニクス, 41, (2021), 1-6] 塩田浩平, 里見知昭, 高橋弘

地球開発環境学分野（坂口研）

【論文】

- A laboratory study of hydraulic fracturing at the brittle-ductile transition. [Scientific Reports, 11, (2021), Article number: 22300] Francesco Parisio, Keita Yoshioka, Kiyotoshi Sakaguchi, Ryota Goto, Takahiro Miura, Eko Pramudyo, Takuya Ishibashi, Noriaki Watanabe
- CO₂ injection-induced complex cloud-fracture networks in granite at conventional and superhot geothermal conditions. [Geothermics, 97, (2021), 102265] Eko Pramudyo, Ryota Goto, Noriaki Watanabe, Kiyotoshi Sakaguchi, Kengo Nakamura, Takeshi Komai
- Creating Cloud-Fracture Network by Flow-induced Microfracturing in Superhot Geothermal Environments. [Rock Mechanics and Rock Engineering, 54, (2021), 2959-2974] Ryota Goto, Noriaki Watanabe, Kiyotoshi Sakaguchi, Takahiro Miura, Youqing Chen, Takuya Ishibashi, Eko Pramudyo, Francesco Parisio, Keita Yoshioka, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Flow-Induced Microfracturing of Granite in Conventional and Superhot Geothermal Environments. [Paper presented at the SPWLA 26th Formation Evaluation Symposium of Japan, Virtual, September 2021, SPWLA-JFES-2021-K, (2021)] Goto Ryota, Pramudyo Eko, Watanabe Noriaki, Sakaguchi Kiyotoshi, Chen Youqing, Takeshi Komai
- Fracturing of granite rock with supercritical water for superhot geothermal resources. [Renewable Energy, 184, (2022), 56-67] Bailong Liu, Anna Suzuki, Noriaki Watanabe, Takuya Ishibashi, Kiyotoshi Sakaguchi, Takatoshi Ito (Available online 19 November 2021.)
- 高温環境における岩石き裂のすべり特性と透水性. [日本地熱学会誌, 43(2), (2021), 53-64] 武山詳, 後藤遼太, 渡邊則昭, 坂口清敏, 土屋範芳

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】

- Comparison of Residual Stress Measurement Methods in Solid Oxide Fuel Cell. [ECS Transactions, 103(1), (2021), 1251-1260] Kento Oshima, Takumi Komaya, Keiji Yashiro, Fumitada Iguchi, Minfang Han, Yige Wang, Tatsuya Kawada
- Corrigendum to evaluation of electrochemical properties of LaNi_{0.6}Fe_{0.4}O_{3-δ}-Ce_{0.9}Gd_{0.1}O_{1.95} composite as air electrode for SOFC solid state ionics, 332, 2019, 70-76. [Solid State Ionics, 363, (2021), 115608] R.A. Budiman, S. Hashimoto, Y. Fujimaki, T. Nakamura, K. Yashiro, K. Ameszawa, T. Kawada
- Effect of pinholes in electrolyte on re-oxidation tolerance of anode-supported solid oxide fuel cells. [Fuel Cells, 21(4), (2021), 398-407] Keigo Kumada, Kazuhisa Sato, Tatsuya Kawada, Hirofumi Sumi, Hiroyuki Shimada, Toshiyuki Hashida
- Evaluation of Reaction Mechanism of PCFC Composite Cathodes by Utilizing Patterned Thin Film Model Electrodes. [ECS Transactions, 103(1), (2021), 1745-1751] Zhuo Diao, Katsuya Nishidate, Takaaki Imaizumi, Yuta Kimura, Takashi Nakamura, Yuichi Mikami, Tomohiro Kuroha, Keiji Yashiro, Tatsuya Kawada, Koji Ameszawa
- Experimental Evaluation of Influence of Stress on Li Chemical Potential and Phase Equilibrium in Two-phase Battery Electrode Materials. [Electrochemistry, 89(4), (2021), 355-362] Yuta KIMURA, Keita FUNAYAMA, Mahunnop FAKKAO, Takashi NAKAMURA, Naoaki KUWATA, Tatsuya KAWADA, Junichi KAWAMURA, Koji AMEZAWA
- Modulating Reaction Pathways on Perovskite Cobaltite Nanofibers through Excessive Surface Oxygen Defects for Efficient Water Oxidation. [Energy & Fuels, 35(17), (2021), 13967-13974] Qiuyu Liu, Chenghao Jia, Mengzhen Zhou, Zuyun He, Zhiheng Gong, Yihan Ling, Xinxin Wang, Keiji Yashiro, Yan Chen
- Performance and stability analysis of SOFC containing thin and dense gadolinium-doped ceria interlayer sintered at low temperature. [Journal of Materiomics, In Press, (2021),] Yige Wang, Chuan Jia, Zewei Lyu, Minfang Han, Junwei Wu, Zaihong Sun, Fumitada Iguchi, Keiji Yashiro, Tatsuya Kawada
- Relationship between microstructure and deformation of porous Ni-based cermets under redox cycling. [SN Applied Sciences, 3, (2021), Article number: 810] Kazuhisa Sato, Satoshi Watanabe, Yihui Huang, Taihei Miyasaka, Toshiaki Matsui, Keiji Yashiro, Tatsuya Kawada, Koji Ameszawa, Keigo Kumada, Koichi Eguchi

エネルギー資源リスク評価学分野

【論文】

- A laboratory study of hydraulic fracturing at the brittle-ductile transition. [Scientific Reports, 11, (2021), Article number: 22300] Francesco Parisio, Keita Yoshioka, Kiyotoshi

Sakaguchi, Ryota Goto, Takahiro Miura, Eko Pramudyo, Takuya Ishibashi, Noriaki Watanabe

- Applicability of silty material brought by black tsunami to estimation of inundation area. [Japanese Geotechnical Society Special Publication, 9(5), (2021), 180-185] Kousuke Nakamura, Takeshi Komai
- CO₂ injection-induced complex cloud-fracture networks in granite at conventional and superhot geothermal conditions. [Geothermics, 97, (2021), 102265] Eko Pramudyo, Ryota Goto, Noriaki Watanabe, Kiyotoshi Sakaguchi, Kengo Nakamura, Takeshi Komai
- Consideration of strength development by three-dimensional visualization of porosity distribution in coal fly ash concrete. [JOURNAL OF BUILDING ENGINEERING, 35, (2021), 101948] Kengo Nakamura, Yuusuke Inoue, Takeshi Komai
- Creating Cloud-Fracture Network by Flow-induced Microfracturing in Superhot Geothermal Environments. [ROCK MECHANICS AND ROCK ENGINEERING, 54(6), (2021), 2959-2974] Ryota Goto, Noriaki Watanabe, Kiyotoshi Sakaguchi, Takahiro Miura, Youqing Chen, Takuya Ishibashi, Eko Pramudyo, Francesco Parisio, Keita Yoshioka, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Data-driven analysis for source apportionment and geochemical backgrounds establishment of toxic elements and REEs in the Tohoku region, Japan. [Chemosphere, 263, (2021), 128268] A.Pujiwati, J.Wang, K. Nakamura, Y. Kawabe, N. Watanabe, T. Komai
- Development of a Model for Predicting the Volatilization Flux from Unsaturated Soil Contaminated by Volatile Chemical Substances. [Environmental Modeling & Assessment, 26(6), (2021), 9796] Monami Kondo, Yasuhide Sakamoto, Yoshishige Kawabe, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai
- Dynamic evaluation method for planning sustainable landfills using GIS and multi-criteria in areas of urban sprawl with land-use conflicts. [PLOS ONE, 16(8), (2021), e0254441] Chelsea Langa, Junko Hara, Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai
- Enhancement of aragonite mineralization with a chelating agent for CO₂ storage and utilization at low to moderate temperatures. [Scientific Reports, 11, (2021), Article number: 13956] Jiajie Wang, Noriaki Watanabe, Kosuke Inomoto, Masanobu Kamitakahara, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Experimental and Numerical Studies on Dissociation of Methane Hydrate by Simultaneous Injection of Nitrogen and Hot Water. [International Journal of Offshore and Polar Engineering, 31(2), (2021), 186-198] Yasuhide Sakamoto, Yusuke Nakano, Fuyuki Kaneko, Kengo Nakamura, Takeshi Komai
- Formation of amorphous silica nanoparticles and its impact on permeability of fractured granite in superhot geothermal environments. [Scientific Reports, 11, (2021), Article number: 5340] N. Watanabe, H. Abe, A. Okamoto, K. Nakamura, T. Komai

- Fracturing of granite rock with supercritical water for superhot geothermal resources. [Renewable Energy, 184, (2021), 56-67] Bailong Liu, Anna Suzuki, Noriaki Watanabe, Takuya Ishibashi, Kiyotoshi Sakaguchi, Takatoshi Ito
- Leaching of As and Se from coal fly ash: fundamental study for coal fly ash recycling. [ENVIRONMENTAL MONITORING AND ASSESSMENT, 193(4), (2021), 225] Tsugumi Seki, Kengo Nakamura, Yasumasa Ogawa, Chihiro Inoue
- Local initiative hydrogen production by utilization of aluminum waste materials and natural acidic hot-spring water. [Applied Energy, 293, (2021), 116909] Vani Novita Alviani, Nobuo Hirano, Noriaki Watanabe, Masahiro Oba, Masaoki Uno, Noriyoshi Tsuchiya
- Novel chemical stimulation for geothermal reservoirs by chelating agent driven selective mineral dissolution in fractured rocks. [Scientific Reports, 11, (2021), Article number: 19994] Noriaki Watanabe, Kaori Takahashi, Ryota Takahashi, Kengo Nakamura, Yusuke Kumano, Kohei Akaku, Tetsuya Tamagawa, Takeshi Komai
- Potential Modification of Groundwater Arsenic Removal Filter Commonly Used in Nepal: A Review. [Groundwater for Sustainable Development, 16, (2021), 100549] Haribansha Timalina, Bandita Mainali, Michael J. Angove, Takeshi Komai, Shukra Raj Paudel
- Prediction and Remediation of Groundwater Pollution in a Dynamic and Complex Hydrologic Environment of an Illegal Waste Dumping Site. [Applied Sciences, 11(19), (2021), 9229] Thatthep Pongritsakda, Kengo Nakamura, Jiajie Wang, Noriaki Watanabe, Takeshi Komai
- Sustainable process for enhanced CO₂ mineralization of calcium silicates using a recyclable chelating agent under alkaline conditions. [Journal of Environmental Chemical Engineering, 10(1), (2021), 107055] Jiajie Wang, Noriaki Watanabe, Kosuke Inomoto, Masanobu Kamitakahara, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Using data-driven analysis of geochemical environmental information to infer the environmental impact of closed mines. [Heliyon, 7(5), (2021), e06927] Kengo Nakamura, Yoshishige Kawabe, Takeshi Komai
- Water-Enhanced Flux Changes under Dynamic Temperatures in the Vertical Vapor-Phase Diffusive Transport of Volatile Organic Compounds in Near-Surface Soil Environments. [Sustainability, 13(12), (2021), 6570] Asma Akter Parlin, Monami Kondo, Noriaki Watanabe, Kengo Nakamura, Mizuki Yamada, Jiajie Wang, Takeshi Komai
- Water-Induced Inverse Correlation between Temperature and Flux Changes in Vertical Vapor-Phase Diffusive Transport of Volatile Organic Compounds in Near-Surface Soil Environments. [Applied Sciences, 11(8), (2021), 3489] Asma Akter Parlin, Noriaki Watanabe, Kengo Nakamura, Mizuki Yamada, Jiajie Wang, Takeshi Komai
- Wellbore stability in high-temperature granite under true triaxial stress. [Geothermics, 100, (2021), 102334] R. Goto, K. Sakaguchi, F. Parisio, K. Yoshioka, E. Pramudyo, N. Watanabe

