

業績レポート

基幹講座

先進社会環境学専攻

資源戦略学講座

環境複合材料創成科学分野

【論文】

- A Three-Dimensional Block Structure Consisting Exclusively of Carbon Nanotubes Serving as Bone Regeneration Scaffold and as Bone Defect Filler. [PLoS ONE, 12, (2017), e0172601] Manabu Tanaka, Yoshinori Sato, Hisao Haniu, Hiroki Nomura, Shinsuke Kobayashi, Seiji Takanashi, Masanori Okamoto, Takashi Takizawa, Kaoru Aoki, Yuki Usui, Ayumu Oishi, Hiroyuki Kato, Naoto Saito
- In Vitro and In Vivo Evaluation of A Three-Dimensional Porous Multi-Walled Carbon Nanotube Scaffold for Bone Regeneration. [Nanomaterials, 7, (2017), 46-46] Manabu Tanaka, Yoshinori Sato, Mei Zhang, Hisao Haniu, Masanori Okamoto, Kaoru Aoki, Takashi Takizawa, Kazushige Yoshida, Atsushi Sobajima, Takayuki Kamanaka, Hiroyuki Kato, Naoto Saito
- Influence of supported PtPd nanoparticles on the tensile strength of individual multi-walled carbon nanotubes: Strength decrease by the interaction of metal and nanotube. [RSC Advances, 7, (2017), 49917-49922] Hideaki Suzuki, Tatsuhito Kimura, Go Yamamoto, Toshiyuki Hashida, Kenichi Motomiya, Kazuyuki Tohji, Yoshinori Sato
- Is the tensile strength of carbon nanotubes enhanced by supported materials? : Effect of supported amorphous alumina nanoparticles on the tensile strength of carbon nanotubes. [Carbon, 118, (2017), 339-342] Tatsuhito Kimura, Hideaki Suzuki, Mei Zhang, Go Yamamoto, Toshiyuki Hashida, Kenichi Motomiya, Kazuyuki Tohji, Yoshinori Sato
- Low-power-consumption flat-panel light-emitting device driven by field-emission electron source using high-crystallinity single-walled carbon nanotubes. [Japanese Journal of Applied Physics, 56, (2017), 605101] Norihiro Shimo, Daisuke Abe, Kazuyuki Matsumoto, Yoshinori Sato, Kazuyuki Tohji

環境素材設計学分野

【論文】

- Effect of Silicate Incorporation in Alpha-Tricalcium Phosphate on Behaviors of Osteoblast-Like Cells. [Key Engineering Materials, 720, (2017), 90-94] Masanobu Kamitakahara, Takashi Shirato, Taishi Yokoi, Hideaki Matsubara, Yasuaki Shibata, Tohru Ikeda

● TaNbC または Cr₃C₂ を含む WC-Co 超硬合金ダイスのスチールコード伸線寿命。[粉体および粉末冶金, 64, (1), (2017), 17-22] 高田真之, 松原秀彰, 川岸美裕

●繰り返しレーザー照射によるサーメットの熱衝撃試験。[粉体および粉末冶金, 64, (11), (2017), 621-630] 松田哲志, 松原秀彰

環境修復生態学分野

【論文】

- Adsorption of Cd and Zn to the root of *Arabidopsis halleri* ssp. *gemmifera*. [Proceedings of 14th International Phytotechnologies Conference, (2017), 68-68] Z.-J. Qian, Y. Huang, M.-F. Chien, C. Inoue
- Analysis of stable 1,2-dichlorobenzene-degrading consortia and two newly isolated degrading strains, *Acidovorax* sp. sk40 and *Ralstonia* sp. sk41. [Applied Microbiology and Biotechnology, 101, (17), (2017), 6821-6828] Ge Cui, Mei-Fang Chien, Koichi Suto, Chihiro Inoue
- Arsenic, Lead and Cadmium Removal Potential of *Pteris multifida* from Contaminated Water and Soil. [International Journal of Phytoremediation, in press(2017)] Farzana Rahman, Kazuki Sugawara, Yi Huang, Mei-Fang Chien, Chihiro Inoue
- Biodegradation of crude oil and phenanthrene by heavy metal resistant *Bacillus subtilis* isolated from a multi-polluted industrial wastewater creek. [International Biodeterioration & Biodegradation, 120, (2017), 143-151] Ganiyu Oladunjoye Oyetibo, Mei-Fang Chien, Wakako Ikeda-Ohtsubo, Hitoshi Suzuki, Oluwafemi Sunday Obayori, Sunday Adekunle Adebuseye, Matthew Olusoji Ilori, Olukayode Oladipo Amund, Ginro Endo
- Biotechnological remedies for the estuarine environment polluted with heavy metals and persistent organic pollutants. [International Biodeterioration & Biodegradation, 119, (2017), 614-625] Ganiyu Oladunjoye Oyetibo, Keisuke Miyauchi, Yi Huang, Mei-Fang Chien, Matthew Olusoji Ilori, Olukayode Oladipo Amund, Ginro Endo

● Comparative analysis of arsenate reductase gene expression in two arsenic hyperaccumulator *Pteris* ferns. [Proceedings of 14th International Phytotechnologies Conference, (2017), 31-31] Shujun Wei, Mei-Fang Chien, Chihiro Inoue

● Construction of a cell surface engineered yeast aims to selectively recover molybdenum, a rare metal. [Solid State Phenomena, 262, (2017), 421-424] Mei-Fang Chien, Naoya Ikeda, Kengo Kubota and Chihiro Inoue

● Contribution of roots exudates of *Arabidopsis halleri* ssp. *gemmifera* for Cd and Zn elution in contaminated soil. [Proceedings of 14th International Phytotechnologies

Conference, (2017)] K. Sugawara, H. Kudo, S. Suzuki, C. Inoue

● Higher accumulation capacity of cadmium than zinc by *Arabidopsis halleri* ssp. *germmifera* in the field using different sowing strategies. [Plant and Soil, 418, (1), (2017), 165-176] Zhenyi Zhang, Xia Wen, Yi Huang, Chihiro Inoue, Yuting Liang

● Influence of Temperature on Arsenic Uptake by *Pteris cretica* from Hydroponic Solution. [Proceedings of 14th International Phytotechnologies Conference, (2017), 76-76] F. Rahman, K. Sugawara, Y. Huang, M.-F. Chien, C. Inoue

● Visualization of Zinc translocation dynamic in hyperaccumulator *Arabidopsis halleri* ssp. *gemmifera* and non-accumulator *Arabidopsis thaliana*. [Proceedings of 14th International Phytotechnologies Conference, (2017), 43-43] Y. Huang, Z.J. Qian, MF. Chien, K. Sugawara, N. Suzui, YG. Yin, N. Kawachi, H. Watabe, N. Kitajima, C. Inoue

● WBC11 as a Potential Gene for Cadmium Accumulation/Transportation in *Arabidopsis halleri* ssp. *gemmifera*. [Proceedings of 14th International Phytotechnologies Conference, (2017), 31-31] C. D. A. Wiyono, M.-F. Chien, C. Inoue

● ヒ素高蓄積植物による建設発生土処理地からのヒ素含有アルカリ性浸出水浄化方法の開発。[土木学会論文集 G, in press, (2017)] 黄毅, 宮内啓介, 水戸光昭, 中村真理子, 成瀬美樹, 遠藤司, 井上千弘, 遠藤銀朗

● 牧草類のセシウム・ストロンチウム吸収能の評価 - 非放射性 Cs・Sr 添加圃場および寒天培地における比較。[化学工学論文集, 43, (4), (2017)] 菅原一輝, 小川人士, 鈴木誠一, 井上千弘

地球物質・エネルギー学分野

【論文】

● Adaptation of Social Licence Measurement and Analysis Techniques for Geothermal Usage and Development. [Geothermal Resources Council Transactions, 41, (2017), 613-622] Kyle Bahr, Shuntaro Masuda, Hanae Saishu, Hiromi Kubota and Noriyoshi Tsuchiya

● Excess water generation during reaction-inducing intrusion of granitic melts into ultramafic rocks at crustal P-T conditions in the Sør Rondane Mountains of East Antarctica. [Lithos, 284-285, (2017), 625-641] Masaoki Uno, Atsushi Okamoto, Noriyoshi Tsuchiya

● Fluid Pocket Generation in Response to Heterogeneous Reactivity of a Rock Fracture Under Hydrothermal Conditions. [Geophysical Research Letters, 44, (2017), 10306-10315] A. Okamoto, H. Tanaka, N. Watanabe, H. Saishu, and N. Tsuchiya

● Fundamental Study of Flash Fracturing in High Temperatures Controlled by Depressurization Rate. [Geothermal Resources Council Transactions, 41, (2017), 956-961] Kenta Takagi, Nobuo Hirano and Noriyoshi Tsuchiya

● Hydraulic fracturing and permeability enhancement in granite from subcritical/brittle to supercritical/ductile conditions. [Geophysical Research Letters, 44, (2017), 5468-

5475] Noriaki Watanabe, Motoki Egawa, Kiyotoshi Sakaguchi, Takuwa Ishibashi, Noriyoshi Tsuchiya

● Infiltration of prograde Cl-rich fluid into the granulitic continental crust from a collision zone in East Antarctica (Perlebandet, Sør Rondane Mountains). [Lithos, 274-275, (2017), 73-92] Kawakami, T., Higashino, F., Skrzypek, E., Satish-Kumar, M., Grantham, G., Tsuchiya, N., Ishikawa, M., Sakata, S., Hirata, T.

● Linking microearthquakes to fracture permeability evolution. [Crustal Permeability, Wiley, (2017), 49-64] Takuwa Ishibashi, Noriaki Watanabe, Hiroshi Asanuma and Noriyoshi Tsuchiya

● Opal-CT in chert beneath the toe of the Tohoku margin and its influence on the seismic aseismic transition in subduction zones. [Geophysical Research Letters, (2017)] Kameda, J., Okamoto, A., Sato, K., Fujimoto, K., Yamaguchi, A., Kimura, G.

● Potential Candidates of Supercritical Geothermal Reservoir. [Geothermal Resources Council Transactions, 41, (2017), 1587-1598] Noriyoshi Tsuchiya

● Potentially exploitable supercritical geothermal resources in the ductile crust. [Nature Geoscience, 10, (2), (2017), 140-144] Noriaki Watanabe, Tatsuya Numakura, Kiyotoshi Sakaguchi, Hanae Saishu, Atsushi Okamoto, Steven E. Ingebritsen and Noriyoshi Tsuchiya

● Pressure Solution and Permeability Evolution in Fractured Granite at Elastic and Plastic Deformation Regimes. [Geothermal Resources Council Transactions, 41, (2017), 945-955] Kohei Saito, Noriaki Watanabe, Atsushi Okamoto, Noriyoshi Tsuchiya, Takuwa Ishibashi and Noriyoshi Tsuchiya

● Reaction-induced grain boundary cracking and anisotropic fluid flow during prograde devolatilization reactions within subduction zones. [Contributions to Mineralogy and Petrology, 182, (2017), 75-75] Okamoto, A., Shimizu, H., Fukuda, J., Muto, J., Okudaira, T.

