

# 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】

● Electrochemical capacitors using nitrogen-doped vertically aligned multi-walled carbon nanotube electrodes prepared by defluorination. [ Carbon, 132, (2018), 539-547 ] Rei Nonomura, Takashi Itoh, Yoshinori Sato, Koji Yokoyama, Masashi Yamamoto, Tetsuo Nishida, Kenichi Motomiya, Kazuyuki Tohji, Yoshinori Sato

### 環境素材設計学分野

#### 【論文】

● Formation Process of Hydroxyapatite Granules in Agarose Hydrogel by Electrophoresis. [ Cryst. Growth Des., 18, (2018), 1961-1966 ] Kenshiro Kimura, Masanobu Kamitakahara, Taishi Yokoi, Koji Ioku

● Lifetime in Steel Cord Wire Drawing Dies of WC-Co Cemented Carbide Containing TaNbC or Cr<sub>3</sub>C<sub>2</sub>. [ Materials Transactions, 59(5), (2018), 754-759 ] Masayuki Takada, Hideaki Matsubara and Yoshihiro Kawagishi

● Preparation of spherical porous hydroxyapatite granules as support materials for microorganisms. [ J. Ceram. Soc. Japan, 126, (2018), 732-735 ] Masanobu Kamitakahara, Shohei Takahashi, Taishi Yokoi, Chihiro Inoue, Koji Ioku

● WC-Co 超硬合金の粒成長に対する Ti(C,N) 粒子分散の抑制効果 [ 粉体および粉末冶金, 65(2), (2018), 91-98 ] 高田真之, 松原秀彰, 森吉弘, 松田哲志

【総説・解説】

●粉末焼結の基礎 [ 新粉末冶金入門講座テキスト(粉体粉末冶金協会), (2018), 11-22 ] 松原秀彰

●リン酸ハカルシウムを用いた薬剤担持可能な人工骨の開発 [ 粉体および粉末冶金, 65, (2018), 197-201 ] 上高原理暢

### 環境修復生態学分野

#### 【論文】

● Adhesion Behavior of Microorganisms Isolated from Soil on Hydroxyapatite and Other Materials. [ Applied Biochemistry and Biotechnology, in press(2018) ] Kamitakahara M, Takahashi S., Yokoi T., Inoue C., Ioku K.

● Cadmium removal from mine drainage using *Arabidopsis halleri* ssp. *gemmifera* through hydroponic culture. [ Proceedings of 15th International Phytotechnologies Conference, (2018) ] Zhaojie Qian, Mei-Fang Chien, YiHuang-Takeshi Kohda, Nobuyuki Kitajima, Kentaro Hayashi, Akihiro Kanayama, Chihiro Inoue

● Efficient arsenic phytoremediation by co-culture of *Pteris multifida* with a multifunctional rhizobacterium. [ Proceedings of 15th International Phytotechnologies Conference, (2018) ] Chongyang Yang, Mei-Fang Chien, Chihiro Inoue

● Enhancement of inhibition: understanding the role of plant root exudates in bacterial polycyclic aromatic hydrocarbons degradation using sudangrass. [ Proceedings of 15th International Phytotechnologies Conference, (2018) ] J.A. Dominguez, M.F. Chien, C. Inoue

● Factors Controlling the Fractionation and Seasonal Mobility Variations of Ga and In in Systems Impacted by Acidic Thermal Waters: Effects of Thermodynamics and Bacterial Activity. [ Aquatic Geochemistry, 24(1), (2018), 5-25 ] Yasumasa Ogawa, Daizo Ishiyama, Naotatsu Shikazono, Koichi Suto, Chihiro Inoue, Noriyoshi Tsuchiya

● Gene expression of a phosphate transporter and an arsenate reductase in *Pteris vittata* during arsenic uptake. [ Proceedings of 15th International Phytotechnologies Conference, (2018) ] Shujun Wei, Mei-Fang Chien, Yi Huang-Takeshi Kohda, Chihiro Inoue