- カンブリア系日立火山深成複合岩体赤沢層の変成凝灰岩から発見された杏仁状集合組織 . [茨城県自然博物館研究報告 , 24, (2021), 1-17] 田切美智雄 , 塙勝利 , 及川晃 , 渡邊則昭 , 安藤寿男
- 還元気化法を利用した水晶振動子による液相中の水銀測定 . [電気学会論文誌 E, 141(2), (2021), 50-54] 野田和俊 , 児玉谷仁 , 富安卓滋 , 丸本幸治 , 駒井武 , 愛澤秀信
- 高温環境における岩石き裂のすべり特性と透水性 . [日本地熱学会誌 , 43(2), (2021), 53-64] 武山詳 , 後藤遼太 , 渡邊則昭 , 坂口清敏 , 土屋範芳
- 石油系炭化水素を対象とした発光バクテリアを用いた簡易土壌汚染評価手法の開発 4. [地下水学会誌 , 63(3), (2021), 119-136] 杉田創 , 駒井武

環境共生機能学分野

【論文】

- Control of galvanic replacement reaction between Cu nanowires and Ag species under vacuum filtration for transparent conductive films with long-term durability. [COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS, 611(20), (2021), 125809] Shun Yokoyama, Yuta Umemoto, Kenichi Motomiya, Takashi Itoh, Hideyuki Takahashi
- Flexible and adhesive sintered Cu nanomaterials on polyimide substrates prepared by combining Cu nanoparticles and nanowires with polyvinylpyrrolidone. [Colloids and Surfaces A: Physicochemical and Engineering Aspects, 625, (2021), 126907] Shun Yokoyama, Junpei Nozaki, Yuta Umemoto, Kenichi Motomiya, Takashi Itoh, Hideyuki Takahashi
- Functionalization of primary amine groups to single-walled carbon nanotubes by reacting fluorinated SWCNTs with ammonia gas at a low temperature. [Carbon, 172, (2021), 360-371] Koji Yokoyama, Yoshinori Sato, Masashi Yamamoto, Tetsuo Nishida, Takashi Itoh, Kenichi Motomiya, Yoshinori Sato
- One-step synthesis of CuInS₂ nanoparticles using aqueous chelated metal complexes as a starting material. [Journal of Materials Science: Materials in Electronics, 32(7), (2021), 9531-9539] Mitsuo Goto, Kouhei Sato, Shun Yokoyama, Hideyuki Takahashi
- Precise composition modulation for optimizing NiWO₄ / Pt/CdS Z-scheme system. [Nano Select, 2(10), (2021), 1974-1985] Mingjie Li, Shun Yokoyama, Hideyuki Takahashi, Keyou Yan, Kazuyuki Tohji
- Pt distribution-controlled Ni-Pt nanocrystals via an alcohol reduction technique for the oxygen reduction reaction. [New Journal of Chemistry, 45(25), (2021), 11183-11191] Kaneyuki Taniguchi, Jhon L. Cuya Huaman, Daichi Iwata, Shun Yokoyama, Takatoshi Matsumoto, Kazumasa Suzuki, Hiroshi Miyamura, Jeyadevan Balachandran

国際エネルギー資源学分野

【論文】

- Albite-K-feldspar-quartz equilibria in hydrothermal fluids at 400, 420 °C and 20-35 MPa: Experimental measurements and thermodynamic calculations. [Geothermics, 94, (2021), 102109] Atsushi Okamoto, Hajime Ishii, Ryosuke Oyanagi, Noriyoshi Tsuchiya
- Characteristics of trace elements compositions of tephros (B-Tm and To-a) for identification tools. [Geochemical Journal, 55, (2021), 117-133] Fumiko Watanabe Nara, Tatsunori Yokoyama, Shin-ichi Yamasaki, Masayo Minami, Yoshihiro Asahara, Takahiro Watanabe, Kazuyoshi Yamada, Noriyoshi Tsuchiya, Yoshinori Yasuda
- Creating Cloud-Fracture Network by Flow-induced Microfracturing in Superhot Geothermal Environments. [Rock Mechanics and Rock Engineering, 54, (2021), 2959-2974] Ryota Goto, Noriaki Watanabe, Kiyotoshi Sakaguchi, Takahiro Miura, Youqing Chen, Takuya Ishibashi, Eko Pramudyo, Francesco Parisio, Keita Yoshioka, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Data-driven analysis for source apportionment and geochemical backgrounds establishment of toxic elements and REEs in the Tohoku region, Japan. [Chemosphere, 263, (2021), 128268] Arie Pujiwati, Jiajie Wang, Kengo Nakamura, Yoshishige Kawabe, Noriaki Watanabe, Takeshi Komai
- Dynamic evaluation method for planning sustainable landfills using GIS and multi-criteria in areas of urban sprawl with land-use conflicts. [PLOS ONE, 16(8), (2021), e0254441-e0254441] Chelsea Langa, Junko Hara, Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai
- Enhancement of aragonite mineralization with a chelating agent for CO₂ storage and utilization at low to moderate temperatures. [Scientific Reports, 11, (2021), Article number: 13956] Jiajie Wang, Noriaki Watanabe, Kosuke Inomoto, Masanobu Kamitakahara, Kengo Nakamura, Takeshi Komai, Noriyoshi Tsuchiya
- Geochemical characteristics of paleotsunami deposits from the Shizuoka plain on the Pacific coast of middle Japan. [Geochemical Journal 55, (2021), 325-340] Takahiro Watanabe, Noriyoshi Tsuchiya, Akihisa Kitamura, Shin-ichi Yamasaki, Fimiko W Nara
- High explosivity of the June 21, 2019 eruption of Raikoke volcano (Central Kuril Islands); mineralogical and petrological constraints on the pyroclastic materials. [Journal of Volcanology and Geothermal Research, 418, (2021), 107346] Sergey Smirnov, Ildar Nizametdinov, Tatyana Timina, Alexey Kotov, Viktoriya Sekisova, Dmitry Kuzmin, Elena Kalacheva, Vladimir Rashidov, Alexander Rybin, Andrey Lavrenchuk, Alexander Degterev, Ivan Maksimovich, Adam Abersteiner
- Local initiative hydrogen production by utilization of aluminum waste materials and natural acidic hot-spring water. [Applied Energy, 293(1), (2021), 116909] Vani Novita Alviani , Nobuo Hirano , Noriaki Watanabe , Masahiro Oba , Masaaki Uno, and Noriyoshi Tsuchiya

- Method for Determining Water Content in Natural Rhyolitic Melts by Raman Spectroscopy and Electron Microprobe Analysis. [Petrology, 29, (2021), 386-403] Alexey Kotov, Sergey Smirnov, Pavel Plechov, Eduard Persikov, Nadezhda Chertkova, Ivan Maksimovich, Nikolay Karmanov, Pavel Buhtiyarov
 - Multi-stage infiltration of Na- and K-rich fluids from pegmatites at mid-crustal depths as revealed by feldspar replacement textures. [Lithos, 388-389, (2021), 106096] Astin Nurdiana, Atsushi Okamoto, Kenta Yoshida, Masaoki Uno, Takayoshi Nagaya, Noriyoshi Tsuchiya
 - Multi-stage serpentinization of ultramafic rocks in the Manlay Ophiolite, southern Mongolia. [Mongolian Geoscientist, 26(53), (2021), 1-17] Amarbayar Nomuulin, Noriyoshi Tsuchiya, Otgonbayar Dandar, Atsushi Okamoto, Masaoki Uno, Undarmaa Batsaikhan, Jiajie Wang
 - MXenes and their derivatives as nitrogen reduction reaction catalysts: recent progress and perspectives. [Materials Today Energy, 22, (2021), 100864] Amrillah Tahta; Hermawan Angga, Alviani Vani Novita, Seh Zhi Wei, Yin Shu
 - Prediction and Remediation of Groundwater Pollution in a Dynamic and Complex Hydrologic Environment of an Illegal Waste Dumping Site. [Applied Sciences, 11(19), (2021), 9229] Thatthep Pongritsakda, Kengo Nakamura, Jiajie Wang, Noriaki Watanabe, Takeshi Komai
 - Quantitative and semi-quantitative analyses using a portable energy dispersive X-ray fluorescence spectrometer: Geochemical applications in fault rocks, lake sediments, and event deposits. [Journal of Mineralogical and Petrological Sciences, 116(3), (2021), 140-158] Takahiro WATANABE, Chikako ISHII, Chika ISHIZAKA, Masakazu NIWA, Koji SHIMADA, Yuki SAWAI, Noriyoshi TSUCHIYA, Tetsuya MATSUNAKA, Shinya OCHIAI, Fumiko W. NARA
 - Redistribution of magnetite during multi-stage serpentinization: Evidence from the Taishir Massif, Khantaishir ophiolite, western Mongolia. [Journal of Mineralogical and Petrological Sciences, 116(3), (2021), 176-181] Otgonbayar Dandar, Atsushi Okamoto, Masaoki Uno, Noriyoshi Tsuchiya
 - Water-Enhanced Flux Changes under Dynamic Temperatures in the Vertical Vapor-Phase Diffusive Transport of Volatile Organic Compounds in Near-Surface Soil Environments. [Sustainability, 13(12), (2021), 6570-6570] Asma Akter Parlin, Monami Kondo, Noriaki Watanabe, Kengo Nakamura, Mizuki Yamada, Jiajie Wang, Takeshi Komai
 - Water-Induced Inverse Correlation between Temperature and Flux Changes in Vertical Vapor-Phase Diffusive Transport of Volatile Organic Compounds in Near-Surface Soil Environments. [Applied Sciences, 11(8), (2021), 3489-3489] Asma Akter Parlin, Noriaki Watanabe, Kengo Nakamura, Mizuki Yamada, Jiajie Wang, Takeshi Komai
 - 秋田県三途川カルデラ南部域の地熱資源評価 . [日本地熱学会誌 , 43, (2021)] 布原啓史 , 岡野宏樹 , 山田亮一 , 平野伸夫 , 土屋範芳
- 【著書】
- FORUM EYE INTERVIEW 地熱発電の普及に向けて研究実施「地上」