● Silica precipitation potentially controls earthquake recurrence in seismogenic zones. [Scientific Reports, 7, (2017)] Sash, H., Okamoto, A., Otsabo, M.

● Tentative identification of diagenetic products of cyclic biphytanes in sedimentary rocks from the uppermost Permian and Lower Triassic. [Organic Geochemistry, 111, (2017), 144-153] Ryosuke Saito, Kunio Kaiho, Masahiro Oba, Jinnan Tong, Zhong-Qiang Chen, Li Tian, Satoshi Takahashi, Megumu Fujibayashi

●温泉水と廃アルミニウムを用いた地産地消型水素生成システム実現の実験的検討。[日本地熱学会誌, 39, (1), (2017), 15-24] 最首花恵, 小坂拓也, 土屋範芳, 渡邊則昭

●仙台市西部白沢カルデラ堆積物中の石英の熱発光挙動と地熱探査。[日本地熱学会誌, 39, (2), (2017), 101-110] 斎藤亮一, 平野伸夫, 山田亮一, 土屋範芳

●中新世後期白沢カルデラの噴出マグマの分化と現世の地熱流体貯留層。[日本地熱学会誌, 39, (1), (2017), 25-37] 鈴木拓, 宇野正起, 奥村聰, 山田亮一, 土屋範芳

●超臨界地熱貯留層の可能性について。[地熱技術, 42, (1&2), (2017), 43-52] 土屋範芳

- 東北地方太平洋沖地震による津波堆積物中のヒ素. [地球環境 , 22, (1), (2017), 45-52] 土屋範芳
- 变成岩組織と鉱物組成累帯構造からの情報抽出. [日本地質学雑誌 , (2017)] 岡本敦, 桑谷立
【著書】
- Crustal Permeability (執筆担当部分) Chapter 7. [Wiley, (2017)] Tatsuya Ishibashi, Noriaki Watanabe, Hiroshi Asanuma and Noriyoshi Tsuchiya

地球開発環境学分野

【論文】

- A Study on Development of Planting Soil by Recycling High-Water Content Mud. [Proc. of 11th International Symposium on Advanced Science and Technology in Experimental Mechanics, (2017)] Shimpei OSHIMA, Tomoaki SATOMI, Hiroshi TAKAHASHI
- A Study on Development of Planting Soil by Recycling High-Water Content Mud. [Proc. of 11th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2017), USB] Shimpei OSHIMA, Tomoaki SATOMI, and Hiroshi TAKAHASHI
- Development on Constant Low Pressure Direct Box Shear Test Apparatus and Measurement of Shear Strength of Soil. [Proc. of 11th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2017), USB] Tomoaki SATOMI and Hiroshi TAKAHASHI
- Improvement of mechanical properties of recycled aggregate concrete basing on a new combination method between recycled aggregate and natural aggregate. [Construction and Building Materials, 148, (1), (2017), 376-385] Ngoc Kien Bui, Tomoaki Satomi and Hiroshi Takahashi
- Properties of Recycled Aggregate Concrete after Treated with Pozzolanic Material under Uniaxial and Triaxial Stress. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10349-10359] Bui Ngoc Kien, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Development of New Fiber-Geopolymer-Stabilized Soil Method to Improve the Sludge Generated in the Disaster Sites. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10228-10237] Vu Minh Chien, Tomoaki Satomi, Hiroshi Takahashi and Le Anh Tuan
- Study on Effect of Chemical Composition of Geopolymer to Improve Sludge by Using Fiber Materials. [Advanced Experimental Mechanics, 2, (2017), 168-173] Vu Minh Chien, Tomoaki SATOMI, Hiroshi TAKAHASHI
- Study on Effect of Corn Silk Fiber in Soil Stabilization. [Proceedings of the 4th Congrès International de Géotechnique - Ouvrages -Structures, 1, (2017), 571-579] TRAN QUANG KHIEM, TOMOAKI SATOMI, HIROSHI TAKAHASHI
- Study on Fluorine Insolubilization of Paper Sludge

- Ash by Using Bone Char for Soil Improvement. [Proc. of 11th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2017), USB] Tatsuru SAKURAI, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Improvement of High Water Content Sludge by using Paper Sludge Ash. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10259-10264] Tatsuru SAKURAI, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Recycling Method of Waste Gypsum Board Paper: Application of Waste Gypsum Board Paper for Soil Improvement. [Proc. of 11th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2017), USB] Yusuke IMAMURA, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Recycling of High Water Content Sludge as Banking Materials. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10288-10296] Kazuya OGATA, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on recycling of waste asphalt blocks containing roadbed materials using new screenless separation equipment with a vibration device. [International Journal of Pavement Research and Technology, 10, (3), (2017), 228-244] Milkos Borges Cabrera, Tomoaki Satomi, Hiroshi Takahashi
- Study on Reducing the Soil Content in Grizzly-under-Materials Discharged from Recycling Plant. [Proc. of the 1st Joint Seminar on Landslide, Flood Disasters and the Environmental Issues, 1, (2017), 10259-10270] Milkos Borges CABRERA, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Reducing the Soil Content in Grizzly-under-Materials Discharged from Recycling Plant of Waste Asphalt Blocks. [Proc. of the 8th International Conference on Materials for Resources, 1, (2017), 301-306] Milkos Borges CABRERA Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Sludge Recycling with Compaction Type and Placing Type by Rice Husk-Cement-Stabilized Soil Method. [Advanced Experimental Mechanics, 2, (2017), 159-167] Phan Thanh Chien, Tomoaki SATOMI and Hiroshi TAKAHASHI
- STUDY ON STRENGTH AND DURABILITY CHARACTERISTICS OF SLUDGE REINFORCED BY RICE STRAW FIBER AND CEMENT. [Proc. of the 1st Joint Seminar on Landslide, Flood Disasters and the Environmental Issues, (2017), 10228-10238] Phan Thanh Chien, Tomoaki Satomi and Hiroshi Takahashi
- Study on strength behavior of cement stabilized sludge reinforced with waste cornsilk fiber. [International Journal of GEOMATE, 13, (39), (2017), 140-147] Khiem Quang Tran, Tomoaki Satomi, Hiroshi Takahashi
- Study on Strength Characteristics of Fiber-Cement-Srabilized Soils Containing Granulated Materials Made of Rubbles. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10319-10329] Kota MATSUSHIMA, Tomoaki SATOMI and Hiroshi TAKAHASHI

- Study on strength characteristics of sludge reinforced by rice straw fiber and cement. [Proc. of the 8th International Conference on Materials for Resources, 1, (2017), 290-294] Phan Thanh CHIEN, Tomoaki SATOMI, and Hiroshi TAKAHASHI
- Study on Strength Characteristics of Sludge Reinforced by Rice Straw Fiber and Cement in Mekong Delta. [Proc. of the 7th Vietnam/Japan Joint Seminar on Geohazards and Environmental Issues, 1, (2017), 10380-10386] Phan Thanh CHIEN, Tomoaki SATOMI and Hiroshi TAKAHASHI
- Study on Strength of Modified Sludge Produced By Fiber-Cement Stabilized Soil Method Using Several Kinds of Fiber Materials. [Proceedings of the 4th Congrès International de Géotechnique - Ouvrages -Structures, 1, (2017), 580-587] DUONG THANH NGA, TOMOAKI SATOMI, HIROSHI TAKAHASHI
- Study on Weak Soil Improvement by Using Geopolymer and Paper Fragments. [Proc. of the 8th International Conference on Materials for Resources, 1, (2017), 295-300] Vu Minh CHIEN, Tomoaki SATOMI, Hiroshi TAKAHASHI and Le Anh Tuan
- The Application of Fly Ash from Thermal Power Plant on Geopolymer Materials. [Proc. of the 8th International Conference on Materials for Resources, 1, (2017), 50-53] Anh Tuan LE, Tan Khoa NGUYEN and Hiroshi TAKAHASHI
- スラリー輸送研究の歩みと固液混相流研究の将来展望. [混相流 , 31, (2), (2017), 130-134] 高橋弘
- パケット掘削における破碎堆積物の粒度の影響に関する研究. [テラメカニックス , 37, (2017), 89-94] 大澤拓也, 里見知昭, 高橋弘
- パケット掘削による地盤強度推定のための定圧一面せん断試験装置の作製. [テラメカニックス , 37, (2017), 95-100] 里見知昭, 高橋弘
- 海底面掘削機械開発に関する基礎的研究—水中車両の沈下特性について. [テラメカニックス , 37, (2017), 43-48] 島貴寛生, 里見知昭, 高橋弘
- 固化材による泥土改良と改良土の強度・耐久性測定. [日本実験力学会誌 , 17, (1), (2017), 57-60] 高橋弘
- 災害現場における自動土砂サンプリングに関する基礎的研究. [テラメカニックス , 37, (2017), 33-36] 上戸宙, 里見知昭, 高橋弘
- 連続式纖維質固化処理土工法施工機械の開発に関する基礎的研究. [テラメカニックス , 37, (2017), 37-42] 大島慎平, 里見知昭, 高橋弘

- Hanae Saishu, Atsushi Okamoto, Steven E. Ingebritsen, Noriyoshi Tsuchiya
- Re-Opening and Shut-in Behaviours under a Large Ratio of Principal Stresses in a Hydraulic Fracturing Test. [Procedia Engineering, 191, (2017), 862-868] Tatsuya Yokoyama, Kiyotoshi Sakaguchi, Takatoshi Ito
- Stress buildup and drop in inland shallow crust caused by the 2011 Tohoku-oki earthquake events. [Scientific Reports, (2017)] Kiyotoshi Sakaguchi, Tatsuya Yokoyama, Weiren Lin, Noriaki Watanabe