● Immobilization of boron and arsenic in alkaline coal fly ash through an aging process with water and elucidation of the immobilization mechanism. [ Water, Air, & Soil Pollution, 229, (2018), 359-370 ] Yasumasa Ogawa, Kento Sakakibara, Tsugumi Seki, Chihiro Inoue

● Preparation of spherical porous hydroxyapatite granules as support materials for microorganisms. [ Journal of the Ceramic Society of Japan, 126(9), (2018), 732-735 ] Kamitakahara M., Takahashi S., Yokoi T., Inoue C., Ioku K.

●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(環境), 74(1), (2018), 1-7 ] 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

●根圏微生物が引き出すファイトレメディエーションのさらなる可能性. [ アグリバイオ, 2(7), (2018), 682-683 ] 楊重陽, 簡梅芳

【著書】

●『湿式プロセス』2.4 節, 6.3 節 [ 内田老鶴圃, (2018) ] 佐藤修彰, 早稲田嘉夫, 井上千弘, 他

### 地球物質・エネルギー学分野

#### 【論文】

● Al-zoning of serpentine aggregates in mesh texture induced by metasomatic replacement reactions. [ Journal of Petrology, 59(4), (2018), 613-634 ] Ryosuke Oyanagi, Atsushi Okamoto, Rumiko Harigare, Noriyoshi Tsuchiya

● Brine infiltration in the middle to lower crust in a collision zone: Mass transfer and microtexture development through

wet grain-boundary diffusion. [ Journal of Petrology, in press, (2018) ] Higashino, F., Kawakami, T., Tsuchiya, N., Satish-Kumar, M., Ishikawa, M., Grantham, G.H., Sakata, S., Hirata, T.

● Distribution and Speciation of Bromine and Iodine in Volcanic Ash Soil Profiles Distribution and Speciation of Bromine and Iodine in Volcanic Ash Soil Profiles [ Soil Science Society of America Journal (2018). 10.2136/sssaj2018.01.0019 ] Akira Takeda, Atsushi Nakao, Shin-ichi Yamasaki, and Noriyoshi Tsuchiya

● DRONE BRINGS NEW ADVANCE OF GEOLOGICAL MAPPING IN MONGOLIA: OPPORTUNITIES AND CHALLENGES [ Mongolian Geoscientist, 47 (2018), 53-57 ] Otgonbayar Dandar, Atsushi Okamoto, Masaaki Uno, Undarmaa Batsaikhan, Burenjargal Ulziiburen, Noriyoshi Tsuchiya

● Loop energy: A useful indicator of the hardness of minerals from depth-sensing indentation tests. [ Journal of Structural Geology, (2018) ] Masuda, T., Omori, Y., Sakurai, R., Miyake, T., Yamanouchi, M., Harigane, Y., Okamoto, A.

● Mechanisms and kinetic model of hydrogen production in the hydrothermal treatment of waste aluminum [ Materials for Renewable and Sustainable Energy, 7 (2018), 10.1007/s4024 ] Putri Setiani, Noriaki Watanabe, Rina Riana Sondari and Noriyoshi Tsuchiya

● Multiple kinetic parameterization in a reactive transport model using the exchange Monte Carlo method. [ Minerals, 8(12), (2018), 579 ] Oyanagi, R., Okamoto, A., Tsuchiya, N

● Recovering the past history of natural recording media by Bayesian inversion. [ Physical Review E, 98, (2018), 43311 ] 岡本敦

●秋田県大比立鉱山下流域の河川中亜鉛に関する鉱山坑廃水の影響評価 [Journal of MMIJ, 134 (2018), 46-52 ] 澤山憲吾, 土屋範芳

●苦鉄質砕石岩を用いた酸性温泉水の中和に伴うレアメタルおよびヒ素, 鉛の挙動に関する基礎的研究 [ Journal of MMIJ, 134 (2018), 53-59] 岡田宏信, 大庭雅寛, 山田亮一, 土屋範芳