- 「地下」「社会」の課題解決を支援 . [月刊エネルギーフォーラム , 804, (2021), 82-83, 株式会社エネルギーフォーラム] 窪田ひろみ
- おだやかな革命を観る . [災害ドキュメンタリー映画の扉 , 高倉浩樹・是恒さくら 編 , (2021), 96-105, 新泉社] 土屋範芳

環境政策学講座

環境・エネルギー経済学分野

【論文】

- A Review of Challenges and Opportunities for End-of-Life Vehicle Recycling in Developing Countries and Emerging Economies: A SWOT Analysis. [Sustainability, 13(9), (2021), 4918-4918] Solange Numfor, Geoffrey omosa, zhengyang zhang, Kazuyo Matsubae
- Evaluation of Environmental and Economic Benefits of Land Reclamation in the Indonesian Coal Mining Industry. [Resources, 10(6), (2021), 60-60] Imam Eko Setiawan, Zhengyang Zhang, Glen Corder, Kazuyo Matsubae
- Evaluation of resource use in the household lighting sector in Malaysia considering land disturbances through mining activities. [Resources, Conservation and Recycling, 166, (2021), 105343] Kosai, S., Badin, A.B., Qiu, Y., Matsubae, K., Suh, S., Yamasue, E.
- Impact of remanufacturing on the reduction of metal losses through the life cycles of vehicle engines. [Resources, Conservation and Recycling, 170, (2021), 105614] Zhengyang Zhang, Kazuyo Matsubae, Kenichi Nakajima
- Natural resource use of gasoline, hybrid, electric and fuel cell vehicles considering land disturbances. [Resources, Conservation and Recycling, 166, (2021), 105256] Kosai, S., Matsui, K., Matsubae, K., Yamasue, E., Nagasaka, T.
- Nutrient-extended input-output (NutriIO) method for the food nitrogen footprint. [Environmental Research Letters, 16, (2021), 115010] Azusa Oita, Kiwamu Katagiri, Tetsuya Eguchi, Ryoko Morioka, Junko Shindo, Kentaro Hayashi, Kazuyo Matsubae
- Potential for Food Self-Sufficiency Improvements through Indoor and Vertical Farming in the Gulf Cooperation Council: Challenges and Opportunities from the Case of Kuwait. [Sustainability, 13(22), (2021), 12553] Meshal J. Abdullah, Zhengyang Zhang, Kazuyo Matsubae
- The Effect of Religious Dietary Cultures on Food Nitrogen and Phosphorus Footprints: A Case Study of India. [Nutrients, 13(6), (2021), 1926] Aurup Ratan Dhar, Azusa Oita, Kazuyo Matsubae
- プロセス鉱学的特性に基づく銅コバルト硫化物鉱石の浮選と尾鉱の廃棄 . [Minerals, 11(10), (2021), 1078] Wentao Hu, Kai Tian, zhengyang zhang, Jiuchuan Guo, Xinwei Liu, Hongdong Yu, Huajun Wang

寄附講座 (DOWAホールディングス)

環境物質政策学講座

地圏環境政策学分野

【論文】

- Combined UV-irradiation and pyrolysis-GC/MS approach for evaluating the deterioration behavior of ethylene vinyl acetate. [Polymer Degradation and Stability, 190, (2021), 109623] Kanako Yamada, Shogo Kumagai, Toshikazu Shiratori, Tomohito Kameda, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka
- Estimation of recoverable resources used in lithium-ion batteries from portable electronic devices in Japan. [Resources, Conservation and Recycling, 175, (2021), 1-9] Yoshinori Morita, Yuko Saito, Toshiaki Yoshioka, Toshikazu Shiratori
- 二, 三の集積培養菌による銅精鉱からの黄銅鉱または黄鉄鉱の選択的浸出実験. [日本鉱業会誌, 104(1209), (2021), 789-794] 鴻巣あきら, 千田ただし, 酒井昇, 白鳥寿一, 井上千弘, 下飯坂潤三
- 資源の循環に関する国際的動向—EUの二次資源関連制度を中心に—. [金属, 91(10), (2021), 806-812] 白鳥寿一, 齋藤優子

連携講座

環境リスク評価学分野

【論文】

- Bayesian and neural network approaches to estimate deep temperature distribution for assessing a supercritical geothermal system: Evaluation using a numerical model. [Natural Resources Research, 30(5), (2021), 3289-3314] Ishitsuka, K., Kobayashi, Y., Watanabe, N., Yamaya, Y., Bjarkason, E., Suzuki, A., Mogi, T., Asanuma, H., Kajiwar, T., Sugimoto, T., Saito, R.
- Characterization of hydrothermal alteration along geothermal wells using unsupervised machine-learning analysis of X-ray powder diffraction data. [Earth Science Informatics, (2021), <https://doi.org/10.1007/s12145-021-00694-3>] Ishitsuka, K., Ojima, H., Mogi, T., Kajiwar, T., Sugimoto, T., Asanuma, H.
- Effects of ferrous iron supplementation on reductive dechlorination of tetrachloroethene and on methanogenic microbial community. [FEMS Microbiology Ecology, 97(5), (2021), fiab069] Miho Yoshikawa, Ming Zhang, Yoshishige Kawabe, and Taiki Katayama
- Effects of Silicic Acid on Leaching Behavior of Arsenic from Spent Calcium-Based Adsorbents with Arsenite. [Sustainability, 13(23), (2021), 12937] Hajime Sugita, Terumi Oguma, Junko Hara, Ming Zhang, and Yoshishige Kawabe
- Estimation of Casing Material Corrosion Rates in Supercritical Geothermal Development. [Geothermics, 96,

(2021), 102149] Yanagisawa, N., Masuda, Y., Asanuma, H., Osato, K., Sakura, K.

- Fluid activity detection in geothermal areas using a single seismic station by monitoring horizontal-to-vertical spectral ratios. [Scientific Reports, 11, (2021), Article number: 8372] Okamoto, K., Asanuma, H.
- Geoenvironmental properties of industrially contaminated site soil solidified/stabilized with a sustainable by-product-based binder. [Science of The Total Environment, 765(15), (2021), 142778] Feng, Y., Du, Y., Zhou, A., Zhang, M., Li, J., Zhou, S., Xia, W.
- Shadow effect of the pH distribution of surface waters around the Kakkonda geothermal field, Japan. [Geothermics, 95, (2021), 102111] Suzuki, Y., Ioka, S., Muraoka, H., Asanuma, H.
- Short-term variation and discharge mechanism of the Futamata hot spring estimated by continuous monitoring data. [Water, 13(7), (2021), 977] Suzuki, Y., Asanuma, H.
- Thermal Monitoring of the Lithosphere by the Interaction of Deep Low-Frequency and Ordinary High-Frequency Earthquakes in Northeastern Japan. [Energies 14(6), (2021), 1546] Suzuki, Y., Muraoka, H., Asanuma, H.

先端環境創成学専攻

基幹講座

都市環境・環境地理学講座

環境地理学分野

【論文】

- A longitudinal residential relocation study of changes in street layout and physical activity. [Scientific Reports, 11, (2021), 7691] Gavin R McCormack, Mohammad Javad Koohsari, Jennifer E Vena, Koichiro Oka, Tomoki Nakaya, Jonathan Chapman, Ryan Martinson, Graham Matsalla
- Acceptance of a COVID-19 vaccine in Japan during the COVID-19 pandemic. [Vaccines, 9(3), (2021), 1-11] Masaki Machida, Itaru Nakamura, Takako Kojima, Reiko Saito, Tomoki Nakaya, Tomoya Hanibuchi, Tomoko Takamiya, Yuko Odagiri, Noritoshi Fukushima, Hiroyuki Kikuchi, Shiho Amagasa, Hidehiro Watanabe, Shigeru Inoue
- Associations between the sense of accessibility, accessibility to specific destinations, and personal factors: A cross-sectional study in Sendai, Japan. [Transportation Research Interdisciplinary Perspectives, 12, (2021), 100491] Ryo Tanimoto, Tomoya Hanibuchi
- Associations between the traditional and novel neighbourhood built environment metrics and weight status among Canadian men and women. [Canadian Journal of Public Health = Revue canadienne de sante publique, 112(1), (2021), 166-174] Vikram Nichani, Mohammad Javad Koohsari, Koichiro Oka, Tomoki Nakaya, Ai Shibata, Kaori Ishii, Akitomo Yasunaga,