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】

- Application of in-situ Raman scattering spectroscopy for stress condition measurement in solid oxide fuel cells. [JOURNAL OF THE CERAMIC SOCIETY OF JAPAN, 125, (4), (2017), 213-217] Fumitada Iguchi, Shoma Onuki, Makoto Shimizu, Tatsuya Kawada, Hiroo Yugami
- Bulk- and Powder Surface Exchange Coefficients of (La,Sr)Co_{3-d}. [ECS Transactions, 75, (42), (2017), 69-74] Hiroshi Chiba, Keiji Yashiro, Shin-ichi Hashimoto, Tatsuya Kawada
- Contribution of Triple-Phase Boundary Reaction in Cathodic Reaction of Solid Oxide Fuel Cell. [ECS Transactions, 78, (1), (2017), 847-853] Yoshinobu Fujimaki, Keita Mizuno, Yuta Kimura, Takashi Nakamura, Katherine Develos-Bagaria, Katsuhiko Yamaji, Keiji Yashiro, Tatsuya Kawada, Fumitada Iguchi, Hiroo Yugami, and Koji Amezawa
- Effect of a (La,Sr)₂CoO₄ phase on the oxygen exchange reaction of dense and porous (La,Sr)CoO₃ electrodes. [ECS Transactions, 77, (10), (2017), 9-14] T. Kawada, K. Yashiro, S. I. Hashimoto, K. Amezawa
- Electronic conduction mechanism and defect chemical model of LaNi_{0.4}Fe_{0.6}O_{3-δ}. [SOLID STATE IONICS, 310, (2017), 148-153] R. A. Budiman, H. J. Hong, S. Hashimoto, T. Nakamura, K. Yamaji, K. Yashiro, K. Amezawa, T. Kawada
- Evaluation of electrical conductivity and oxygen diffusivity of the typical Ruddlesden-Popper oxide Sr₃Fe₂O_{7-δ}. [CERAMICS INTERNATIONAL, 43, (18), (2017), 16264-16269] Yihan Ling, Tianmin Guo, Xiaozhen Zhang, Riyan Achmad Budiman, Yoshinobu Fujimaki, Takashi Nakamura, Bin Lin, Tatsuya Kawada, Koji Amezawa,
- Materials Properties for the Simulation of Electro-Chemo-Mechanical Coupling Behavior of SOFC. [ECS Transactions, 78, (1), (2017), 2309-2316] Koji Amezawa, Yusuke Shindo, Yoshinobu Fujimaki, Yuta Kimura, Takashi Nakamura, Fumitada Iguchi, Keiji Yashiro, Hiroo Yugami, and Tatsuya Kawada
- Mechanical Strength Evaluation of YSZ, GDC and LSCF under SOFC Operating Conditions. [ECS Transactions, 78, (1), (2017), 2181-2190] Satoshi Watanabe, Kazuhisa Sato, Fumitada Iguchi, Keiji Yashiro, Toshiyuki Hashida, Tatsuya Kawada

地球開発環境学分野（坂口研）

【論文】

- Changes in In-situ Rock Stress Before and After the Major 2011 Tohoku-Oki Earthquake. [Procedia Engineering, 191, (2017), 768-775] Kiyotoshi Sakaguchi, Tatsuya Yokoyama
- Hydraulic fracturing and permeability enhancement in granite from subcritical/brittle to supercritical/ductile conditions. [Geophysical Research Letters, 44, (2017), 5468-5475] N. Watanabe, M. Egawa, K. Sakaguchi, T. Ishibashi, N. Tsuchiya
- Potentially exploitable supercritical geothermal resources in the ductile crust. [Nature Geoscience, 10, (2), (2017), 140-144] Noriaki Watanabe, Tatsuya Numakura, Kiyotoshi Sakaguchi, TAKAHASHI

- Mechanism of Chromium Poisoning in SOFC Cathode Investigated by Using Pattern Thin Film Model Electrode. [ECS Transactions, 78, (1), (2017), 965-970] Koji Amezawa, Yusuke Shindo, Yoshinobu Fujimaki, Yuta Kimura, Takashi Nakamura, Fumitada Iguchi, Keiji Yashiro, Hiroo Yugami, and Tatsuya Kawada
 - Numerical simulations of non-stationary distributions of electrochemical potentials in SOFC. [ENGINEERING COMPUTATIONS, 34, (6), (2017), 1956-1988] Mayu Muramatsu, Keiji Yashiro, Tatsuya Kawada, Kenjiro Tarada
 - Operando Soft X-ray Absorption Spectroscopic Study on a Solid Oxide Fuel Cell Cathode during Electrochemical Oxygen Reduction. [CHEMSUSCHEM, 10, (9), (2017), 2008-2014] Takashi Nakamura, Ryo Oike, Yuta Kimura, Yusuke Tamenori, Tatsuya Kawada, Koji Amezawa
 - Oxygen reduction reaction process of $\text{LaNi}_{0.6}\text{Fe}_{0.4}\text{O}_3-\delta$ film - porous $\text{Ce}_{0.9}\text{Gd}_{0.1}\text{O}_{1.95}$ heterostructure electrode. [SOLID STATE IONICS, 312, (2017), 80-87] R. A. Budiman, S. Hashimoto, T. Nakamura, K. Yashiro, K. D. Bagarinao, H. Kishimoto, K. Yamaji, T. Horita, K. Amezawa, T. Kawada
 - Recent Achievements of NEDO Durability Project with an Emphasis on Correlation Between Cathode Overpotential and Ohmic Loss. [FUEL CELLS, 17, (4 SI), (2017), 473-497] H. Yokokawa, Y. Hori, T. Shigehisa, M. Suzuki, S. Inoue, T. Suto, K. Tomida, M. Shimazu, A. Kawakami, H. Sumi, M. Ohmori, N. Mori, T. Iha, K. Yamaji, H. Kishimoto, K. Develos-Bagrinao, K. Sasaki, S. Taniguchi, T. Kawada, M. Muramatsu, K. Terada, K. Eguchi, T. Matsui, H. Iwai, M. Kishimoto, N. Shikazono, Y. Mugikura, T. Yamamoto, M. Yoshikawa, K. Yasumoto, K. Asano, Y. Matsuzaki, S. Amaha, T. Somekawa
 - Self-modification of Ni Metal Surfaces with CeO_2 to Suppress Carbon Deposition at Solid Oxide Fuel Cell Anodes. [FUEL CELLS, 17, (3), (2017), 402-406] J. Kubota, S. Hashimoto, T. Shindo, K. Yashiro, T. Matsui, K. Yamaji, H. Kishimoto, T. Kawada
 - Simulation Technology on SOFC Durability With an Emphasis on Conductivity Degradation of ZrO_2 -Base Electrolyte. [JOURNAL OF ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE, 14, (1 SI), (2017), 11004-] Harumi Yokokawa, Haruo Kishimoto, Taro Shimonosono, Katsuhiro Yamaji, Mayu Muramatsu, Kenjiro Terada, Keiji Yashiro, Tatsuya Kawada
 - The influence of crystal orientation on the change in Li chemical potential of LiCoO_2 under mechanical stress. [SOLID STATE IONICS, 299, (SI), (2017), 8-12] Mahunnop Fakkao, Yuta Kimura, Keita Funayama, Takashi Nakamura, Naold Kuwata, Junichi Kawamura, Tatsuya Kawada, Koji Amezawa
 - The Origin of Instability of Lanthanum Strontium Cobalt Ferrite (La-Sr-Co-Fe-O ; LSCF) under Oxygen Potential Gradient. [ECS Transactions, 75, (28), (2017), 1-9] Xingwei Wang, Takamichi Miyazaki, Keiji Yashiro, Shinichi Hashimoto, Tatsuya Kawada
 - Triple Phase Boundary Reaction in a Mixed-Conducting
- SOFC Cathode. [ECS Transactions, 77, (10), (2017), 41-47] K. Amezawa, Y. Fujimaki, K. Mizuno, Y. Kimura, T. Nakamura, K. Nitta, Y. Terada, F. Iguchi, K. Yashiro, H. Yugami, T. Kawada

エネルギー資源リスク評価学分野

【論文】

- Development of a predictive model for lead, cadmium and fluorine soil water partition coefficients using sparse multiple linear regression analysis. [Chemosphere, 186, (2017), 501-509] Kengo Nakamura, Tetsuo Yasutaka, Tatsu Kuwatani, Takeshi Komai
- Effect of Acid Injection during Partial-oxidation and Heating Process as an Enhanced Gas Recovery from Methane Hydrate Reservoir. [The 23rd Formation Evaluation Symposium of Japan, (2017)] Fuyuki Kaneko, Kengo Nakamura, Yasuhide Sakamoto, Noriaki Watanabe, Takeshi Komai
- Fluid pocket generation in response to heterogeneous reactivity of a rock fracture under hydrothermal conditions. [Geophysical Research Letters, 44, (2017)] A. Okamoto, H. Tanaka, N. Watanabe, H. Saishu, N. Tsuchiya
- Fracture network created by 3D printer and its validation using CT images. [Water Resources Research, (2017), WRCR22779] A. Suzuki, N. Watanabe, K. Li, R. Horne
- Health Risk Assessment Model of 1,4-Dioxane Based on Physical and Chemical Properties of Soils. [Oroceedings of the 14th International Symposium on Persistent Toxic Substances, 14, (2017), 241-248] Takeshi Komai, Haruki Ito, Kengo Nakamura
- Hydraulic fracturing and permeability enhancement in granite from subcritical/brittle to supercritical/ductile conditions. [Geophysical Research Letters, 44, (2017), 5468-5475] N. Watanabe, M. Egawa, K. Sakaguchi, T. Ishibashi, N. Tsuchiya
- Hydraulic fracturing in granite at subcritical/brittle to supercritical/ductile conditions. [GRC Transactions, 41, (2017), 910-919] T. Ishibashi, N. Watanabe, K. Sakaguchi, N. Tsuchiya
- Potentially exploitable supercritical geothermal resources in the ductile crust. [Nature Geoscience, 10, (2), (2017), 140-144] N. Watanabe, T. Numakura, K. Sakaguchi, H. Saishu, A. Okamoto, S. E. Ingebritsen, N. Tsuchiya
- Pressure solution and permeability evolution in fractured granite at elastic and plastic deformation regimes. [GRC Transactions, 41, (2017), 945-955] K. Saito, N. Watanabe, A. Okamoto, N. Tsuchiya, T. Ishibashi, H. Saishu
- Stress buildup and drop in inland shallow crust caused by the 2011 Tohoku-oki earthquake events. [Scientific Reports, (2017), 10242- 10242] K. Sakaguchi, T. Yokoyama, W. Lin, N. Watanabe
- Total and Leachable Concentration of Trace Elements in Soil towards Human Health Risk, Related with Coal Mine in Jorong, South Kalimantan, Indonesia. [World Academy of Science, Engineering and Technology International Journal of Environmental and Ecological Engineering, 4, (10), (2017)] Arie Pujiwati, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai

- Total and Leachable Concentration of Trace Elements in Soil towards Human Health Risk, Related with Coal Mine in Jorong, South Kalimantan, Indonesia. [International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering, 11, (10), (2017), 820-828] Arie Pujiwati, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai
- ν -X-type relative permeability curves for steam-water two-phase flows in fractured geothermal reservoirs. [Geothermics, 65, (2017), 269-279] N. Watanabe, T. Kickuchi, T. Ishibashi, N. Tsuchiya
- 温泉水と廃アルミニウムを用いた水素生成システムの実験的検討. [日本地熱学会誌, 39, (1), (2017), 15-24] 最首先恵, 小坂拓也, 土屋範芳, 渡邊則昭
- 気化する物質による土壤・地下水汚染の考え方. [環境管理, 2017, (3), (2017), 22-28] 駒井武
- 若手研究者&技術者 . [季刊資源と素材, 2, (4), (2017), 72-72] 中村謙吾
- 土壌汚染の原位置浄化技術の現状と研究開発の動向 . [環境と測定技術, 44, (7), (2017), 10-16] 駒井武