### 地球開発環境学分野

#### 【論文】

● A Fundamental Study on Resistive Forces for Underwater Ground Excavation by Flat Blade. [ Proc. of International Symposium on Earth Science and Technology 2018, 1, (2018), 259-263 ] Kenta KOBAYASHI, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Automatic Measurement of Ground Strength by Falling Weight from UAV at Disaster Areas. [ Proc. of 13th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2018), USB ] Naru OZAKI, Tomoaki SATOMI and Hiroshi TAKAHASHI

● DEVELOPMENT ON ESTIMATION OF CONE INDEX BY USING SOIL EXCAVATION BUCKET. [ Proceedings of 10th Asia-Pacific Conference of ISTVS, 1, (2018), USB ] Tomoaki SATOMI, Hiroshi TAKAHASHI, Shigeru AOKI, Hiroshi KANAMORI, Sachiko WAKABAYASHI and Takeshi HOSHINO

● Effect of Waste Cornsilk Fiber on Tensile Strength of Fiber-

Cement Sludge and Models for Estimation of Tensile Strength. [ Proc. of the 2nd Joint Seminar on Landslide, Flood Disasters and the Environmental Issues, 2, (2018), 1-10 ] Khiem Quang Tran, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Enhancement of Recycled Aggregate Concrete Properties by a New Treatment Method. [ International Journal of GEOMATE, 14(41), (2018), 68-76 ] Ngoc Kien Bui, Tomoaki Satomi and Hiroshi Takahashi

● Fundamental Study on Possibility of Prediction of Ground Strength in Disaster Sites by use of UAV. [ Proc. of International Symposium on Earth Science and Technology 2018, 1, (2018), 254-258 ] Kyosuke SUNEYA, Tomoaki SATOMI and Hroshi TAKAHASHI

● Improvement of mechanical behavior of cemented soil reinforced with waste cornsilk fibers. [ Construction and Building Materials, 178, (2018), 204-210 ] Khiem Quang Tran, Tomoaki Satomi, Hiroshi Takahashi

● INFLUENCE OF INITIAL CURING TIME AND WATER CONTENT ON GEOPOLYMER MODIFIED SLUDGE GENERATED IN LANDSLIDE AREA. [ Proc. of the 2nd Joint Seminar on Landslide, Flood Disasters and the Environmental Issues, 2, (2018), 1-10 ] Vu Minh Chien, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Mechanical Properties of Concrete Containing 100% Treated Coarse Recycled Concrete Aggregate. [ Construction and Building Materials, 163, (2018), 496-507 ] Ngoc Kien Bui, Tomoaki Satomi, Hiroshi Takahashi

● Recycling woven plastic sack waste and PET bottle waste as fiber in recycled aggregate concrete: An experimental study. [ Waste Management, 78, (2018), 79-93 ] Ngoc Kien Buia, Tomoaki Satomi, Hiroshi Takahashi

● Statistics Analysis on Soil Reduction Activity in Grizzly-under-Materials Discharged from Recycling Plant of Waste Asphalt Blocks. [ International Journal of the Society of Materials Engineering for Resources, 23(2), (2018), 209-214 ] Milkos Borges CABRERA Tomoaki SATOMI and Hiroshi TAKAHASHI

● STUDY ON ACQUISITION OF GROUND INFORMATION FOR EFFECTIVE BUCKET EXCAVATION : MEASUREMENT OF GROUND SHAPE AFTER THE EXCAVATION. [ Proceedings of 10th Asia-Pacific Conference of ISTVS, 1, (2018), USB ] Hiroshi TAKAHASHI, Tomoharu MINATO, Tomoaki SATOMI, Shigeru AOKI, Hiroshi KANAMORI, Sachiko WAKABAYASHI and Takeshi HOSHINO