Liam Turley, Gavin R McCormack

- Associations of insomnia with noise annoyance and neighborhood environments: A nationwide cross-sectional study in Japan. [Preventive Medicine Reports, 23, (2021), 101416] Tomoya Hanibuchi, Tomoki Nakaya, Tsuyoshi Kitajima, Hiroshi Yatsuya
- Burden of cancer attributable to air pollution in Japan in 2015 [GHM Open, 1(2021), 76-84] Megumi Hori, Kota Katanoda, Kayo Ueda, Tomoki Nakaya, Eiko Saito, Sarah Krull Abe, Mayo Hirabayashi, Tomohiro Matsuda, Manami Inoue, the Cancer PAF Japan Collaborators
- Changes in Workers' Sedentary and Physical Activity Behaviors in Response to the COVID-19 Pandemic and Their Relationships With Fatigue: Longitudinal Online Study. [JMIR Public Health and Surveillance, 7(3), (2021), e26293] Mohammad Javad Koohsari, Tomoki Nakaya, Gavin R McCormack, Ai Shibata, Kaori Ishii, Koichiro Oka
- Coastal exposure and residents' mental health in the affected areas by the 2011 Great East Japan Earthquake and Tsunami. [Scientific Reports, 11(1), (2021), 16751] Ai Tashiro, Mana Kogure, Shohei Nagata, Fumi Itabashi, Naho Tsuchiya, Atsushi Hozawa, Tomoki Nakaya
- Dog ownership, dog walking, and social capital. [Humanities & Social Sciences Communications, 8, (2021), Article number: 126] Mohammad Javad Koohsari, Akitomo Yasunaga, Ai Shibata, Kaori Ishii, Rina Miyawaki, Kuniko Araki, Tomoki Nakaya, Tomoya Hanibuchi, Gavin R. McCormack, Koichiro Oka
- Domain-specific active and sedentary behaviours in relation to workers' presenteeism and absenteeism. [Journal of Occupational and Environmental Medicine, 63(10), (2021), e685-e688] Mohammad Javad Koohsari, Akitomo Yasunaga, Gavin R McCormack, Ai Shibata, Kaori Ishii, Tomoki Nakaya, Koichiro Oka
- Eradication of the mongoose is crucial for the conservation of three endemic bird species in Yambaru, Okinawa Island, Japan. [Biological Invasions, 23(7), (2021), 2249-2260] Tsutomu Yagihashi, Shin Ichi Seki, Tomoki Nakaya, Katsushi Nakata, Nobuhiko Kotaka
- Evidence for urban design and public health policy and practice: Space syntax metrics and neighborhood walking. [Health & Place, 67, (2021), 102277] Gavin R McCormack, Mohammad Javad Koohsari, Liam Turley, Tomoki Nakaya, Ai Shibata, Kaori Ishii, Akitomo Yasunaga, Koichiro Oka
- Geographical socioeconomic inequalities in healthy life expectancy in Japan, 2010-2014: An ecological study: Geographical socioeconomic inequalities in healthy life expectancy in Japan. [The Lancet Regional Health - Western Pacific, 14, (2021), 100204] Aoi Kataoka, Keisuke Fukui, Tomoharu Sato, Hiroyuki Kikuchi, Shigeru Inoue, Naoki Kondo, Tomoki Nakaya, Yuri Ito
- How frequently do ordinary citizens practice hand hygiene at appropriate moments during the COVID-19 pandemic in Japan. [Japanese Journal of Infectious Diseases, 74(5), (2021), 405-410] Masaki Machida, Itaru Nakamura, Reiko Saito, Tomoki

- Nakaya, Tomoya Hanibuchi, Tomoko Takamiya, Yuko Odagiri, Noritoshi Fukushima, Hiroyuki Kikuchi, Shiho Amagasa, Takako Kojima, Hidehiro Watanabe, Shigeru Inoue
- Kernel-based formulation of intervening opportunities for spatial interaction modelling. [Scientific Reports, 11(1), (2021), 950-950] Masaki Kotsubo, Tomoki Nakaya
- Mobility Change and COVID-19 in Japan: Mobile Data Analysis of Locations of Infection. [Journal of Epidemiology, 31(6), (2021), 387-391] Shohei Nagata, Tomoki Nakaya, Yu Adachi, Toru Inamori, Kazuto Nakamura, Dai Arima, Hiroshi Nishiura
- Quantitative Environmental Equity Analysis of Perceived Accessibility to Urban Parks in Osaka Prefecture, Japan. [Applied Spatial Analysis and Policy, 14(2), (2021), 337-354] Shinya Yasumoto, Tomoki Nakaya, Andrew P. Jones
- Relationship between Internet use and out-of-home activities during the first wave of the COVID-19 outbreak in Japan. [Transportation Research Interdisciplinary Perspectives, 10, (2021), 100343] Naoto Yabe, Tomoya Hanibuchi, Hiroki M. Adachi, Shohei Nagata, Tomoki Nakaya
- Relationships among changes in walking and sedentary behaviors, individual attributes, changes in work situation, and anxiety during the COVID-19 pandemic in Japan. [Preventive Medicine Reports, 24, (2021), 101640] Shohei Nagata, Hiroki M Adachi, Tomoya Hanibuchi, Shiho Amagasa, Shigeru Inoue, Tomoki Nakaya
- Strong, weak, or reversed: The spatial heterogeneities in the effects of squatter settlements on house prices. [Cities, 117, (2021), 103304] Alberto Federico Ogas-Mendez, Yuzuru Isoda, Tomoki Nakaya
- Survey on usage and concerns of a COVID-19 contact tracing application in Japan. [Public Health in Practice, 2, (2021), 100125] Masaki Machida, Itaru Nakamura, Reiko Saito, Tomoki Nakaya, Tomoya Hanibuchi, Tomoko Takamiya, Yuko Odagiri, Noritoshi Fukushima, Hiroyuki Kikuchi, Shiho Amagasa, Takako Kojima, Hidehiro Watanabe, Shigeru Inoue
- The relationship between walk score[®] and perceived walkability in ultrahigh density areas. [Preventive Medicine Reports, 23, (2021), 101393] Mohammad Javad Koohsari, Gavin R McCormack, Ai Shibata, Kaori Ishii, Akitomo Yasunaga, Tomoki Nakaya, Koichiro Oka
- Traditional and novel walkable built environment metrics and social capital. [Landscape and Urban Planning, 214, (2021), 104184] Mohammad Javad Koohsari, Tomoki Nakaya, Gavin R. McCormack, Ai Shibata, Kaori Ishii, Akitomo Yasunaga, Tomoya Hanibuchi, Koichiro Oka
- Trends in COVID-19 vaccination intent from pre- to post-COVID-19 vaccine distribution and their associations with the 5C psychological antecedents of vaccination by sex and age in Japan. [Human Vaccines & Immunotherapeutics, 17(11), (2021), 3954-3962] Masaki Machida, Itaru Nakamura, Takako Kojima, Reiko Saito, Tomoki Nakaya, Tomoya Hanibuchi, Tomoko Takamiya, Yuko Odagiri, Noritoshi Fukushima, Hiroyuki Kikuchi, Shiho Amagasa, Hidehiro Watanabe, Shigeru Inoue

● Urbanization level and neighborhood deprivation, not COVID-19 case numbers by residence area, are associated with severe psychological distress and new-onset suicidal ideation during the COVID-19 pandemic. [Journal of Affective Disorders, 287, (2021), 89-95] Ryo Okubo, Takashi Yoshioka, Tomoki Nakaya, Tomoya Hanibuchi, Hiroki Okano, Satoru Ikezawa, Kanami Tsuno, Hiroshi Murayama, Takahiro Tabuchi

● Who is staying home and who is not? Demographic, socioeconomic, and geographic differences in time spent outside the home during the COVID-19 outbreak in Japan. [Preventive Medicine Reports, 21, (2021), 101306] Tomoya Hanibuchi, Naoto Yabe, Tomoki Nakaya

● Working from home after the COVID-19 pandemic: Do company employees sit more and move less? [Sustainability (Switzerland), 13(2), (2021), 1-8] Mohammad Javad Koohsari, Tomoki Nakaya, Ai Shibata, Kaori Ishii, Koichiro Oka

● COVID-19 流行の空間疫学：コロナ禍の地理学 [学術の動向, 26(11)(2021), 60-67] 中谷友樹, 永田彰平

● Gaihozu Viewer:Indonesian-territory version (GV-I) の公開. [外邦図ニューズレター, 11, (2021), 43-47] 星田侑久, 中谷友樹, 永田彰平, 磯田弦, 関根良平

● iPhone のヘルスケアアプリとインターネット調査を用いた歩数計測の新しい方法の開発：COVID-19 流行に対する緊急事態宣言前後の歩数変化調査を事例に. [運動疫学研究, Advance Published, (2021),] 足立浩基, 埴淵知哉, 永田彰平, 天笠志保, 井上茂, 中谷友樹

● アメリカの大学図書館に収蔵されている外邦図—ハワイ大学およびワシントン大学の訪問記録—. [外邦図ニューズレター, 11, (2021), 37-42] 関根良平, 山本健太

● オープンスペースへの認知的近接性が健康格差に与える影響—大阪府の事例—[人文地理, 73(4)(2021), 445-465] 安本 晋也, 中谷 友樹

● 「外邦図デジタルアーカイブ」の利活用状況—2015 年以降の動向—. [外邦図ニューズレター, 11, (2021), 48-53] 関根良平

● 国勢調査の「不詳」増加をもたらす統計地図の歪みの可視化. [E-journal GEO, 16(2), (2021), 1-14] 山本涼子, 埴淵知哉, 中谷友樹, 山内昌和

【総説・解説】

● COVID-19 流行と災害の地理学 (特集 防災教育を活かす「地理総合」へ) . [科学, 91(5), (2021), 468-473] 中谷友樹

● COVID-19 流行を GIS で追う. [Precision Medicine = プレジジョンメディシン, 4(7), (2021), 615-618] 永田彰平, 中谷友樹

● 感染症の災害地理学. [地理, 66(9) (2021), 47-63] 中谷友樹

【著書】

● Geographic Disparities in Health. [Health in Japan: Social Epidemiology of Japan since the 1964 Tokyo Olympics, (2021), 265-280, Oxford University Press] Tomoki Nakaya, Tomoya Hanibuchi

●日本の米どころ東北地方. [新・日本のすがた 6 東北地方, 帝国書院編集部 編, (2021), 帝国書院] 関根良平

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

資源分離・処理プロセス学分野

【論文】

● Effect of Ore Type and Gangue Content on Carburization and Melting Behavior of Carbon-Iron Ore Composite. [ISIJ International, 61(6), (2021), 1808-1813] Ryota Higashi, Kanae Owaki, Daisuke Maruoka, Taichi Murakami, Eiki Kasai

● Effect of Silica in Ash of Coke on Carburization and Melting of Iron. [ISIJ International, 61(5), (2021), 1479-1487] Taichi Murakami, Daisuke Maruoka, Eiki Kasai

●焼結機での複合焼成を目指した炭材核ペレットの設計. [鉄と鋼, 107(6), (2021), 483-493] 岩瀬一洋, 樋口隆英, 山本哲也, 村上太一

●炭材共存下の鉄鉱石焼結層内における鉄系凝結材の酸化反応促進. [鉄と鋼, 107(6), (2021), 439-446] 昆野友城, 丸岡大佑, 村上太一, 葛西栄輝