環境共生機能学分野

【論文】

- Current-fluctuation mechanism of field emitters using metallic single-walled carbon nanotubes with high crystallinity. [Applied Sciences, 7 (12), (2017), 1322] Norihiro Shimo, Kazuyuki Tohji
- Fate of bisphenol A pyrolysates at low pyrolytic temperatures. [Journal of Analytical and Applied Pyrolysis, 125, (2017), 193-200] Shogo Kumagai, Shunsuke Ono, Shun Yokoyama, Tomohito, Kameda, Toshiaki Yoshioka
- Low-power-consumption flat-panel light-emitting device driven by field-emission electron source using high-crystallinity single-walled carbon nanotubes. [Japanese Journal of Applied Physics, 56 (6), (2017), 065101] Norihiro Shimo, Daisuke Abe, Kazuyuki Matsumoto, Yoshinori Sato, and Kazuyuki Tohji
- Influence of supported PtPd nanoparticles on the tensile strength of individual multi-walled carbon nanotubes: Strength decrease by the interaction of metal and nanotube. [RSC Advances, 7, (2017), 49917-49922] Hideaki Suzuki, Tatsuhito Kimura, Go Yamamoto, Toshiyuki Hashida, Kenichi Motomiya, Kazuyuki Tohji, Yoshinori Sato
- Is the tensile strength of carbon nanotubes enhanced by supported materials? : Effect of supported amorphous alumina nanoparticles on the tensile strength of carbon nanotubes. [Carbon, 118, (2017), 339-342] Tatsuhito Kimura, Hideaki Suzuki, Mei Zhang, Go Yamamoto, Toshiyuki Hashida, Kenichi Motomiya, Kazuyuki Tohji, Yoshinori Sato

国際エネルギー資源学分野

【論文】

- Achieving instrument interaction in policy mixes: Types of complementarities in building energy efficiency policies in New York, Tokyo, Seoul and Sydney. [Research Policy, in press] Trencher, G., Van der Heijden, J.
- Adaptation of Social License Measurement and Analysis Techniques for Geothermal Usage and Development. [GRC Transactions, 41, (2017), 613-622] Bahr, K., Masuda, S., Saishu, H., Kubota, H., & Tsuchiya, N.
- Agent-based Model coupled with Bayesian Estimation for Evaluation of Social Acceptance of Geothermal Development. [GRC Transactions, 41, (2017), 2056-2067] Masuda, S., Bahr, K., Tsuchiya, N.
- Alkaline hydrolysis of PVC-coated PET fibers for simultaneous recycling of PET and PVC. [J. Mater. Cycles Waste Manage., 20, (2017), 439-449] Kumagai, S. and Hirahashi, S. and Grause, G. and Kameda, T. and Toyoda, H. and Yoshioka, T.
- Implementing Sustainability Co-Creation between Universities and Society: A Typology-Based Understanding. [Sustainability, 9, (4), (2017), 594-594] Gregory Trencher, Masafumi Nagao, Chiahsin Chen, Kentaro Ichiki, Tobai Sadayoshi, Mariko Kinai, Mio Kamitani, Shojiro Nakamura, Aiko Yamauchi, Masaru Yarime
- Solubility parameters for determining optimal solvents for separating PVC from PVC-coated PET fibers. [Journal of Material Cycles and Waste Management, 19, (2017), 612-622] Grause, G., Hirahashi, S., Toyoda, H., Kameda, T., Yoshioka, T.
- Stretching “smart”: advancing health and well-being through the smart city agenda. [Local Environment: The International Journal of Justice and Sustainability, (2017), 1-18] A. Karvonen
- Thermal decomposition of tetrabromobisphenol-A containing printed circuit boards in the presence of calcium hydroxide. [Journal of Material Cycles and Waste Management, 19, (2017), 282-293] Kumagai, S., Grause, G., Kameda, T., Yoshioka, T.

環境政策学講座

イノベーション戦略学分野

【論文】

- 座学と実習を併用したカリキュラムが環境配慮行動に与える影響—宮城県黒川高等学校の事例から . [エネルギー環境教育研究, (2017)] 富村芽久美, 古川柳蔵

環境・エネルギー経済学分野

【論文】

- A Graph Theory-based Methodology for Vulnerability

Assessment of Supply Chains using the Life Cycle Inventory Database. [Omega, (2017)] Jun NAKATANI, Kiyotaka TAHARA, Kenichi NAKAJIMA, Ichiro DAIGO, Hideaki KURISHIMA, Yuki KUDO, Kazuyo MATSUBAE, Yasuhiro FUKUSHIMA, Tomohiko IHARA, Yasunori KIKUCHI, Asako NISHIJIMA, Yuichi MORIGUCHI

- Bottlenecks in material cycle of nickel. [Matériaux & Techniques, 104, (610), (2017), 604-604] Kenichi Nakajima, Ichiro Daigo, Kenichi Okada, Shimpei Koike, Keisuke Nansai, Kazuyo Matsubae, Osamu Takeda and Takahiro Miki
- Dynamic material flow analysis of nickel and chromium associated with steel materials by using matrace. [Matériaux & Techniques, 104, (610), (2017), 610-610] Kentaro Takeyama, Hajime Ohno, Kazuyo Matsubae, Kenichi Nakajima, Yasushi Kondo and Tetsuya Nagasaka
- Global distribution of material consumption: Nickel, Copper, and Iron. [Resources, Conservation & Recycling, (2017)] Kenichi Nakajima, Ichiro Daigo, Keisuke Nansai, Kazuyo Matsubae, Wataru Takayanagi, Makoto Tomita, Yasunari Matsuno
- Global land-use change hidden behind nickel consumption. [Science of The Total Environment, 586, (15), (2017), 730-737] Kenichi Nakajima, Keisuke Nansai, Kazuyo Matsubae, Makoto Tomita, Wataru Takayanagi, Tetsuya Nagasaka
- 責任あるサプライチェーンの実現に向けたニッケル資源利用に関わるリスク要因の整理と解析。[日本LCA学会誌 , 13, (1), (2017), 1-10] 佐々木翔, 松八重一代, 中島謙一, 村上進亮, 長坂徹也

【著書】

- リンの事典(執筆担当部分) 第2章 2-3, 第9章 9-1. [朝倉書店, (2017)] 大竹久夫 他 編著
- 【総説・解説】
- 責任ある資源利用を目指した社会における未利用資源の活用。[化学と教育, (2017)] 松八重一代, 長坂徹也
- リンの資源と持続可能性。[エネルギー資源, 38 (3), (2017), 162-164] 松八重一代, 長坂徹也

国際環境・自然資源マネジメント学分野

【論文】

- Apiculture knowledge transmission in a changing world: Can family-owned knowledge be opened?. [Journal of Ethnic Foods, 4, (4), (2017), 262-267] Uchiyama,U., Matsuoka,H., Kohsaka,R.
- Beekeeping and honey production in Japan and South Korea: past and present.[Journal of Ethnic Foods, 4, (2), (2017), 72-79] Kohsaka, R., Park, M. S., Uchiyama, Y.
- Do historical production practices and culinary heritages really matter? Food with protected geographical indications in Japan and Austria. [Journal of Ethnic Foods, 4, (2), (2017), 118-125] Gugerell, K., Uchiyama, Y., Kieninger, P. R., Penker, M., Kajima, S., Kohsaka, R.
- Expectations of residents and tourists of agriculture-related certification systems: analysis of public perceptions.

[Journal of Ethnic Foods, 4, (2), (2017), 110-117] Uchiyama, Y., Tanaka, Y., Matsuoka, H., Kohsaka, R.

- Fostering cooperation between farmers and public and private actors to expand environmentally friendly rice cultivation: intermediary functions and farmers' perspectives. [International Journal of Agricultural Sustainability, 15, (5), (2017), 593-612] Kishioka, T., Hashimoto, S., Nishi, M., Saito,O., Kohsaka, R.

- Japanese sake and evolution of technology: A comparative view with wine and its implications for regional branding and tourism. [Journal of Ethnic Foods, 4, (2), (2017), 88-93] Sato, J., Kohsaka, R.

- Motivation, strategy and challenges of conserving urban biodiversity in local contexts: Cases of 12 municipalities in Ishikawa, Japan. Urban Transitions Global Summit 2016.

[Procedia Engineering, 198, (2017), 212-218] Kohsaka,R., Uchiyama,Y.

- Public recognition of traditional vegetables at the municipal level: Implications for transgenerational knowledge transmission. [Journal of Ethnic Foods, 4, (2), (2017), 94-102] Uchiyama, Y., Matsuoka, H., Kohsaka, R.

- Spatio-temporal analysis of biodiversity, land-use mix and human population in a socio-ecological production landscape: A case study in the Hokuriku region, Japan. Urban Transitions Global Summit 2016. [Procedia Engineering, 198, (2017), 219-226] Uchiyama, Y., Kohsaka,R.

- The governance of geographical indications: experiences of practical implementation of selected case studies in Austria, Italy, Greece and Japan. [British Food Journal, 119, (12), (2017), 2863-2879] Kizos,T., Kohsaka,R., Penker,M., Piatti,C., Vogl,R., Uchiyama,Y.

- The myth of washoku: a twisted discourse on the "uniqueness" of national food heritages. [Journal of Ethnic Foods, 4, (2), (2017), 66-71] Kohsaka, R.

- Tradition and Japanese vegetables: history, locality, geography, and discursive ambiguity. [Journal of Ethnic Foods, 4, (3), (2017), 198-203] Uchiyama,Y., Fujihira,Y., Matsuoka,H., Kohsaka,R.