● Study on Acquisition of Ground Information for Effective Bucket Excavation: Measurement of Ground Shape after the Excavation. [ Proc. of International Symposium on Earth Science and Technology 2018, 1, (2018), 264-269 ] Kenta KOBAYASHI, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Study on Automatic Soil Sampling Device: Falling-Speed Control and Atacching to UAV. [ Proc. of 13th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2018), USB ] Syuntaro INOUE, Tomoaki SATOMI and Hiroshi TAKAHASHI

● STUDY ON PERMEABILITY CHARACTERISTICS OF RICE STRAW FIBER-CEMENT-REINFORCED SLUDGE. [ Proc. of

the 2nd Joint Seminar on Landslide, Flood Disasters and the Environmental Issues, 2, (2018), 1-11 ] Phan Thanh Chien, Tomoaki Satomi and Hiroshi Takahashi

● Study on Recycling of Unused High Water Content Soil as Banking Materials. [ Proc. of 13th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2018), USB ] Kazuya OGATA, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Study on Recycling Method of Waste Gypsum Board Paper: Application of Waste Gypsum Board Paper for Soil Improvement. [ Advanced Experimental Mechanics, 3, (2018), 129-134 ] Yusuke IMAMURA, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Study on Strength Characteristics of Fiber-Cement-Stabilized Soil with Granular Material. [ Proc. of 13th International Symposium on Advanced Science and Technology in Experimental Mechanics, 1, (2018), USB ] Kota MATSUSHIMA, Tomoaki SATOMI and Hiroshi TAKAHASHI

● Study on Strength Characteristics of Rice Straw Fiber-Cement-Reinforced Sludge. [ International Journal of the Society of Materials Engineering for Resources, 23(2), (2018), 147-151 ] Phan Thanh CHIEN, Tomoaki SATOMI, and Hiroshi TAKAHASHI

● Study on Weak Soil Improvement by Using Geopolymer and Paper Fragments. [ International Journal of the Society of Materials Engineering for Resources, 23(2), (2018), 203-208 ] Vu Minh CHIEN, Tomoaki SATOMI, Hiroshi TAKAHASHI and Le Anh Tuan

● Study on Workability and Strength Properties of Placing Type Fiber-Cement-Stabilized Soil. [ Proc. of International Symposium on Earth Science and Technology 2018, 1, (2018), 270-273 ] Isao KIMURA, Tomoaki SATOMI and Hiroshi TAKAHASHI

● UAVを用いた災害現場における地盤強度推定の可能性に関する基礎的研究. [ 第9回土砂災害に関するシンポジウム論文集, 1, (2018), 19-24 ] 高橋弘, 尾崎成, 諫田貴哉, 強矢恭輔, 里見知昭

●コンクリート用粗骨材作製のための碎石脱水ケーキの熔融温度推定モデルの提案. [ 土木学会論文集 E2, 74(1), (2018), 21-34 ] 里見知昭, 一瀬裕司, 高橋弘

●ドローンを用いた土砂サンプリング装置の落下速度制御に関する研究. [ テラメカニクス, 38, (2018), 69-74 ] 島貫寛生, 里見知昭, 高橋弘

●バケット掘削における抵抗力を用いた破碎堆積物の粒度推定に関する研究. [ テラメカニクス, 38, (2018), 19-24 ] 大澤拓也, 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—水中平板載荷試験装置の作製—. [ テラメカニクス, 38, (2018), 31-36 ] 島貫寛生, 里見知昭, 高橋弘

●繊維質固化処理土工法による未利用泥土の築堤材への再資源化に関する研究. [ テラメカニクス, 38, (2018), 1-6 ] 緒方和也, 里見知昭, 高橋弘