●低スラグ GP (グリーンペレット) の焼結層下層配置による焼結生産性および品質向上. [鉄と鋼, 107(6), (2021), 471-482] 松村勝, 山口泰英, 樋口謙一, 村上太一, 前田敬之

●鉄鉱石焼結層内における鉄系凝結材の酸化反応に及ぼす酸素分圧の影響. [鉄と鋼, 107(6), (2021), 431-438] 丸岡大佑, 嶋翼, 村上太一, 葛西栄輝

●微粉造粒物の焼結後強度に及ぼす鉱石種および脈石成分の影響. [鉄と鋼, 107(6), (2021), 463-470] 村上太一, 中村周矢, 丸岡大佑, 葛西栄輝

地球システム計測学分野

【論文】

● First ground-based Fourier transform infrared (FTIR) spectrometer observations of HFC-23 at Rikubetsu, Japan, and Syowa Station, Antarctica. [Atmospheric Measurement Techniques, 14(9), (2021), 5955-5976] Masanori Takeda, Hideaki Nakajima, Isao Murata, Tomoo Nagahama, Isamu Morino, Geoffrey C. Toon, Ray F. Weiss, Jens Mühle, Paul B. Krummel, Paul J. Fraser, Hsiang-Jui Wang

● Intense Zonal Wind in the Martian Mesosphere During the 2018 Planet-Encircling Dust Event Observed by Ground-based IR Heterodyne Spectroscopy. [Geophys. Res. Lett., 48(11), (2021), e2021GL092413] Miyamoto, A, H. Nakagawa, T. Kuroda, K. Takami, I. Murata, A. S. Medvedev, N. Yoshida, K. Toriumi, S. Aoki, H. Sagawa, Y. Kasaba, N. Terada

●南極域における大気重力波のスーパープレッシャー気球観測計画. [宇宙航空研究開発機構研究開発報告：大気球研究報告, 20(9), (2021), 19-33] 富川喜弘, 佐藤薫, 斎藤芳隆, 村田功, 平沢尚彦, 高麗正史, 中篠恭一, 秋田大輔, 松尾卓摩, 藤原正智, 吉田理人

水資源システム学分野

【論文】

● A successful start-up of an anaerobic membrane bioreactor

(AnMBR) coupled mainstream partial nitrification-anammox (PN/A) system: A pilot-scale study on in-situ NOB elimination, AnAOB growth kinetics, and mainstream treatment performance. [Water Research, 207, (2021), 117783] Jiang Wu, Zhe Kong, Zibin Luo, Yu Qin, Chao Rong, Tianjie Wang, Taira Hanaoka, Shinichi Sakemi, Masami Ito, Shigeki Kobayashi, Masumi Kobayashi, Kai-Qin Xu, Takuro Kobayashi, Kengo Kubota, Yu-You Li

● Achieving superior nitrogen removal performance in low-strength ammonium wastewater treatment by cultivating concentrated, highly dispersive, and easily settleable granule sludge in a one-stage partial nitrification/anammox-HAP reactor. [Water Research, 200, (2021), 117217] Yan Guo, Chenglei Xie, Yujie Chen, Kampachiro Urasaki, Yu Qin, Kengo Kubota, Yu-You Li

● Efficient phosphorus recovery by enhanced hydroxyapatite formation in a high loading anammox expanded bed reactor at 15°C. [Chemical Engineering Journal, 425, (2021), 130636] Haiyuan Ma, Yuanfan Zhang, Yi Xue, Kengo Kubota, Yu-You Li

● Evaluation of microbial community succession and trophic transfer using microscopic, molecular and stable isotope ratio analysis in a sponge-based sewage treatment system. [Biochemical Engineering Journal, 171, (2021), 108002] Takashi Onodera, Yasuyuki Takemura, Kengo Kubota, Rina Kato, Tsutomu Okubo, Gen Kanaya, Kazuaki Syutsubo, Shigeki Uemura

● Important effects of temperature on treating real municipal wastewater by a submerged anaerobic membrane bioreactor: Removal efficiency, biogas, and microbial community. [Bioresource Technology, 336, (2021), 125306] Jiayuan Ji, Jialing Ni, Akito Ohtsu, Naoko Isozumi, Yisong Hu, Runda Du, Yujie Chen, Yu Qin, Kengo Kubota, Yu-You Li

● Niche differentiation of phenol-degrading microorganisms in UASB granular sludge as revealed by fluorescence in situ hybridization. [Engineering, In Press, (2021)] Kengo Kubota, Kei Igarashi, Masayoshi Yamada, Yasuyuki Takemura, Yu-You Li, Hideki Harada

● Sequence-Specific Capture of Oligonucleotide Probes (SCOPE): a Simple and Rapid Microbial rRNA Quantification Method Using a Molecular Weight Cutoff Membrane. [Applied and Environmental Microbiology, 87(20), (2021), e01167-21] Yasuyuki Takemura, Yuji Sekiguchi, Kazuaki Syutsubo, Hideki Harada, Tatsuo Omura, Yu-You Li, Kengo Kubota

● The impact of calcium supplementation on methane fermentation and ammonia inhibition of fish processing wastewater. [Bioresource Technology, 337, (2021), 125471] Eli Hendrik Sanjaya, Hui Cheng, Yu Qin, Kengo Kubota, Yu-You Li

● PMA-PCR 法を用いた高温嫌気性消化汚泥の微生物群集構造の解明. [土木学会論文集 G(環境), 77(7), (2021), III_103-III_109] 阿部天磨, 佐藤幹子, 矢口淳一, 李玉友, 久保田健吾

●食品廃棄物を対象とした省エネルギー型小規模メタン発酵施設の物質・エネルギー収支の評価. [土木学会論文集 G(環境), 77(7), (2021), III_367-III_373] 丹野淳, 佐川剛史, 久保田健吾, 李玉友

【総説・解説】

● Microbial community dynamics in anaerobic digesters treating organic fraction of municipal solid waste. [Environmental Technology & Innovation, 21, (2021), 101303] Vinay Kumar Tyagi, Akansha Bhatia, Kengo Kubota, Ankur Rajpal, Banafsha Ahmed, Abid Ali Khan, A.A. Kazmi, Manish Kumar

自然共生システム学講座

資源再生プロセス学分野

【論文】

● Ammonia adsorption by L-type zeolite and Prussian blue from aqueous and culture solutions. [Colloids and Surfaces A: Physicochemical and Engineering Aspects, 622, (2021), 126595] Tomohito Kameda, Hanako Kikuchi, Fumihiko Kitagawa, Shogo Kumagai, Yuko Saito, Masayuki Kondo, Yoichi Jimbo, Toshiaki Yoshioka

● Bench-scale PVC swelling and rod milling of waste wire harnesses for recovery of Cu, PVC, and plasticizers. [Journal of Material Cycles and Waste Management, 24, (2021), 12-23] Harendra Kumar, Shogo Kumagai, Tomohito Kameda, Yuko Saito, Toshiaki Yoshioka

● Chemical Feedstock Recovery from Hard-to-Recycle Plastics through Pyrolysis-Based Approaches and Pyrolysis-Gas Chromatography. [Bulletin of the Chemical Society of Japan, 94(10), (2021), 2370-2380] Shogo Kumagai, Toshiaki Yoshioka

● Combined UV-irradiation and pyrolysis-GC/MS approach for evaluating the deterioration behavior of ethylene vinyl acetate. [Polymer Degradation and Stability, 190, (2021), 109623] Kanako Yamada, Shogo Kumagai, Toshikazu Shiratori, Tomohito Kameda, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka

● Continuous treatment of abandoned mine wastewater containing As and Fe using Mg-Al layered double hydroxides with flocculation. [International Journal of Environmental Science and Technology, 18, (2021), 4037-4042] X. Yang, H. Osawa, T. Kameda, Y. Masaki, Y. Saito, S. Kumagai, T. Yoshioka

● Direct dimethyl carbonate synthesis from CO₂ and methanol catalyzed by CeO₂ and assisted by 2-cyanopyridine: a cradle-to-gate greenhouse gas emission study. [GREEN CHEMISTRY, 23(1), (2021), 457-469] Hajime Ohno, Mahdi Ikhlayel, Masazumi Tamura, Kenji Nakao, Kimihito Suzuki, Kentaro Morita, Yuzuru Kato, Keiichi Tomishige, Yasuhiro Fukushima

● Enhanced production of phenol and debromination by co-pyrolysis of the non-metallic fraction of printed circuit boards and waste tires. [Green Chemistry, 23(17), (2021), 6392-6404] Chuan Ma, Shogo Kumagai, Yuko Saito, Tomohito Kameda, Toshiaki Yoshioka