- 温浴施設での薪ボイラ導入における運用実態—木質バイオマスの小規模熱利用が地域に与える影響とは—。[日本森林学会誌 , 99, (1), (2017), 18-23] 風聰一郎, 梶間周一郎, 内山寅太, 香坂玲

- 都市の生物多様性指標をめぐる国内外の最新事情。[都市緑化技術 , (103), (2017), 2-5] 香坂玲, 内山寅太

- 能登半島の事例にみる農具の再利用とストック—静的な「遺物」から動的な「生きた遺産」へ—。[エコミュージアム研究 , (21), (2017), 40-48] 川邊咲子, 香坂玲, 松岡光, 内山寅太

寄付講座 (DOWA ホールディングス)

環境物資政策学分野

【論文】

- A planar field emission electron source using highly-crystalline single-walled carbon nanotubes in a triode structure with under-gate electrodes. [IDW'17 Proceedings, 1, (2017), 168-170] Shoichi Kumon, Norihiro Shimoi

- Current-fluctuation mechanism of field emitters using metallic single-walled carbon nanotubes with high crystallinity. [Applied Sciences, 7, (12), (2017), 1322-1322] Norihiro Shimoi, Kazuyuki Tohji

- Low-power-consumption flat-panel light-emitting device driven by field-emission electron source using high-crystallinity single-walled carbon nanotubes. [Japanese Journal of Applied Physics, 56, (6), (2017), 65101-65101] Norihiro Shimoi, Daisuke Abe, Kazuyuki Matsumoto, Yoshinori Sato, and Kazuyuki Tohji

- Structure and electrochemical properties of a mechanochemically processed silicon and oxide-based nanoscale composite as an active material for lithium-ion batteries. [Journal of Nanotechnology, 2017, (9289273), (2017)] Norihiro Shimoi, Kazuyuki Tohji

- Synthesis of anode active material particles for lithium-ion batteries by surface modification via chemical vapor deposition and their electrochemical characteristics.

[Advanced Powder Technology, 28, (9), (2017), 2366-2372] Norihiro Shimoi

- Synthesis of highly-crystalline single-walled carbon nanotubes dispersed ink for construction of a planar field electron emitter. [The abstract of International conference on Diamond and Carbon materials 2017, 1, (1), (2017), 259-261] Shoichi Kumon, Norihiro Shimoi

- 低炭素社会を構築するカーボン素材応用新技術。[エレクトロニクス実装学会誌 , 147, (1), (2017), 38-42] 下位法弘

- 二次電池シリコン負極用バインダーの最適選択による充放電特性改善。[MES2017 マイクロエレクトロニクスシンポジウム論文集 , 1, (1), (2017), 283-286] 下位法弘

【総説・解説】

- 低炭素社会を構築するカーボン素材応用新技術。[エレクトロニクス実装学会誌 , 20 (1), (2017), 38-42] 下位法弘

【特許】

- NEGATIVE ELECTRODE ACTIVE MATERIAL FOR LITHIUM ION SECONDARY BATTERY, METHOD FOR PRODUCING THE SAME, NEGATIVE ELECTRODE, AND BATTERY [2017 年 3 月 15 日出願(15/459,088) 2017 年 6 月 29 日公開(US2017/0187037 A1)] Norihiro Shimoi, Kazuyuki Tohji, Yasumitsu Tanaka, Qiwu Zhang, Hiroyuki Kai

- FIELD ELECTRON EMISSION FILM, FIELD ELECTRON EMISSION ELEMENT, LIGHT EMITTING ELEMENT, AND METHOD FOR PRODUCING SAME [2016 年 10 月 出願 (201380045316.6), 2017 年 2 月 28 日登録(ZL201380045316.6)] Norihiro Shimoi, Kazuyuki Tohji, Kensaku Fukuda

- NEGATIVE ELECTRODE ACTIVE MATERIAL FOR LITHIUM ION SECONDARY BATTERY, METHOD FOR PRODUCING THE SAME, NEGATIVE ELECTRODE, AND BATTERY [2015 年 7 月 8 日出願 (14/793,975), 2015 年 11 月 12 日公開 (20150325853), 2017 年 4 月 25 日登録 (US9,634,327 B2)] Norihiro Shimoi, Kazuyuki Tohji, Yasumitsu Tanaka, Qiwu Zhang, Hiroyuki Kai

- FIELD ELECTRON EMISSION FILM, FIELD ELECTRON EMISSION ELEMENT, LIGHT EMITTING ELEMENT, AND METHOD FOR PRODUCING SAME [2015 年 2 月 28 日出願(PCT/JP2013/071772), 2017 年 5 月 3 日登録 (CN 104584178)] Norihiro Shimoi, Kazuyuki Tohji, Yasumitsu Tanaka, Hiroyuki Kai

基幹講座

先端環境創成学専攻

都市環境・環境地理学講座

自然環境地理学分野

【論文】

- 海上から巡る港湾・いわき市小名浜の震災復興。[E-journal GEO, 11, (2), (2017), 573-576] 関根良平, 小田隆史, 庄子元

- 津波被災地における水産経済の再建に関する地理学的研究—水産業の連関構造に注目して。[公益財団法人国土地理協会平成 27 年度学術研究助成報告書 , (2017)] 関根良平, 庄子元, 小田隆史, 磯田弦

- 南富良野町における台風 10 号の被害状況速報。[東北地理学会台風 10 号災害被害情報 , (2017)] 庄子元, 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

【論文】

- Acceleration of Carburization and Melting of Reduced Iron in Iron Ore—Carbon Composite Using Different Types of Carbonaceous Materials. [ISIJ International, 57, (11), (2017), 1929-1937] Taichi Murakami, Masamu Ohno, Kaori Suzuki, Kanae Owaki, and Eiki Kasai

- Development of Iron-Based Heat Storage Materials Utilizing Solid Phase Transformation for Rapid Carbonization Process of Biomass. [1st International Conference on Energy and Material Efficiency and CO₂ Reduction in the Steel Industry (EMECR2017), (2017), 120-123] Daisuke Maruoka, Hiroki Tsuneda, Taichi Murakami, and Eiki Kasai

- Development of Manufacturing Principle of Porous Iron by Carbothermic Reduction of Composite of Hematite and Biomass Char. [Materials Transactions, 58, (12), (2017), 1742-1748] Taichi Murakami, Takayuki Takahashi, Shoko Fuji, and Eiki Kasai

- Effect of Sulfur on Carburization and Melting Behavior of Iron by CO Gas. [ISIJ International, 57, (11), (2017), 1922-1928] Taichi Murakami, and Kazuhiro Nagata

● Effective Utilization of Dust and Sludge Formed in Ironmaking to Iron Ore Sintering Process. [1st International Conference on Energy and Material Efficiency and CO₂ Reduction in the Steel Industry (EMECR2017), (2017), 174-177] Tsubasa Shima, Sanghan Son, Daisuke Maruoka, Taichi Murakami, and Eiki Kasai

● Reaction Behaviors of Metallic Iron and Lower Oxides of Iron in the Sintering Bed. [Proceeding of 2nd ISIJ-VDEh-Jernkontoret Joint Symposium, 2, (2017), 253-260] Kazuya Fujino, Taichi Murakami and Eiki Kasai

● Reduction Mechanism of Carbon Cored Iron Ore Pellet with CO-CO₂ Gas. [1st International Conference on Energy and Material Efficiency and CO₂ Reduction in the Steel Industry (EMECR2017), (2017), 190-193] Tsuyoshi Saito, Daisuke Maruoka, Taichi Murakami, and Eiki Kasai

● 4元系カルシウムフェライトの被還元性に及ぼす鉱物組成および雰囲気の影響. [材料とプロセス , 30, (2017), 268-268] 丸岡大佑, 保岡昌嗣郎, 村上太一, 葛西栄輝

● 固相反応により調製した4元系カルシウムフェライトの被還元性に及ぼす雰囲気ガスの影響. [材料とプロセス , 30, (2017), 650-650] 大沼優斗, 丸岡大佑, 村上太一, 葛西栄輝

● 固相変態を利用したバイオマス迅速炭化プロセス用蓄熱材. [材料とプロセス , 30, (2017), 276-276] 丸岡大佑, 常田大喜, 村上太一, 葛西栄輝

● 高水素雰囲気で高被還元性を有する焼結鉱の製造と評価. [材料とプロセス , 30, (2017), 649-649] 本村優貴, 丸岡大佑, 村上太一, 葛西栄輝

● 高水素雰囲気に適した焼結鉱組織作り込みのための原料設計. [材料とプロセス , 30, (2017), 265-265] 本村優貴, 丸岡大佑, 村上太一, 葛西栄輝

● 高炉装入物の還元様式および低温還元粉化挙動に与えるガス組成の影響. [材料とプロセス , 30, (2017), 654-654] 水谷守利, 西村恒久, 折本隆, 橋口謙一, 野村誠治, 葛西栄輝

● 焼結充填層におけるコースクス共存下の金属鉄およびマグネタイト精鉱の酸化挙動. [鉄と鋼 , 103, (6), (2017), 365-371] 藤野和也, 村上太一, 葛西栄輝

● 焼結層内におけるWüstite粒子の酸化反応に対するCaO成分添加の影響. [鉄と鋼 , 103, (6), (2017), 341-347] 藤野和也, 村上太一, 葛西栄輝

● 炭材内装酸化鉄コンポジットを用いた多孔質鉄生成機構. [第68回塑性加工連合講演会講演概要集 , (2017), 361-362] 村上太一, 丸岡大佑, 町田智, 葛西栄輝

● 炭材内装酸化鉄コンポジットを用いた多孔質鉄組織に及ぼす添加元素の影響. [第68回塑性加工連合講演会講演概要集 , (2017), 363-364] 高橋孝征, 丸岡大佑, 村上太一, 葛西栄輝

● 鉄の浸炭・溶融に及ぼす炭材中Ashの影響. [材料とプロセス , 30, (2017), 738-738] 大野真武, 丸岡大佑, 村上太一, 葛西栄輝

● 鉄鉱石焼結工程におけるKRスラグの有効利用法. [鉄と鋼 , 103, (6), (2017), 357-364] 藤野和也, 小野晃一朗, 村上太一, 葛西栄輝

● 分割造粒法を活用したマグネタイト鉱石の酸化促進による焼結鉱強度および被還元性向上. [鉄と鋼 , 103, (6), (2017), 388-396] 松村勝,

高山透, 原恭輔, 山口泰英, 石山理, 橋口謙一, 野村誠治, 村上太一, 林幸, 大野光一郎

● 融液生成による鉄系凝結材の酸化反応促進効果. [鉄と鋼 , 103, (6), (2017), 348-356] 藤野和也, 村上太一, 葛西栄輝

地球システム計測学分野

【論文】

● Ground-based measurement of column-averaged mixing ratios of methane and carbon dioxide in the Sichuan Basin of China by a desktop optical spectrum analyzer. [J. Appl. Remote Sens., 12, (1), (2017)] Xiu-Chun Qin, Tomoki Nakayama, Yutaka Matsumi, Masahiro Kawasaki, Akiko Ono, Sachiko Hayashida, Ryoichi Ima, Li-Ping Lei, Isao Murata, Takahiro Kuroki and Masafumi Ohashi

● The recent increase of atmospheric methane from 10 years of ground-based NDACC FTIR observations since 2005. [Atmos. Chem. Phys., 17, (2017), 2255-2277] W. Bader, B. Bovy, S. Conway, K. Strong, D. Smale, A. J. Turner, T. Blumenstock, C. Boone, M. C. Coen, A. Coulon, O. Garcia, D. W. T. Griffith, F. Hase, P. Hausmann, N. Jones, P. Krummel, I. Murata, I. Morino, H. Nakajima, S. O'Doherty, C. Paton-Walsh, J. Robinson, R. Sandrin, M. Schneider, C. Servais, R. Sussmann and E. Mahieu

【総説・解説】

●スペクトル取得型光学オゾンゾンデによる成層圏オゾン、二酸化窒素の観測. [第23回大気化学討論会講演要旨集 , (2017), 38-38] 村田功, 野口克行, Andreas Richter, Alexei Rozanov, John P. Burrows

●スペクトル取得型光学オゾンゾンデ観測からの成層圏オゾン、二酸化窒素高度分布導出. [平成29年度大気球シンポジウム集録 , (2017), isas17-sbs-005] 村田功, 野口克行, Andreas Richter, Alexei Rozanov, John P. Burrows

水資源システム学分野

【論文】

● Assessing the effect of predicted climate change on slope stability in Northern Thailand: A case of Doi Pui. [International Journal of GEOMATE, 13, (38), (2017), 38-48] Thapthai Chaithong, Suttisak Soralump, Damrong Pungsuean, Daisuke Komori

● Dual phase role of composite adsorbents made from cockleshell and natural zeolite in treating river water.