●造粒物を用いた繊維質固化処理土の強度特性に関する研究. [ テラメカニクス, 38, (2018), 7-12 ] 松島昂汰, 里見知昭, 高橋弘

●無線センサネットワークを利用した斜面内の負の間隙水圧の長期多点計測システム. [ 土木学会論文集 C (地圏工学), 74(2), (2018), 144-163 ] 酒匂一成, 横田裕介, 里見知昭, 檀上徹, 深川良一

## 地球開発環境学分野 (坂口研)

### 【論文】

● Injection-induced Slip Characteristics of a Rock Fracture Under High Temperatures. [ Proc. of 10th Asian Rock Mechanics Symposium, (2018) ] Sho Takeyama, Hiroyuki Yamane, Noriaki Watanabe and Kiyotoshi Sakaguchi

● Stress Measurements in Seismogenic Zone: Dependence of Stress Change Patterns Accompanied with Earthquakes on Locations. [ Proc. of the 15th Annual Meeting of Asia Oceania Geosciences Society, (2018) ] Wiren Lin, Kiyotoshi Sakaguchi

●含水岩石のウォータージェット掘削シミュレーション. [ 骨材資源, 50(198), (2018), 65-74 ] 坂口清敏, 木崎彰久

## 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】

● Anisotropy of Fracture Toughness of Stabilized Zirconia Investigated by Nano-Indentation Method. [ MATERIALS TRANSACTIONS, 59(1), (2018), 23-26 ] Ito Hideaki, Sato Kazuhisa, Unemoto Atsushi, Hashimoto Shin-ichi, Amezawa Koji, Kawada Tatsuya

● Electrochemical performance of LaNi<sub>0.6</sub>Co<sub>0.4</sub>O<sub>3-δ</sub>-Ce<sub>0.9</sub>Gd<sub>0.1</sub>O<sub>1.95</sub> composite electrode and evaluation of its effective reaction length. [ Journal of Solid State Electrochemistry, 22, (2018), 3955-3963 ] R. A. Budiman, R. A. Budiman, Y. Uzunaki, S. Hashimoto, T. Nakamura, K. Yashiro, K. Amezawa, T. Kawada

● Evaluation of electrical conductivity and oxygen diffusivity of the typical Ruddlesden-Popper oxide Sr<sub>3</sub>Fe<sub>2</sub>O<sub>7-δ</sub> (vol 43, pg 16264, 2017). [ CERAMICS INTERNATIONAL, 44(2), (2018), 2632-2632 ] Yihan Ling, Tianmin Guo, Xiaozhen Zhang, Riyan Achmad Budiman, Yoshinobu Fujimaki, Takashi Nakamura, Bin Lin, Tatsuya Kawada, Koji Amezawa

● Investigation of rate-determining step of LaNi<sub>0.6</sub>Co<sub>0.4</sub>O<sub>3-δ</sub> film electrode. [ JOURNAL OF SOLID STATE ELECTROCHEMISTRY, 22(7), (2018), 2227-2235 ] Budiman R. A., Uzunaki Y., Hashimoto S., Nakamura T., Yashiro K., Bagarinao K. D., Kishimoto H., Yamaji K., Horita T., Amezawa K., Kawada T.

● Shape deformation analysis of anode-supported solid oxide fuel cell by electro-chemo-mechanical simulation. [ SOLID STATE IONICS, 319, (2018), 194-202 ] Muramatsu Mayu, Sato Masami, Terada Kenjiro, Watanabe Satoshi, Yashiro Keiji, Kawada Tatsuya, Iguchi Fumitada, Yokokawa Harumi

● Simulation of ferroelastic phase formation using phase-field model. [ International Journal of Mechanical Sciences, 146-147, (2018), 462-474 ] M. Muramatsu, K. Yashiro, T. Kawada, K. Terada

● Thermochemical CO<sub>2</sub> dissociation using Ce<sub>0.8</sub>Zr<sub>0.15</sub>Sc<sub>0.05</sub>O<sub>2-δ</sub>. [ SOLID STATE IONICS, 317, (2018), 103-107 ] Hishinuma Ryo, Yashiro Keiji, Hashimoto Shin-ichi, Kawada Tatsuya