- Estimation of recoverable resources used in lithium-ion batteries from portable electronic devices in Japan. [Resources, Conservation and Recycling, 175, (2021), 1-9] Yoshinori Morita, Yuko Saito, Toshiaki Yoshioka, Toshikazu Shiratori
- Evolution of carbon nanostructure during pyrolysis of homogeneous chitosan-cellulose composite fibers. [Carbon, 185, (2021), 27-38] Hilda Zahra, Daisuke Sawada, Shogo Kumagai, Yu Ogawa, Leena-Sisko Johansson, Yanling Ge, Chamseddine Guizani, Toshiaki Yoshioka, Michael Hummel
- Investigation of the mechanism of Cu(II) removal using Mg-Al layered double hydroxide intercalated with carbonate: Equilibrium and pH studies and solid-state analyses. [Inorganic Chemistry Communications, 132, (2021), 108839] Xinyi Yang, Tomohito Kameda, Yuko Saito, Shogo Kumagai, Toshiaki Yoshioka
- Kinetic and equilibrium analyses of lactate adsorption by Cu-Al and Mg-Al layered double hydroxides (Cu-Al LDH and Mg-Al LDH) and Cu-Al and Mg-Al layered double oxides (Cu-Al LDO and Mg-Al LDO). [Nano-Structures & Nano-Objects, 25, (2021), 100656] Tomohito Kameda, Kazuya Horikoshi, Hanako Kikuchi, Fumihiko Kitagawa, Shogo Kumagai, Yuko Saito, Masayuki Kondo, Yoichi Jimbo, Toshiaki Yoshioka
- Kinetics and adsorption isotherm of ammonia uptake by cation exchange resins and treatment of mixed aqueous lactate-ammonia by Mg-Al layered double oxide and the resins. [Journal of Water Process Engineering, 41, (2021), 102027] Tomohito Kameda, Kazuya Horikoshi, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka
- Lactate adsorption by layered double hydroxides in aqueous solution and cell culture medium. [Colloids and Surfaces A: Physicochemical and Engineering Aspects, 612, (2021), 125975] Tomohito Kameda, Hanako Kikuchi, Fumihiko Kitagawa, Shogo Kumagai, Yuko Saito, Masayuki Kondo, Yoichi Jimbo, Toshiaki Yoshioka
- Latest Trends in Pyrolysis Gas Chromatography for Analytical and Applied Pyrolysis of Plastics. [Analytical Sciences, 37(1), (2021), 145-157] Shogo KUMAGAI, Toshiaki YOSHIOKA
- Low-temperature catalytic upgrading of waste polyolefinic plastics into liquid fuels and waxes. [Applied Catalysis B: Environmental, 285, (2021), 119805] Yosuke Nakaji, Masazumi Tamura, Shuhei Miyaoka, Shogo Kumagai, Mifumi Tanji, Yoshinao Nakagawa, Toshiaki Yoshioka, Keiichi Tomishige
- Mitigation of bromine-containing products during pyrolysis of polycarbonate-based tetrabromobisphenol A in the presence of copper(I) oxide. [Journal of Hazardous Materials, 409, (2021), 124972] Sylwia Oleszek, Shogo Kumagai, Mariusz Grabda, Kenji Shiota, Toshiaki Yoshioka, Masaki Takaoka
- One-pot wet ball-milling for waste wire-harness recycling. [Journal of Material Cycles and Waste Management, 23(2), (2021), 461-469] Harendra Kumar, Shogo Kumagai, Tomohito Kameda, Yuko Saito, Toshiaki Yoshioka
- Prediction of pyrolyzate yields by response surface methodology: A case study of cellulose and polyethylene co-pyrolysis. [Bioresource Technology, 337, (2021), 125435]

- Shengyu Xie, Shogo Kumagai, Tomohito Kameda, Yuko Saito, Toshiaki Yoshioka
- Preparation of Zn-Al layered double hydroxide intercalated with carboxymethyl-β-cyclodextrin by anion exchange method and its Ni²⁺ adsorption property. [Soft Materials, 19(2), (2021), 139-147] Tomohito Kameda, Mao Takaizumi, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka
 - Quantification of Cellulose Pyrolyzates via a Tube Reactor and a Pyrolyzer-Gas Chromatograph/Flame Ionization Detector-Based System. [ACS Omega, 6(18), (2021), 12022-12026] Shogo Kumagai, Yusuke Takahashi, Tomohito Kameda, Yuko Saito, Toshiaki Yoshioka
 - Regeneration of carbonate-intercalated Mg-Al layered double hydroxides (CO₃-Mg-Al LDHs) by CO₂-induced desorption of anions (X) from X-Mg-Al LDH (X = Cl, SO₄, or NO₃): A kinetic study. [Chemical Engineering Research and Design, 165, (2021), 207-213] Tomohito Kameda, Hiroki Uchida, Shogo Kumagai, Yuko Saito, Keiichi Mizushina, Ichiro Itou, Tianye Han, Toshiaki Yoshioka
 - Removal of cesium ions from A-type zeolites using sodium tetrakis(4-fluorophenyl)borate and sodium tetraphenylborate. [Journal of Radioanalytical and Nuclear Chemistry, 327(1), (2021), 337-344] Yuko Saito, Shota Shimizu, Shogo Kumagai, Tomohito Kameda, Toshiaki Yoshioka
 - Removal of sulfate from wastewater via synthetic Mg-Al layered double hydroxide: An adsorption, kinetics, and thermodynamic study. [Journal of the Indian Chemical Society, 98, (2021), 100185] Mir Tamzid Rahman, Tomohito Kameda, Takao Miura, Shogo Kumagai, Toshiaki Yoshioka
 - Sustainable Advance of Cl Recovery from Polyvinyl Chloride Waste Based on Experiment, Simulation, and Ex Ante Life-Cycle Assessment. [ACS Sustainable Chemistry & Engineering, 9, (2021), 14112-14123] Jiaqi Lu, Shogo Kumagai, Yasuhiro Fukushima, Hajime Ohno, Siqingaowa Borjigin, Tomohito Kameda, Yuko Saito, Toshiaki Yoshioka
 - Synthesis of layered double hydroxide nanosheets in an aqueous solvent and their Ni²⁺ uptake characteristics. [Applied Clay Science, 200, (2021), 105911] Tomohito Kameda, Daichi Ikeda, Shogo Kumagai, Yuko Saito, Toshiaki Yoshioka
 - Synthesis of MnO₂/Mg-Al layered double hydroxide and evaluation of its NO-removal performance. [Journal of Alloys and Compounds, 867, (2021), 159038] Yuriko Takahashi, Hiroki Uchida, Tomohito Kameda, Shogo Kumagai, Yuko Saito, Keiichi Mizushina, Ichiro Itou, Tianye Han, Toshiaki Yoshioka
 - 資源の循環に関する国際的動向—EUの二次資源関連制度を中心に—. [金属, 91(10), (2021), 806-812] 白鳥寿一, 齋藤優子
- 【総説・解説】
- 10th International Symposium on Feedstock Recycling of Polymeric Materials (10th ISFR 2019) 報告. [プラスチックリサイクル化学研究会ニュースレター, 36, (2021), 15-22] 熊谷将吾
 - プラスチックリサイクルで活躍する熱分解分析法. [MATERIAL STAGE, 21(5), (2021), 52-58] 熊谷将吾, 吉岡敏明
 - 海洋プラスチック問題とリサイクル. [生活と環境, 766, (2021), 61-67] 吉岡敏明

- 使用済みプラスチックの熱分解による化学原料化. [化学工学, 85(3), (2021), 160-163] 熊谷将吾, 齋藤優子, 吉岡敏明
 - 大規模災害時における災害廃棄物処理の備え. [消防防災の科学, 146, (2021), 17-20] 吉岡敏明, 遠藤守也
 - 日本化学会第70回進歩賞(複合領域分野):難リサイクル性プラスチック廃棄物を化学原料に転換する熱分解プロセスの開拓. [化学と工業, 74(3), (2021), 184-184] 熊谷将吾
 - 複合材料・製品の化学的手法によるリサイクルの可能性. [機能材料, 41(1), (2021), 4-11] 吉岡敏明, 熊谷将吾
- 【著書】
- 第II編 第8章 熱分解法によるプラスチックのケミカルリサイクルの研究開発動向., 第III編 第2章 異種ポリマーまたは金属との複合プラスチック製品の化学的素材分離., 第III編 第6章 湿式法を用いたハロゲン含有プラスチックの化学リサイクル. [プラスチックのケミカルリサイクル技術, 吉岡敏明 監修, (2021), シーエムシー出版] 吉岡敏明, 熊谷将吾, 齋藤優子

環境分析化学分野

【論文】

- Enhanced Tb(III)-centered Luminescence due to Elongated Methylene Arms of Tripodal Schiff Base Ligand. [Chemistry Letters, 50(7), (2021), 1382-1384] Ryunosuke Karashimada, Takafumi Kambe, Chikai Igarashi, Atsuko Masuya-Suzuki, Nobuhiko Iki
- Short Radiative Lifetime and Non-Triplet Sensitization in Near-Infrared-Luminescent Yb(III) Complex with Tripodal Schiff Base. [ChemistryOpen, 10(1), (2021), 46-55] Atsuko Masuya-Suzuki, Satoshi Goto, Takafumi Kambe, Ryunosuke Karashimada, Yasuhiro Kubota, Nobuhiko Iki

環境生命機能学分野

【論文】

- Detection and 2D imaging of dopamine distribution using a closed bipolar electrode system by applying cathodic luminophore. [ChemElectroChem, 8(18), (2021), 3492-3498] Tomoki Iwama, Mayo Komatsu, Kumi Y. Inoue, Hitoshi Shiku
- Electrochemical imaging of endothelial permeability using a large-scale integration-based device. [ACS Omega, 6(5), (2021), 35476-35483] Kosuke Ino, Hao-Jen Pai, Kaoru Hiramoto, Yoshinobu Utagawa, Yuji Nashimoto, Hitoshi Shiku
- Electrochemical Immunoassay with Dual Signal Amplification for Redox Cycling within a Nanoscale Gap. [ACS Applied Nano Materials, 4(11), (2021), 12393-12400] Kentaro Ito, Kumi Y. Inoue, Takahiro Ito-Sasaki, Kosuke Ino, Hitoshi Shiku
- Electrochemical Sensor to Detect Proteinuria Using Peptidases and Glutamate Oxidase Jointly Immobilized on a Prussian Blue-modified Electrode. [Electrochemistry, 89(5), (2021), 409-414] Kentaro Ito, Kumi Y. Inoue, Tsubasa Miura, Tomokazu Matsue, Hitoshi Shiku
- Electrochemiluminescence imaging of respiratory activity of cellular spheroids using sequential potential steps. [Biosensors