[Journal of King Saud University - Science, (2017)] Siti Nur Fatihah Moideen, Mohd Fadhil Md Din, Shahabaldin Rezania, Mohanadoss Ponraj, Azlan Abd Rahman, Low Wen Pei, Zulhilmi Ismail, Shazwin Mat Taib, Yu-You Li, Daisuke Komori

● Feasibility study for a virtuous material cycle in Indonesia. [Shigen Sozai Koenshu, 4, (2017), No.2] Ryuzo Furukawa, Daisuke Komori, Yasuhiro Fukushima, Guido Grause, Toshiaki Yoshioka, Mohammad Chaerul, Emenda Sembiring, Enri

Damanhuri, Hadi Kardhana, Mohammada Farid, Herto Dwi Ariesyady, Yuichiro Fujioka

● Flood impacts on residential property process in frequently flooded areas: Evidences from Kanda river basin. [15th International conference on Computers in Urban Planning and Urban Management, (2017), WedA63] Ryo Inoue, Daisuke Komori

● Hydrological-Geotechnical model to assess the extreme rainfall-induced shallow landslides. [土木学会論文集G(環境) , 73, (5), (2017), I_223-I_228] Thapthai Chaithong, Daisuke Komori

● Investigation on the response of anaerobic membrane bioreactor to temperature decrease from 25°C to 10°C in sewage treatment. [Bioresource Technology, 243, (2017), 747-754] Ryoya Watanabe, Yulun Nie, Shinichiro Wakahara, Daisuke Komori, Yu-You Li

● Landslides and precipitation characteristics during the typhoon Lionrock in Iwater prefecture, Japan. [7th International conference on GEOMATE, (2017)] Thapthai Chaithong, Daisuke Komori, Yoshiya Touge, Yuta Mitobe, Yuto Sukegawa, Satoshi Anzai

● Optimum Abstraction of Groundwater for Sustaining Groundwater Level and Reducing Irrigation Cost. [Water Resources Management, 31, (2017), 1947-1959] Golam Saleh Ahmed Salem, So Kazama, Daisuke Komori, Shamsuddin Shahid, Nepal C. Dey

● Submerged anaerobic membrane bioreactor (SAnMBR) performance on sewage treatment: removal efficiencies, biogas production and membrane fouling. [Water Science & Technology, 76, (7), (2017), wast2017240] Rong Chen, Yulun Nie, Jiayuan Ji, Tetsuya Utashiro, Qian Li, Daisuke Komor, Yu-You Li

● インドネシア・バンカラン県における地域住民参加型バイオエネルギー開発プログラムの持続可能性. [土木学会論文集G(環境) , 73, (5), (2017), I_99-I_106] 小森大輔, Diah Pamulasari Suyanto, 峰嘉哉

● メコン河下流域における洪水氾濫と純一次生産力の関係. [土木学会論文集B1(水工学) , 73, (4), (2017), I_307-I_312] 平賀優介, 風間聰, 小森大輔

● メコン河氾濫原における地表水中ヒ素濃度推定モデルの構築. [土木学会論文集B1(水工学) , 73, (4), (2017), I_289-I_294] 佐藤郁, 小森大輔

● 河川週上津波の数値計算の精度検証と特性把握. [水文・水資源学会誌 , 30, (1), (2017), 32-42] 青山恭尚, Mohammad Bagus Adityawan, 三戸部佑太, 小森大輔, 田中仁

● 海岸堤防裏法尻の洗掘孔の発達過程と津波減勢効果に関する水理実験. [土木学会論文集B2(海岸工学) , 73, (2), (2017), I_871-I_876] 金子祐人, 三戸部佑太, 田中仁, 会田俊介, 小森大輔

● 日本全国のダム貯水池における流木流出量の統計解析. [土木学会論文集G(環境) , 73, (5), (2017), I_55-I_62] 助川友斗, 小森大輔

● 年最小気圧を用いた複合災害潜在被害額の将来推定. [土木学会論文集B1(水工学) , 73, (4), (2017), I_139-I_144] 秋間将宏, 風間聰, 峰嘉哉, 小森大輔, 川越清樹, 多田毅

● 平成28年台風10号による仙台海岸の地形変化. [東北地域災害科

学研究 , 53, (2017), 211-216] 三戸部佑太, 田中仁, 鈴木彰容, 梅田信, 小森大輔, 峰嘉哉

自然共生システム学講座

資源再生プロセス学分野

【論文】

● Adsorption isotherms and kinetics of arsenic removal from aqueous solution by Mg-Al layered double hydroxide intercalated with nitrate ions. [Reaction Kinetics, Mechanisms and Catalysis, 120, (2017), 703-714] Mir Tamzid Rahman, Tomohito Kameda, Shogo Kumagai, Toshiaki Yoshioka

● Alkaline hydrolysis of PVC-coated PET fibers for simultaneous recycling of PET and PVC. [Journal of Material Cycles and Waste Management, 20, (2017), 439-449] Shogo Kumagai, Suguru Hirahashi, Guido Grause, Tomohito Kameda, Hiroshi Toyoda, Toshiaki Yoshioka

● Aromatic hydrocarbon selectivity as a function of CaO basicity and aging during CaO-catalyzed PET pyrolysis using tandem μ-reactor-GC/MS. [Chemical Engineering Journal, 332, (2017), 169-173] Shogo Kumagai, Ryota Yamasaki, Tomohito Kameda, Yuko Saito, Atsushi Watanabe, Chuichi Watanabe, Norio Teramae, Toshiaki Yoshioka

● Diagnosing chlorine industrial metabolism by evaluating the potential of chlorine recovery from polyvinyl chloride wastes—A case study in Japan. [Resources, Conservation and Recycling, (2017)] Shogo Kumagai, Jiaqi Lu, Yasuhiro Fukushima, Hajime Ohno, Tomohito Kameda, Toshiaki Yoshioka

● Effectiveness of Mg-Al-layered double hydroxide for heavy metal removal from mine wastewater and sludge volume reduction. [International Journal of Environmental Science and Technology, (2017)] Mir Tamzid Rahman, Tomohito Kameda, Shogo Kumagai, Toshiaki Yoshioka

● Effects of hard- and soft-segment composition on pyrolysis characteristics of MDI, BD, and PTMG-based polyurethane elastomers. [Journal of Analytical and Applied Pyrolysis, 126, (2017), 337-345] Shogo Kumagai, Suguru Motokucho, Ryosuke Yabuki, Airi Anzai, Tomohito Kameda, Atsushi Watanabe, Hisayuki Nakatani, Toshiaki Yoshioka

● Equilibrium studies of the adsorption of aromatic disulfonates by Mg-Al oxide. [Journal of Physics and Chemistry of Solids, 114, (2017), 129-132] Tomohito Kameda, Mami Umetsu, Shogo Kumagai, Toshiaki Yoshioka

● Fate of bisphenol A pyrolysates at low pyrolytic temperatures. [Journal of Analytical and Applied Pyrolysis, 125, (2017), 193-200] Shogo Kumagai, Shunsuke Ono, Shun Yokoyama, Tomohito Kameda, Toshiaki Yoshioka

● Kinetics and Equilibrium Studies of Urea Adsorption Onto Activated Carbon: Adsorption Mechanism. [Journal of Dispersion Science and Technology, 38, (7), (2017), 1063-1066] Tomohito Kameda, Saya Ito, Toshiaki Yoshioka