### 【総説・解説】

● Electrochemical performance of LaNi<sub>0.6</sub>Co<sub>0.4</sub>O<sub>3-δ</sub>-Ce<sub>0.9</sub>Gd<sub>0.1</sub>O<sub>1.95</sub> composite electrode and evaluation of its effective reaction length [ Journal of Solid State Electrochemistry, (2018) ] R. A. Budiman, R. A. Budiman, Y. Uzunaki, S. Hashimoto, T. Nakamura, K. Yashiro, K. Amezawa, T. Kawada

● Investigation of rate-determining step of LaNi<sub>0.6</sub>Co<sub>0.4</sub>O<sub>3-δ</sub> film electrode [ Journal of Solid State Electrochemistry, 22, (2018), 2227-2235 ] R. A. Budiman, R. A. Budiman, Y. Uzunaki, S. Hashimoto, T. Nakamura, K. Yashiro, K. D. Bagarinao, H. Kishimoto, K. Yamaji, T. Horita, K. Amezawa, T. Kawada

● Shape deformation analysis of anode-supported solid oxide fuel cell by electro-chemo-mechanical simulation [ Solid State Ionics, 319, (2018), 194-202 ] Mayu Muramatsu, Masami Sato, Kenjiro Terada, Satoshi Watanabe, Keiji Yashiro, Tatsuya Kawada, Fumitada Iguchi, Harumi Yokokawa

● Simulation of ferroelastic phase formation using phase-field model [International Journal of Mechanical Sciences, 146-147, (2018), 462-474 ] M. Muramatsu, K. Yashiro, T. Kawada, K. Terada

● Thermochemical CO<sub>2</sub> dissociation using Ce<sub>0.8</sub>Zr<sub>0.15</sub>Sc<sub>0.05</sub>O<sub>2-δ</sub> [ Solid State Ionics, 317, (2018), 103-107 ] Ryo Hishinuma, Keiji Yashiro, Shin ichi Hashimoto, Shin ichi Hashimoto, Tatsuya Kawada

●高温作動燃料電池における酸素還元反応 [ 触媒, 60(6), (2018), 345-351 ] 八代圭司, 川田達也

## エネルギー資源リスク評価学分野

### 【論文】

● Application of multivariate analysis to investigate the trace element contamination in top soil of coal mining district in Jorong, South Kalimantan, Indonesia. [ Earth and Environmental Science, 118(12062), (2018), 1-8 ] Arie Pujiwati, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai

● Behaviors of 1,4-Dioxane in soil and groundwater and its on-site detection method. [ The 14th International Conference on Sustainable Water Environmen, 14, (2018), 102-111 ] Takeshi KOMAI, Kengo NAKAMURA

● Decomposition of gasoline hydrocarbons by natural microorganisms in Japanese soils. [ Geosciences (Switzerland), 8(2), (2018) ] Junko Nishiwaki, Yoshishige Kawabe, Takeshi Komai, Ming Zhang

● Experimental Investigation on Changes in Mechanical Properties of Volcanic Sandstones Under CO<sub>2</sub> Geological Storage Conditions. [ Proceedings of 10th Asiam Rock Mechanics Symposium, (2018), ARMS10-P-0133 ] K. Hattori, N. Watanabe, A. Okamoto, K. Nakamura, T. Komai, T. Tamagawa

● Experimental Study on Acid Injection for Enhanced Gas Recovery from Gas Hydrate. [ the 28th International Ocean and Polar Engineering Conference, (2018) ] Yusuke Nakano, Fuyuki Kaneko, Kengo Nakamura, Tohoku Yasuhide Sakamoto, Takeshi