- and Bioelectronics, 181, (2021), 113123] Kaoru Hiramoto, Kosuke Ino, Keika Komatsu, Yuji Nashimoto, Hitoshi Shiku
- Electrodeposition of thiolated polymer-based hydrogels via disulfide formation using electrogenerated benzoquinone. [Chemistry Letters, 50, (2021), 256-259] Kosuke Ino, Ayako Tamura, Kaoru Hiramoto, Mika T. Fukuda, Yuji Nashimoto, Hitoshi Shiku
 - Ion conductance-based perfusability assay of vascular vessel models in microfluidic devices. [Micromachines, 12(12), (2021), 1491] Rise Akasaka, Masashi Ozawa, Yuji Nashimoto, Kosuke Ino, Hitoshi Shiku
 - Micropipette-based navigation in a microvascular model for imaging endothelial cell topography using scanning ion conductance microscopy. [Analytical Chemistry, 93, (2021), 4902-4908] Noriko Taira, Yuji Nashimoto, Kosuke Ino, Hiroki Ida, Takuto Imaizumi, Akichika Kumatani, Yasufumi Takahashi, Hitoshi Shiku
 - Thermally-drawn multi-electrode fibers for bipolar electrochemistry and magnified electrochemical imaging. [Advanced Materials Technologies, in press] Tomoki Iwama, Yuanyuan Guo, Shoma Handa, Kumi Y. Inoue, Tatsuo Yoshinobu, Fabien Sorin, Hitoshi Shiku
 - Topography and Permeability Analyses of Vasculature-on-a-Chip Using Scanning Probe Microscopies. [Advanced Healthcare Materials, 10, (2021), 2101186] Yuji Nashimoto, Minoru Abe, Ryota Fujii, Noriko Taira, Hiroki Ida, Yasufumi Takahashi, Kosuke Ino, Javier Ramon-Azcon, Hitoshi Shiku
 - Nanoscale Visualization of Morphological Alteration of Live-Cell Membranes by the Interaction with Oligoarginine Cell-Penetrating Peptides. [Analytical Chemistry, 93(13), (2021), 5383-5393] Hiroki Ida, Yasufumi Takahashi, Akichika Kumatani, Hitoshi Shiku, Tomo Murayama, Hisaaki Hirose, Shiroh Futaki, Tomokazu Matsue
 - 多点液滴デバイスを用いるレドックスサイクリングによるメチレンブルーの電気化学計測. [分析化学, 70(3), (2021), 183-189] 平本薫, 小松慶佳, 山田祐大, 梨本裕司, 末永智一, 伊野浩介, 珠玖仁
 - 多点電気化学測定によるゼブラフィッシュ胚の酸素消費量と運動の同時リアルタイム評価. [分析化学, 70(9), (2021), 535-540] 鈴木雅登, 岩木ゆか, 寺尾和輝, 國方亮太, 須田篤史, 井上(安田)久美, 伊野浩介, 末永智一, 安川智之
- 【総説・解説】
- Bipolar-electrode-based electrochromic devices for analytical applications – A review. [Electroanalysis, accepted] Siti Masturah, binti Fakhruddin, Kosuke Ino, Kumi Y. Inoue, Yuji Nashimoto, Hitoshi Shiku
 - In vitro electrochemical assays for vascular cells and organs. [Electrochemical Science Advances, (2021), e2100089] Yoshinobu Utagawa, Kaoru Hiramoto, Yuji Nashimoto, Kosuke Ino, Hitoshi Shiku
 - 電気化学反応を使ったハイドロゲルのバイオファブ리케이션. [月刊バイオインダストリー, 38(10), (2021), 40-48] 伊野浩介, 宇田川喜信, 梨本裕司, 珠玖仁
 - バイポーラ電極を用いるバイオセンサの開発. [月刊 Bioindustry, 38(5), (2021), 57-67] 井上(安田)久美

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】

- Additive-free hydrothermal leaching method with low environmental burden for screening of strontium in soil. [Environmental Science and Pollution Research, 28(39), (2021), 55725-55735] Takuma Kato, Mika Nagaoka, Haixin Guo, Hiroki Fujita, Taku Michael Aida, Richard Lee Smith
- Amino-functional biocarbon with CO₂-responsive property for removing copper(II) ions from aqueous solutions. [Colloids and Surfaces A: Physicochemical and Engineering Aspects, 616, (2021), 126304] Yuto Inoue, Haixin Guo, Tetsuo Honma, Richard Lee Smith
- Direct one-pot synthesis of ordered mesoporous carbons from lignin with metal coordinated self-assembly. [Green Chemistry, 23(21), (2021), 8632-8642] Xiaoqi Wang, Xiaoning Liu, Richard Lee Smith, Yining Liang, Xinhua Qi
- High-capacity structured MgO-Co adsorbent for removal of phosphorus from aqueous solutions. [Chemical Engineering Journal, 426, (2021), 131381] Xiaoning Liu, Yicong Wang, Richard L. Smith, Junyan Fu, Xinhua Qi
- Mg-coordinated self-assembly of MgO-doped ordered mesoporous carbons for selective recovery of phosphorus from aqueous solutions. [Chemical Engineering Journal, 406, (2021), 126748] Xiaoning Liu, Junyan Fu, Yiwei Tang, Richard L. Smith, Xinhua Qi
- Role of impurity components and pollutant removal processes in catalytic oxidation of o-xylene from simulated coal-fired flue gas. [Science of the Total Environment, 764(10), (2021), 142805] Yuting Wang, Xiao Zhang, Boxiong Shen, Richard Lee Smith, Haixin Guo
- Role of virgin coconut oil (VCO) as co-extractant for obtaining xanthenes from mangosteen (*Garcinia mangostana*) pericarp with supercritical carbon dioxide extraction. [Journal of Supercritical Fluids, 176, (2021), 105305] Siew Lee Kok, Wan Jun Lee, Richard Lee Smith, Norhidayah Suleiman, Kriskamol Na Jom, Kanithaporn Vangnai, Amir Hamzah Bin Sharaai, Gun Hean Chong
- Selective conversion of furfuryl alcohol to levulinic acid by SO₃H-containing silica nanoflower in GVL/H₂O system. [Renewable Energy, 171, (2021), 124-132] Ruoqing Wang, Feng Shen, Yiwei Tang, Haixin Guo, Richard Lee Smith, Xinhua Qi
- Supercritical water pretreatment method for analysis of strontium and uranium in soil (Andosols). [Applied Radiation and Isotopes, 168, (2021), 109465] Mika Nagaoka, Hiroki Fujita, Taku Michael Aida, Haixin Guo, Richard Lee Smith

【総説・解説】

- Critical assessment of reaction pathways for conversion of agricultural waste biomass into formic acid. [Green Chemistry, 23(4), (2021), 1536-1561] Feng Shen, Richard Lee Smith, Jialu Li, Haixin Guo, Xiao Zhang, Xinhua Qi

複合材料設計学分野（成田研）

【論文】

- A Review of Piezoelectric and Magnetostrictive Biosensor Materials for Detection of Covid-19 and Other Viruses. [Advanced Materials, 33, (2021), 2005448] Fumio Narita, Zhenjin Wang, Hiroki Kurita, Zhen Li, Yu Shi, Yu Jia, Constantinos Soutis
- Design and Finite Element Simulation of Metal-Core Piezoelectric Fiber/Epoxy Matrix Composites for Virus Detection. [Sensors and Actuators A, 327(15), (2021), 112742] Y. Wang, Y. Shi, F. Narita
- Effect of Silk Fibroin Concentration on the Properties of Polyethylene Glycol Dimethacrylates for Digital Light Processing Printing. [Advanced Engineering Materials, 23(9), (2021), 2100487] Satoshi Egawa, Hiroki Kurita, Teruyoshi Kanno, Fumio Narita
- Electric polarization and crystal orientation of lead zirconate titanate under mechanical stress due to embedding in a metal matrix. [SN Applied Sciences, 3, (2021), Article number: 807] Tetsuro Yanaseko, Hiroshi Sato, Fumio Narita, Hiroshi Asanuma
- Evaluation of Electromechanical Properties and Conversion Efficiency of Piezoelectric Nanocomposites with Carbon-Fiber-Reinforced Polymer Electrodes for Stress Sensing and Energy Harvesting. [Polymers, 13(18), (2021), 3184] Yaonan Yu, Fumio Narita
- Fabrication, Tensile Properties, and Photodecomposition of Basalt Fiber-Reinforced Cellulose Acetate Matrix Composites. [Polymers, 13, (2021), 3944] Yuxi Shen, Alia Gallet-Pandellé, Hiroki Kurita, Fumio Narita
- Mechanical properties of mechanically-defibrated cellulose nanofiber reinforced epoxy resin matrix composites. [Journal of Composite Materials, 55(4), (2021), 455-464] Hiroki Kurita, Ryugo Ishigami, Chen Wu, Fumio Narita
- Nanocellulose reinforced silkworm silk fibers for application to biodegradable polymers. [Materials & Design, 202, (2021), 109537] Chen Wu, Satoshi Egawa, Teruyoshi Kanno, Hiroki Kurita, Zhenjin Wang, Eiji Iida, Fumio Narita
- On the Possibility of Developing Magnetostrictive Fe-Co/Ni Clad Plate with Both Vibration Energy Harvesting and Mass Sensing Elements. [Materials, 14(16), (2021), 4486] Kotaro Mori, Yinli Wang, Kenichi Katabira, Daiki Neyama, Ryuichi Onodera, Daiki Chiba, Masahito Watanabe, Fumio Narita
- Structural design and performance evaluation of FeCo/epoxy magnetostrictive composites. [Composites Science and Technology, 210, (2021), 108840] Zhenjun Yang, Zhenjin Wang, Kenya Nakajima, Daiki Neyama, Fumio Narita
- Tensile Properties of Mechanically-Defibrated Cellulose Nanofiber-Reinforced Polylactic Acid Matrix Composites Fabricated by Fused Deposition Modeling. [Transactions of Nanjing University of Aeronautics and Astronautics, 38(1), (2021), 68-74] H. Kurita, C. Bernard, A. Lavrovsky, F. Narita

複合材料設計学分野（コマロフ研）

【論文】

- Characterization of acoustic streaming in water and aluminum melt during ultrasonic irradiation. [Ultrason. Sonochem., 71, (2021), 105381] Takuya Yamamoto, Kazuki Kubo, Sergey V. Komarov
- Enhancement of oscillation amplitude of cavitation bubble due to acoustic wake effect in multibubble environment. [Ultrason. Sonochem., 78, (2021), 105734] Takuya Yamamoto, Sergey V. Komarov
- Fabrication of Al-Bi frozen emulsion alloys due to high-intense ultrasound irradiation. [J. Alloys Comp., 859, (2021), 158231] Sergey V. Komarov, Takuya Yamamoto, Jincheng Sun
- High-speed imaging of ultrasonic emulsification using a water-gallium system. [Ultrason. Sonochem., 71, (2021), 105387] Takuya Yamamoto, Ryo Matsutaka, Sergey V. Komarov
- Incorporation of powder particles into impeller-stirred liquid bath through vortex formation. [Materials, 14, (2021), 2710] Sergey V. Komarov, Takuya Yamamoto, Hirotada Arai
- Influence of Thomson effect on amorphization in phase-change memory: Dimensional analysis based on Buckingham's Π theorem for Ge₂Sb₂Te₅. [Mater. Res. Exp., 8, (2021), 115902] Takuya Yamamoto, Shogo Hatayama, Yun-Heub Song, Yuji Sutou
- Influence of ultrasound irradiation on transient solidification characteristics in DC casting process: Numerical simulation and experimental verification. [J. Mater. Process. Technol., 294, (2021), 117116] Takuya Yamamoto, Sergey V. Komarov
- Investigation on three-dimensional morphology of channel-type macrosegregation in DC cast Al-Mg billets through numerical simulation. [JOM, 73, (2021), 3838-3847] Takuya Yamamoto, Keisuke Kamiya, Takashi Kubo, Masanori Tsunekawa, Sergey V. Komarov
- Numerical prediction of channel-type segregation formation in DC casting of Al-Mg billet. [Metall. Mater. Trans. B, 52B, (2021), 4046-4060] Takuya Yamamoto, Keisuke Kamiya, Keita Fukawa, Shohei Yomogida, Takashi Kubo, Masanori Tsunekawa, Sergey V. Komarov
- Optical and electrical properties of In_xGa_{1-x}Se mixed crystal grown from indium flux by the traveling heater method. [J. Elect. Mater., 50, (2021), 2649-2655] Y. Sato, C. Tang, K. Watanabe, M. Nakajima, T. Yamamoto, N. Tezuka, T. Tanabe, Y. Oyama
- Physical modeling of rotary flux injection in an aluminum melting furnace. [Metall. Mater. Trans. B, 52B, (2021), 3363-3372] Takuya Yamamoto, Hanako Takahashi, Sergey V. Komarov, Masaya Shigemitsu, Ryosuke Taniguchi, Yasuo Ishiwata