- Kinetics and equilibrium studies on the uptake of Nd³⁺ by Zn-Al layered double hydroxide intercalated with triethylenetetramine-hexaacetic acid. [Materials Chemistry and Physics, 191, (2017), 96-98] Tomohito Kameda, Tetsu Shinmyou, Toshiaki Yoshioka
- New principals on the adsorption of alkyl compound by Mg-Al oxied: Adsorption kinetics and equilibrium studies. [Colloids and Surfaces A: Physicochemical and Engineering Aspects, 513, (5), (2017), 348-354] Tomohito Kameda, Mami Umetsu, Shogo Kumagai, Toshiaki Yoshioka
- Removal of boron and fluoride in wastewater using Mg-Al layered double hydroxide and Mg-Al oxide. [Journal of Environmental Management, 188, (2017), 58-63] Tomohito Kameda, Jumpei Oba, Toshiaki Yoshioka
- Removal of toxic HCN and recovery of H₂-rich syngas via catalytic reforming of product gas from gasification of polymide over Ni/Mg/Al catalysts. [Journal of Analytical and Applied Pyrolysis, 123, (2017), 330-339] Shogo Kumagai, Tomoyuki Hosaka, Tomohito Kameda, Toshiaki Yoshioka
- Simultaneous removal of Cl⁻ and SO₄²⁻ from seawater using Mg-Al oxide: kinetics and equilibrium studies. [Applied Water Science, 7, (1), (2017), 129-136] Tomohito Kameda, Jumpei Oba, Toshiaki Yoshioka
- Solubility parameters for determining optimal solvents for separating PVC from PVC-coated PET fibers. [Journal of Material Cycles and Waste Management, 19, (2), (2017), 612-622] Guido Grause, Suguru Hirashiki, Hiroshi Toyoda, Tomohito Kameda, Toshiaki Yoshioka
- Tandem μ -reactor-GC/MS for online monitoring of aromatic hydrocarbon production via CaO-catalysed PET pyrolysis. [Reaction Chemistry & Engineering, 2, (5), (2017), 776-784] Kumagai, R. Yamasaki, T. Kameda, Y. Saito, A. Watanabe, N. Teramae, T. Yoshioka
- Thermal deconposition of tetrabromobisphenol-A containing printed circuit boards in the presence of calcium hydroxide. [Journal of Material Cycles and Waste Management, 19, (1), (2017), 282-293] Shogo Kumagai, Guido Grause, Tomohito Kameda, Toshiaki Yoshioka
- プラスチックリサイクルの研究開発動向と課題：フィードストックリサイクルを中心として。[化学工学論文集, 43, (4), (2017), 178-184] 齋藤優子, 熊谷将吾, 吉岡敏明
- 【著書】
 - 最新 材料の再資源化技術事典(執筆担当部分) 第3編 製品別リサイクル, 第2章 個別プラスチック製品, 第5節 ポリ塩化ビニルのケミカルリサイクル。[株式会社産業技術サービスセンター, (2017), 334-341] 吉岡敏明, 熊谷将吾
 - リンの事典(執筆担当部分) 第8章 リン回収技術 8-3 その他の二次資源からの回収技術 8-3-8 めっき廃液からの回収 3-6 めっき廃液からの回収。[朝倉出版, (2017), 300-301] 大竹久夫, 小野寺真一, 黒田章夫, 佐竹研一他
 - 【総説・解説】
 - 9th International Symposium on Feedstock Recycling of Polymeric Materials (9th ISFR 2017) 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, 31, (2017), 12-15] 熊谷将吾
- 高分子の熱分解研究の最前線を目指して。[環境科学研究科ニュースレター, 18, (2017)] 熊谷将吾
- 材料と原料としてみた無機マテリアルの環境対策。[Journal of the Society of INORGANIC MATERIALS, JAPAN, 24, (2017), 55-56] 吉岡敏明
- プラスチックリサイクルの研究開発動向と課題—フィードストックリサイクルを中心として。[(2017)] 齋藤優子, 熊谷将吾, 吉岡敏明
- プラスチックリサイクルの現状と展望。[プラスチックス, 11, (2017), 32-38] 齋藤優子, 熊谷将吾, 亀田知人, 吉岡敏明
- 木質バイオマス / 廃プラスチック混合物の共熱分解による化学原燃料化。[廃棄物資源循環学会誌, 28 (1), (2017), 4-12] 熊谷将吾, 吉岡敏明
- Measurement and correlation of flavanone, tangeritin, nobletin, 6-hydroxyflavanone and 7-hydroxyflavone solubilities in supercritical CO₂. [Journal of Supercritical Fluids, 128, (2017), 166-172] Ota, M., Sato, M., Sato, Y., Smith, R.L., Inomata, H.
- Measurement and modeling of adsorption equilibria of imidazolium-based ionic liquids on activated carbon from aqueous solutions. [Fluid Phase Equilibria, 441, (2017), 17-23] Ushiki, I., Tashiro, M., Smith, R.L.
- Measurement of high pressure densities and atmospheric pressure viscosities of alkyl phosphate anion ionic liquids and correlation with the ϵ^* -modified Sanchez-Lacombe equation of state. [Journal of Chemical Thermodynamics, 104, (2017), 73-81] Hiraga, Y., Goto, M., Sato, Y., Smith, R.L.
- Methodology for replacing dipolar aprotic solvents used in API processing with safe hydrogen-bond donor and acceptor solvent-pair mixtures. [Organic Process Research and Development, 21, (1), (2017), 114-124] Duereh, A., Sato, Y., Smith, R.L., Inomata, H.
- Nutrient recycle from defatted microalgae (*Aurantiochytrium*) with hydrothermal treatment for microalgae cultivation. [Bioresource and Technology, (2017), 186-192] T.M. Aida, R. Maruta, Y. Tanabe, M. Oshima, T. Nonaka, H. Kujiraoka, Y. Kumagai, M. Ota, I. Suzuki, M.M. Watanabe, H. Inomata, R.L. Smith Jr.
- Corrigendum to 'Nutrient recycle from defatted microalgae (*Aurantiochytrium*) with hydrothermal treatment for microalgae cultivation'. [Bioresource and Technology, (2017), 186-192] T.M. Aida, R. Maruta, Y. Tanabe, M. Oshima, T. Nonaka, H. Kujiraoka, Y. Kumagai, M. Ota, I. Suzuki, M.M. Watanabe, H. Inomata, R.L. Smith Jr.
- Does Synergism in Microscopic Polarity Correlate with Extrema in Macroscopic Properties for Aqueous Mixtures of Dipolar Aprotic Solvents? [Journal of Physical Chemistry B, 121, (24), (2017), 6033-6041] Duereh, A., Sato, Y., Smith, R.L., Inomata, H., Pichierri, F.
- Eco-friendly Method for Efficient Conversion of Cellulose into Levulinic Acid in Pure Water with Cellulase-Mimetic Solid Acid Catalyst. [ACS Sustainable Chemistry and Engineering, 5, (3), (2017), 2421-2427] Shen, F., Smith, R.L., Li, L., Yan, L., Qi, X.
- Efficient conversion of fructose into 5-ethoxymethylfurfural with hydrogen sulfate ionic liquids as co-solvent and catalyst. [Chemical Engineering Journal, 314, (2017), 508-514] Guo, H., Qi, X., Hiraga, Y., Aida, T.M., Smith, R.L.
- Extraction of Oil from Microalgae using Supercritical Carbon Dioxide and Ionic Liquids. [The 5th International Symposium & Exhibition of Aqua Science and Water Resources (ISASWR'17), (2017)] Taku Michael Aida, Taiga Watanabe, Kenta Ozawa, Richard L. Smith, Jr.
- High pressure densities for mixed ionic liquids having different functionalities: 1-butyl-3-methylimidazolium chloride and 1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl) imide. [Journal of Chemical Thermodynamics, 108, (2017), 7-17] Hiraga, Y., Koyama, K., Sato, Y., Smith, R.L.
- High-Performance Supercapacitor Electrode Materials from Chitosan via Hydrothermal Carbonization and Potassium Hydroxide Activation. [Energy Technology, 5, (3), (2017), 452-460] Zhu, L., Shen, F., Smith, R.L., Qi, X.
- Hydrothermal Leaching of LiCoO₂ with Sulfuric Acid, Nitric Acid, and Citric Acid. [Kagaku koukoku ronbunshu, (2017)] T. Aikawa, M. Watanabe, T.M. Aida, R.L. Smith Jr.
- Hydrothermal separation of lignin from bark of Japanese cedar. [Journal of Supercritical Fluids, (2017)] Watanabe, M., Kanaguri, Y., Smith, R.L.
- Stability of 5-hydroxymethylfurfural in the mixture of hydrogen sulfate ionic liquid and ethanol. [ISASWR'17 5th International Symposium & Exhibition on Aqua Science and Water Resources, (2017)] Haixin Guo, Alif Duereh, Taku M. Aida, Richard L. Smith, Jr.
- Synthesis of ferroelectric K_{1-x}NaxNb_{1-y}Ta_yO₃ nanoparticles using a supercritical water flow system. [Journal of Supercritical Fluids, 123, (2017), 101-108] Okada, K., Hayashi, H., Takesue, M., Watanabe, M., Smith, R.L.
- Vapor-liquid distribution coefficients of hops extract in high pressure CO₂ and ethanol mixtures and data correlation with entropy-based solubility parameters. [Fluid Phase Equilibria,

434, (2017), 44-48] Ota, M., Sugahara, S., Sato, Y., Smith, R.L., Inomata, H.

【著書】

● Production of Platform Chemicals from Sustainable Resources. [Springer Nature, (2017)] Fang, Zhen, Smith, Jr., Richard L., Qi, Xinhua

● Production of Biofuels and Chemicals with Bifunctional Catalysts. [Springer Nature, (2017)] Fang, Zhen, Smith, Jr., Richard L., HuLi

●超臨界流体を用いる合成と加工技術, 編集: 超臨界流体部会, (執筆担当部分) III編1章5節1項, 生物資源の高温高圧水処理. [株式会社 CMC 出版, (2017)] 相田卓, 渡邊賢, スミス リチャード

循環材料プロセス学分野

【論文】

● A numerical study on the dissolution process of InGaSb under zero gravity. [International Journal of Microgravity Science and Applications, 34, (2017), 340206] X. Jin, T. Yamamoto, Y. Takagi, Y. Okano, Y. Inatomi, Y. Hayakawa, S. Dost

● Global simulation of the induction heating TSSG process of SiC for the effects of Marangoni convection, free surface deformation and seed rotation. [Journal of Crystal Growth, 470, (2017), 75-88] T. Yamamoto, Y. Okano, T. Ujihara, S. Dost

● Investigation of Phosphorus-Containing Compounds in Aluminum Alloys with Emphasis on the Formation Mechanism. [Materials Science Forum, 877, (2017), 132-138] Sergey Komarov and Kazuki Miyamoto

● Mechanical plating of Al/CNT composite coatings on aluminum substrates. [Journal of Alloys and Compounds, 707, (2017), 238-244] R.S. Khasenova, S.V. Komarov, V.Yu. Zadorozhny

● Model experimental study on Cs removal from clay minerals by ion exchange under microwave irradiation.

[Chemical Engineering and Processing: Process Intensification, 115, (1), (2017), 56-62] N. Yoshikawa, S. Mikoshiba, T. Sumi, S. Taniguchi

● Molecular dynamics simulation of atomic-scale solutal Marangoni convection. [AJChE, 17, (2017), 73-81] Y. Imai, T. Yamamoto, Y. Okano, R. Sato, Y. Shigeta

● Nanosized zero-valent iron as Fenton-like reagent for ultrasonic-assisted leaching of zinc from blast furnace sludge. [Journal of Hazardous Materials, 321, (2017), 557-565] Ivan Mikhailov, Sergey Komarov, Vera Levina, Alexander Guseva, Jean-Paul Issia, Denis Kuznetsov

● Numerical investigation for the movement of cell colonies in bioreactors: stirring and orbital shaking tanks. [Journal of Chemical Engineering of Japan, (2017)] T. Yamamoto, M. Yano, Y. Okano, M. Kino-oka

● Numerical investigation of the transport phenomena occurring in the growth of SiC by the induction heating TSSG method. [Journal of Crystal Growth, 474, (15), (2017), 50-54] T. Yamamoto, N. Adkar, Y. Okano, T. Ujihara, S. Dost

● Numerical simulation of the transport phenomena occurring during the growth of SiC crystals by the RF-heating TSSG method. [Proceedings of Asian Conference on Thermal Sciences 2017, (2017), ACTS-00078] T. Yamamoto, J. Sakamoto, Y. Okano, T. Ujihara, S. Dost

● Numerical study of fluid dynamics and particle behavior in an iPS cell culture tank. [AJChE, 17, (2017), 29-36] M. Yano, T. Yamamoto, Y. Okano, T. Kanamori, M. Kino-oka