Komai

● Experimental study on acid injection for enhanced gas recovery from gas hydrate reservoir. [ Proceedings of the International Offshore and Polar Engineering Conference, 2018-June, (2018), 199-204 ] Yusuke Nakano, Fuyuki Kaneko, Kengo Nakamura, Yasuhide Sakamoto, Takeshi Komai

● Friction-stability-permeability evolution of a fracture in granite. [ Water Resources Research, 54, (2018), 9901-9918 ] T. Ishibashi, D. Elsworth, Y. Fang, J. Riviere, B. Madara, H. Asanuma, N. Watanabe, C. Marone

● Hydrogeochemical Investigation on Shallow and Deep Groundwater in the Southern Gobi Desert, Mongolia. [ 第28回環境地質学シンポジウム, (2018) ] Batdermberel BAYANZUL, Isao MACHIDA, Kengo NAKAMURA, Noriaki WATANABE, Takeshi KOMAI

● Injection-induced Slip Characteristics of a Rock Fracture Under High Temperatures. [ Proc. of 10th Asian Rock Mechanics Symposium, (2018) ] Sho Takeyama, Hiroyuki Yamane, Noriaki Watanabe and Kiyotoshi Sakaguchi

● Mechanisms and kinetic model of hydrogen production in the hydrothermal treatment of waste aluminum. [ Materials for Renewable and Sustainable Energy, (2018), 7:10 ] P. Setiani, N. Watanabe, R. R. Sondari, N. Tsuchiya

● Numerical Simulation of Gas Hydrate Bearing Sediments for Enhanced Recovery Using Partial Oxidation method. [ Proceedings of 25th International Symposium of Offshore and Polar Engineering, 25, (2018) ] Takeshi Komai, Yasuhide Sakamoto, Kengo Nakamura, Noriaki Watanabe

● Numerical Study on the application of In-situ Low Temperature Oxidation Process for Enhanced Gas Recovery from Methane Hydrate Reservoir. [ International Society of Offshore and Polar Engineers, (2018) ] Yasuhide Sakamoto, Fuyuki Kaneko, Yusuke Nakano, Kengo Nakamura, Takeshi Komai

● Restoration measures after the 2011 Tohoku-oki tsunami and their impact on tsunami research. [ Advances in Natural and Technological Hazards Research, 47, (2018), 229-247 ] Catherine Chagué-Goff, Kazuhisa Goto, Daisuke Sugawara, Yuichi Nishimura, Takeshi Komai

● Simultaneous H<sub>2</sub> production with carbon storage by enhanced olivine weathering in laboratory-scale: An investigation of CO<sub>2</sub> effect. [ The Second International Conference on Materials Chemistry and Environmental Protection, (2018) ] Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Atsushi Okamoto, Takeshi Komai

● Simultaneous Olivine Alteration and Carbonation in CO<sub>2</sub>-rich Geological Condition. [ the 28th International Ocean and Polar Engineering Conference, (2018) ] Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai

● Simultaneous olivine alteration and carbonation in CO<sub>2</sub>-rich geological condition. [ Proceedings of the International Offshore and Polar Engineering Conference, 2018-June, (2018), 244-250 ] Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai

● Utilization of geothermal hot spring water for hydrogen production by Al-H<sub>2</sub>O hydrothermal reaction. [ GRAND

RENEWABLE ENERGY 2018 Proceedings, (2018), O-Ge-2-3 ] V. Alviani, T. Kosaka, M. Uno, M. Oba, N. Hirano, N. Watanabe, N. Tsuchiya, H. Saishu

●酸注入による原位置発熱を利用したメタンハイドレート貯留層からのガス増進回収効果の評価 . [ 石油技術協会誌 , 83(6), (2018) ] 中野裕介, 中村謙吾, 坂本靖英, 駒井武

●主成分分析を用いた表層土壌の元素濃度の地球化学的特徴の抽出 .

[ Journal of MMIJ, 134(2), (2018), 13-21 ] 中村謙吾, 桑谷立, 駒井武, 山崎慎一

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