【総説・解説】

- アルミニウム生産プロセスにおける OpenFOAM の活用. [伝熱, 60(July), (2021), 34-39] 山本卓也, コマロフセルゲイ
- アルミニウム溶湯処理プロセス中の環境負荷低減技術開発. [まてりあ, 60, (2021), 347-350] 山本卓也
- 回転円筒による高効率熱交換技術—伝熱面への無機マテリアル生成による伝熱性能低下を抑制—. [無機マテリアル学会学会誌, 28, (2021), 215-218] 丸岡伸洋, 小野寿光, 遠藤聡, 相澤直信, 山本卓也, 佐々木裕, 高島正, 小山克博, 前田圭一郎

- 機械攪拌中浮遊油膜巻き込みメカニズムの解明. [京都大学学術情報メディアセンター・センター全国共通 [広報], 20(1), (2021), 2-3] 山本卓也
- 超音波処理におけるシミュレーション: キャビテーション気泡ダイナミクスと音響流. [化学工業, (2021), 454-459] 山本卓也, コマロフセルゲイ
- 伝熱面を機械的に更新する、熱交換技術. [クリーンエネルギー, 30(9), (2021), 22-28] 丸岡伸洋, 山本卓也, 小野寿光, 遠藤聡, 佐々木裕, 高島正, 小山克博, 前田圭一郎

【著書】

- 攪拌時に生成する表面渦形成と気泡分裂挙動に対する数値シミュレーション. [攪拌技術とスケールアップ, シミュレーションの活用, 技術情報協会, (2021), 320-327] 山本卓也, コマロフセルゲイ

環境創成計画学講座

環境分子化学分野

【論文】

- Dimethyl carbonate (DMC) synthesis from methanol and carbon dioxide in the presence of ZrO₂ solid solutions and yield improvement by applying a natural convection circulation system. [Chemical Engineering Journal, 429(1), (2022), 132378] Qingxin Zheng, Ryo Nishimura, Yoshiyuki Sato, Hiroshi Inomata, Masaki Ota, Masaru Watanabe, Séverine Camy (Available online 11 September 2021.)
- Experiments and Simulation of Counter-Current Extraction (Subcritical Fluid Separation) by Supercritical CO₂ with Hops-Extract Ethanol Solution. [KAGAKU KOGAKU RONBUNSHU, 47(2), (2021), 23-27] Yusuke Ueno, Yuki Hoshino, Masaki Ota, Yoshiyuki Sato, Hiroshi Inomata
- Measurement and correlation of vapor-liquid distribution coefficients of compounds contained in hops-extract ethanol solution with supercritical CO₂. [Kagaku Kogaku Ronbunshu, 47(2), (2021), 17-22] Yuki Hoshino, Yusuke Ueno, Masaki Ota, Yoshiyuki Sato, Hiroshi Inomata
- Removal of chlorophyll and pheophorbide from *Chlorella pyrenoidosa* by supercritical fluid extraction: Potential of protein resource. [Bioscience, Biotechnology and Biochemistry, 85(7), (2021), 1759-1762] Taiki Miyazawa, Ohki Higuchi, Masato Sasaki, Masaki Ota, Tsutomu Aida, Hideo Takekoshi, Hiroshi Inomata, Teruo Miyazawa

環境材料表面科学分野

【論文】

- Activity for the ORR on Pt-Pd-Co ternary alloy electrodes is markedly affected by surface structure and composition. [Electrochemistry Communications, 125, (2021), 107007] Mashu Torihata, Masashi Nakamura, Naoto Todoroki, Toshimasa Wadayama, Nagahiro Hoshi
- Atomically resolved interface structures of vacuum-

deposited Pt on SnO₂(110), (101), and (111). [Journal of Vacuum Science & Technology A, 39(6), (2021), 60402] Yoshihiro Chida, Naoto Todoroki, Toshimasa Wadayama

● Electrochemical stability of stainless-steel-made anode for alkaline water electrolysis: Surface catalyst nanostructures and oxygen evolution overpotentials under applying potential cycle loading. [Electrochemistry Communications, 122, (2021), 106902] Naoto Todoroki, Toshimasa Wadayama

● Hydrogen Peroxide Generation and Hydrogen Oxidation Reaction Properties of Ir(111)-, (100)-, and (110)-Low-Index Single-Crystal Surfaces. [The Journal of Physical Chemistry C, 125(39), (2021), 21481-21487] Kenta Hayashi, Takeru Tomimori, Yoshihiro Chida, Naoto Todoroki, Toshimasa Wadayama

● Oxygen Reduction Reaction of Third Element-Modified Pt/Pd(111): Effect of Atomically Controlled Ir Locations on the Activity and Durability. [ACS Catalysis, 11(3), (2021), 1554-1562] Keisuke Kusunoki, Daisuke Kudo, Kenta Hayashi, Yoshihiro Chida, Naoto Todoroki, Toshimasa Wadayama

連携講座

環境適合材料創製学分野

【論文】

● A consideration of total energetics for close-packed polytypes from viewpoint of atomistic interaction distance. [MRS Advances, 6, (2021), 170-175] Shinya Ogane and Koji Moriguchi

● A computational experiment on deducing phase diagrams from spatial thermodynamic data using machine learning techniques. [Calphad, 74, (2021), 102303] Kazumasa Tsutsui and Koji Moriguchi

● Analysis of hydration effect based on standard redox potential of metals calculated by density functional theory combined with the reference interaction site model. [MRS Advances, 6, (2021), 583-587] Yuta Tanaka and K Moriguchi

● ANNNI model descriptions on structural energetics for a wide variety of metallic polytypes composed of close-packed layers. [MRS Advances, 6, (2021), 163-169] Koji Moriguchi, Taku Miyakawa, Shinya Ogane, Riku Sato, Kazumasa Tsutsui, Yuta Tanaka

● Theoretical Relation between Polytype Energetics and Effective Atomistic Interaction Based on Interlayer Partial Energy Model. [ECS Meeting Abstracts, MA2021-02, (2021), 1721] Shinya Ogane, Riku Sato, Taku Miyakawa, Yuta Tanaka, Kazumasa Tsutsui, Koji Moriguchi

● 炭材共存下の鉄鉱石焼結層内における鉄系凝結材の酸化反応促進 . [鉄と鋼, 107(6), (2021), 439-446] 昆野友城, 丸岡大佑, 村上太一, 葛西栄輝

● 低スラググリーンペレットの焼結層下層配置による焼結生産性および品質向上 . [鉄と鋼, 107(6), (2021), 471-482] 松村勝, 山口泰英, 樋口謙一, 村上太一, 前田敬之

地球環境変動学分野

【論文】

● Seasonal variations of SF₆, CO₂, CH₄, and N₂O in the UT/LS region due to emissions, transport, and chemistry. [Journal of Geophysical Research: Atmospheres, 126(4), (2021), e2020JD033541] Bisht, J. S. H., T. Machida, N. Chandra, K. Tsuboi, P. Patra, T. Umezawa, Y. Niwa, Y. Sawa, S. Morimoto, T. Nakazawa, N. Saito and M. Takigawa

● New approach to evaluate satellite derived XCO₂ over oceans by integrating ship and aircraft observations. [Atmos. Chem. Phys., 21(10), (2021), 8255-8271] Müller, A., Tanimoto, H., Sugita, T., Machida, T., Nakaoka, S., Patra, P. K., Laughner, J., and Crisp, D.

● Technical note: A high-resolution inverse modelling technique for estimating surface CO₂ fluxes based on the NIES-TM-FLEXPART coupled transport model and its adjoint. [Atmos. Chem. Phys., 21(2), (2021), 1245-1266] Maksyutov, S., Oda, T., Saito, M., Janardanan, R., Belikov, D., Kaiser, J. W., Zhuravlev, R., Ganshin, A., Valsala, V. K., Andrews, A., Chmura, L., Dlugokencky, E., Haszpra, L., Langenfelds, R. L., Machida, T., Nakazawa, T., Ramonet, M., Sweeney, C., and Worthy, D.

● Estimation of fire-induced carbon emissions from Equatorial Asia in 2015 using in situ aircraft and ship observations. [Atmos. Chem. Phys., 21(12), (2021), 9455-9473] Niwa, Y., Sawa, Y., Nara, H., Machida, T., Matsueda, H., Umezawa, T., Ito, A., Nakaoka, S.-I., Tanimoto, H., and Tohjima, Y.

● Measurement report: Regional characteristics of seasonal and long-term variations in greenhouse gases at Nainital, India, and Comilla, Bangladesh. [Atmos. Chem. Phys., 21(21), (2021) 16427-16452] Nomura, S., Naja, M., Ahmed, M. K., Mukai, H., Terao, Y., Machida, T., Sasakawa, M., and Patra, P. K.

● First ground-based Fourier transform infrared (FTIR) spectrometer observations of HFC-23 at Rikubetsu, Japan, and Syowa Station, Antarctica. [Atmos. Meas. Tech., 14(9), (2021), 5955-5976] Takeda, M., H. Nakajima, I. Murata, T. Nagahama, I. Morino, G. C. Toon, R. F. Weiss, J. Mühle, P. B. Krummel, P. J. Fraser, and H. -J. Wang