● Synthesis of the Ni-Al coatings on different metallic substrates by mechanical alloying and subsequent laser treatment. [Journal of Alloys and Compounds, 707, (2017), 351-357] V.Yu. Zadorozhny, A. Shahzad, M.D. Pavlov, D.S. Kozak, A.M. Chirkov, D.S. Zagrebin, R.S. Khasenova, S.V. Komarov, S.D. Kaloshkin

● Ultrasonic Assisted Reduction of Hot-Tearing During High-Speed DC Casting of 6000 Series Aluminum Alloys. [Light Metals, (2017), 989-994] Sergey Komarov, Yasuo Ishiwata and Yoshihiro Takeda

● Validation of the S-CLSOV method with the density-scaled balanced continuum surface force model in multiphase systems coupled with thermocapillary flows. [International Journal for Numerical Method in Fluids, 83, (2017), 223-244] T. Yamamoto, Y. Okano, S. Dost

●大型セラミックス超音波ホーンの設計・開発. [超音波 TECHNO, 29 (5), (2017), 6-12] コマロフ・セルゲイ

【著書】

●マイクロ波加熱の基礎と産業応用(執筆担当部分) 第1章 材料プロセッシングの基礎. [R&D 支援センター, (2017), 3-27] 福島英沖, 吉川昇 共同編集(監修)

【総説・解説】

● Green-Tech Microwave Studies at Tohoku University. [AMPERE (Association for Microwave Power in Europe for Research and Education), AMPERE Newsletter, 92, (2017), 14-17] N.Yoshikawa, C.C. Lee, M.Sunako, K.Kawahira and S.Taniguchi

環境創成計画学講座

環境分子化学分野

【論文】

● Capillary Electrophoretic Separation of cis/trans Isomers of Bis(o-diiminobenzoquinonato) platinum(II) Complexes Using β -Cyclodextrins as the Selector. [New J. Chem., 41, (2017), 7605-7612] Atsuko Masuya-Suzuki, Takumi Hayashi, Kousaku Tamura and Nobuhiko Iki

● Multi-coloration of Calixarene-coated Silver Nanoparticles for the Visual Discrimination of Metal Elements. [Anal. Sci., 33, (10), (2017), 1141-1145] Norioki Abe and Nobuhiko Iki

● Synthesis, metal binding and spectral properties of novel bis-1,3-diketone calix[4]arenes. [New J. Chem., 41, (2017), 1526-1537] Sergey N. Podyachev, Svetlana N. Sudakova, Gulnaz Sh. Gimazetdinova, Nataliya A. Shamsutdinova, Victor V. Syakaev, Tatjana A. Barsukova, Nobuhiko Iki, Asiya R. Mustafina

【総説・解説】

● CE の解き明かす溶液内分子複合体の熱力学的 速度論的描像. [電子情報通信学会技術研究報告, 116 (437), (2017), 27-28] 壱岐伸彦
●常磁性化学シフト試薬による化学交換飽和移動を利用した MRI. [ぶんせき, (6), (2017), 244-244] 唐島田龍之介

環境材料表面科学分野

● Electrochemical Stability of Pt/Pd(111) Model Core-Shell Structure in 80 °C Perchloric Acid. [Journal of The Electrochemical Society, 164, (9), (2017), F908-F910] N. Todoroki, Y. Bando, Y. Tani, S. Kaneko, H. Watanabe, S. Takahashi, T. Wadayama

● Ultrahigh Vacuum Synthesis of Strain-Controlled Model Pt(111)-Shell Layers: Surface Strain and Oxygen Reduction Reaction Activity. [The Journal of Physical Chemistry Letters, 8, (2017), 5360-5365] Soma Kaneko, Rikiya Myochi, Shuntaro Takahashi, Naoto Todoroki, Toshimasa Wadayama, and Tadao Tanabe

連携講座

地球環境変動学分野

【論文】

● A 4D-Var inversion system based on the icosahedral grid model (NICAM-TM 4D-Var v1.0)-Part 1: Offline forward and adjoint transport models. [Geosci. Model Dev., 10, (2017), 1157-1174] Niwa, Y., Tomita, H., Satoh, M., Imasu, R., Sawa, Y., Tsuboi, K., Matsueda, H., Machida, T., Sasakawa, M., Belan, B., and Saigusa, N.

● Bias assessment of lower and middle tropospheric CO₂ concentrations of GOSAT/TANSO-FTS TIR Version 1 product. [Atmos. Meas. Tech., 10, (2017), 3877-3892] Saitoh, N., S. Kimoto, R. Sugimura, R. Imasu, K. Shiomi, A. Kuze, Y. Niwa, T. Machida, Y. Sawa, and H. Matsueda

● Impact of Siberian observations on the optimization of surface CO₂ flux. [Atmos. Chem. Phys., 17, (2017), 2881-2899] Kim, J., Kim, H. M., Cho, C.-H., Boo, K.-O., Jacobson, A. R., Sasakawa, M., Machida, T., Arshinov, M., and Fedoseev, N.

● Methane fluxes in the high northern latitudes for 2005-2013 estimated using a Bayesian atmospheric inversion.

[Atmos. Chem. Phys., 17, (2017), 3553-3572] Thompson R.L., Sasakawa M., Machida T., Aalto T., Worthy D., Lavric J.V., Myhre C.L., Stohl A.

● Reconciliation of top-down and bottom-up CO₂ fluxes in Siberian larch forest. Environ. [Res. Lett., 12, 125012, (2017)] Takata K., Patra P.K., Kotani A., Mori J., Belikov D., Ichii K., Saeki T., Ohta T., Saito K., Ueyama M., Ito A., Maksyutov S., Miyazaki S., Burke E.J., Ganshin A., Iijima Y., Ise T., Machiya H., Maximof T.C., Niwa Y., O, Park H., Sasai T., Tei S., Zhuravlev R., Machida T., Sugimoto A., Aoki S.

● Six years of atmospheric CO₂ observations at Mt. Fuji recorded with a battery-powered measurement system. [Atmos. Meas. Tech., 10, (2017), 667-680] Nomura, S., H. Mukai, Y. Terao, T. Machida and Y. Nojiri

● Temporal characteristics of CH₄ vertical profiles observed in the West Siberian Lowland over Surgut from 1993 to 2015 and Novosibirsk from 1997 to 2015.. [J. Geophys. Res., 122, (11), (2017), 261-11-273] Sasakawa M., Machida T., Ishijima K., Arshinov M., Patra P. K., Ito A., Aoki S., Petrov V.

● The recent increase of atmospheric methane from 10 years of ground-based NDACC FTIR observations since 2005. [Atmos. Chem. Phys., 17, (2017), 2255-2277] Bader, W., B. Bovy, S. Conway, K. Strong, D. Smale, A. J. Turner, T. Blumenstock, C. Boone, M. C. Coen, A. Coulon, O. Garcia, D. W. T. Griffith, F. Hase, P. Hausmann, N. Jones, P. Krummel, I. Murata, I. Morino, H. Nakajima, S. O'Doherty, C. Paton-Walsh, J. Robinson, R. Sandrin, M. Schneider, C. Servais, R. Sussmann, and E. Mahieu

【著書】

●気候変動の事典(執筆担当部分) V-1 オゾン破壊とその諸影響. [朝倉書店, (2017), 250-255] 中島英彰, 山川修治(代表) 編

環境リスク評価学分野

【論文】

● Bacterial Degraders of Coexisting Dichloromethane, Benzene, and Toluene, Identified by Stable-Isotope Probing. [Water Air Soil Pollut., (2017)] M. Yoshikawa, M. Zhang, F. Kurisu, K. Toyota

● Biodegradation of Volatile Organic Compounds and Their Effects on Biodegradability under Co-Existing Conditions. [Microbes Environ., 32, (3), (2017), 188-200] M. Yoshikawa, M. Zhang, K. Toyota

● Pore pressure migration during hydraulic stimulation due to permeability enhancement by low-pressure subcritical fracture slip: Control Factor of Pressure Migration. [GRL, 44, (2017)] Y. Mukuhira, H. Moriya, T. Ito, H. Asanuma, M. Haring

● Supercritical Geothermal Systems -A Review of Past Studies and Ongoing Research Activities. [Proc Stanford Geothermal Workshop, (2017)] P. Dobson, H. Asanuma, E. Huenges, F. Poletto, T. Reinsch, B. Sanjuan

● Temporal Variations in Perched Water and Groundwater Qualities at an Open Solid Waste Dumpsite in Sri Lanka. [International Journal of GEOMATE, 13, (38), (2017), 1-8] U. Kumarasinghe, Y. Inoue, T. Saito, M. Nagamori, Y. Sakamoto, M.I.M. Mowlood, K. Kawamoto

● Utilizing supercritical geothermal systems: a review of past ventures and ongoing research activities. [Geothermal Energy, (2017)] T. Reinsch, P. Dobson, H. Asanuma, E. Huenges, F. Poletto, B. Sanjuan

● Mg 系使用済ヒ素吸着材の環境安定性に及ぼすケイ酸の影響. [土木学会論文集 G, 73, (7), (2017), III_407-III_408] 杉田創, 小熊輝美, 張銘, 原淳子, 川辺能成

●シロアリ防除剤としてのクロチアニジンの土壤処理におけるリスク評価—土壤・地下水環境下での多相・多成分流動モデルに基づく処理薬剤の土壤吸着特性評価-. [土木学会論文集 G (環境), 73, (2), (2017),

20-38] 坂本靖英, 中垣匡司, 藤原和弘, 小谷忠明, 井上英明, 谷口彩華

●六価クロムに起因した土壤・地下水汚染の長期挙動予測に関する研究
-地下水濃度のモニタリング結果および揚水による回収量のヒストリーマッチングによる汚染状況の再現とリスク評価-. [土木学会論文集 G (環境), 73, (2), (2017), 81-100] 坂本靖英, 保高徹生, 白川俊明, 山村正樹

バイオエコマネジメント学分野

【論文】

● Distinct Promotive Effects of 1,8-Diazabicyclo[5.4.0]undec-7-ene (DBU) on Polymer Supports in Copper-Catalyzed Hydrogenation of C=O Bonds. [ChemCatChem, 24 (9), (2017), 4501-4507] Ryo Watari, Norio Matsumoto, Shigeki Kuwata and Yoshihito Kayaki.

● Electrochemically applied potentials induce growth and metabolic shift changes in the hyperthermophilic bacterium Thermotoga maritima MSB8. [Bioscience, Biotechnology and Biochemistry, 81 (8), (2017), 1619-1626] Shin-ichi Hirano and Norio Matsumoto.

【特許】

●水素細菌の代謝制御方法 [特許公開番号 2017-93465] 平野伸一, 松本伯夫

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