**Peer-Reviewed Papers**

(1) Tunnel magnetoresistance exceeding 100% in magnetic tunnel junctions using Mn-based tetragonal alloy electrodes with perpendicular magnetic anisotropy
K. Z. Suzuki, S. Mizukami
AIP Adv. **13**, 035225 (2023).

(2) Improved immobilization of Re(VII) from aqueous solutions via bimetallic Ni/$Fe^0$ nanoparticles: Implications towards Tc(VII) removal
I. Maamoun, K. Tokunaga, T. Dohi, F. Kanno, O. Falyouna, O. Eljamal, K. Tanaka
Front. Nucl. Eng. **2**, 1142823 (2023).

(3) Hierarchical Aggregation in a Complex Fluid—The Role of Isomeric Interconversion
D. Massey, C. D. Williams, J. Mu, A. J. Masters, R. Motokawa, N. Aoyagi, Y. Ueda, M. R. Antonio
J. Phys. Chem. B **127**, 2052 (2023).

(4) Improvement of the Stability of $IO_3^-$ , $SeO_3^{2-}$-, and $SeO_4^{2-}$-Coprecipitated Barite after Treatment with Phosphate
K. Tokunaga, K. Tanaka, Y. Takahashi, N. Kozai
Environ. Sci. Technol. **57**, 3166−3175 (2023).

(5) Aging of fuel-containing materials (fuel debris) in the Chornobyl (Chernobyl) Nuclear Power Plant and its implication for the decommissioning of the Fukushima Daiichi Nuclear Power Station
T. Kitagaki, V. A. Krasnov, A. Ikeda-Ohno
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(6) New insight of Mn(III) in δ-$MnO_2$ for peroxymonosulfate activation reaction: Via direct electron transfer or via free radical reactions
H. Ouyang, C. Wu, X. Qiu, K. Tanaka, T. Ohnuki, Q. Yu
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(7) Arsenic removal from contaminated water utilizing novel green composite Chlorella vulgaris and nano zero-valent iron
M. S. Islam, I. Maamoun, O. Falyouna, O. Eljamal, B. B. Saha
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(8) Bench-scale injection of magnesium hydroxide encapsulated iron nanoparticles ($nFe^0$@$Mg(OH)_2$) into porous media for Cr(VI) removal from groundwater
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(9) Statistical optimization of nZVI chemical synthesis approach towards P and $NO_3^-$ removal from aqueous solutions: Cost-effectiveness & parametric effects
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(10) Insights into machine-learning modeling for Cr(VI) removal from contaminated water using nano-nickel hydroxide

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(11) Light-induced Li extraction from $LiMn_2O_4/TiO_2$ in a water-in-salt electrolyte for photo-rechargeable batteries
K. Shimokawa, S. Matsubara, A. Okamoto, T. Ichitsubo
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(12) Tracing magnetic atom diffusion with annealing at the interface between CoMn alloy and MnGa layer by X-ray magnetic circular dichroism
J. Okabayashi, K. Z. Suzuki, S. Mizukami
J. Magn. Magn. Mater. **564**, 170163 (2022).

(13) Uranium (VI) sorption on illite under varying carbonate concentrations: Batch experiments, modeling, and cryogenic time-resolved laser fluorescence spectroscopy study
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(14) Extended X-ray absorption fine structure spectroscopy measurements and ab initio molecular dynamics simulations reveal the hydration structure of the radium(II) ion
A. Yamaguchi, K. Nagata, K. Kobayashi, K. Tanaka, T. Kobayashi, H. Tanida, K. Shimojo, T. Sekiguchi, Y. Kaneta, S. Matsuda, K. Yokoyama, T. Yaita, T. Yoshimura, M. Okumura, Y. Takahashi
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(15) Promotion of ciprofloxacin adsorption from contaminated solutions by oxalate modified nanoscale zerovalent iron particles
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(16) Novel Graphene-Based Foam Composite As a Highly Reactive Filter Medium for the Efficient Removal of Gemfibrozil from (Waste) Water
A. M. Khalil, L. Han, I. Maamoun, T. A. Tabish, Y. Chen, O. Eljamal, S. Zhang, D. Butler, F. A. Memon
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(17) Water conservation behavior: Exploring the role of social, psychological, and behavioral determinants
B. Singha, O. Eljamal, S. C. Karmaker, I. Maamoun, Y. Sugihara
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(18) Radioactive particles from a range of past nuclear events: Challenges posed by highly varied structure and composition
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(19) Synthesis of hybrid magnesium hydroxide/magnesium oxide nanorods [$Mg(OH)_2$/MgO] for prompt

and efficient adsorption of ciprofloxacin from aqueous solutions
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(20) Microbial influences on manganese deposit formation at Yunotaki Fall, Japan
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(21) Potential bacterial alteration of nuclear fuel debris: a preliminary study using simulants in powder and pellet forms
J. Liu, Y. Dotsuta, T. Sumita, T. Kitagaki, T. Ohnuki, N. Kozai
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(22) Direct in-situ temperature measurement for lamp-based heating device
T. Sumita, A. Sudo, M. Takano, A. Ikeda-Ohno
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(23) Development of an in-situ continuous air monitor for the measurement of highly radioactive alpha-emitting particulates (alpha-aerosols) under high humidity environment
Y. Tsubota, F. Honda, S. Tokonami, Y. Tamakuma, T. Nakagawa, A. Ikeda-Ohno
Nucl. Instrum. Methods Phys. Res. A. **1030**, 166475 (2022).

(24) Insights into boron removal from water using Mg-Al-LDH: Reaction parameters optimization & 3D-RSM modeling
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(25) Multi-functional magnesium hydroxide coating for iron nanoparticles towards prolonged reactivity in Cr(VI) removal from aqueous solutions
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(29) Urea-Introduced Ionic Liquid for the Effective Extraction of Pt(IV) and Pd(II) Ions
Y. Ueda, A. Eguchi, K. Tokunaga, K. Kikuchi, T. Sugita, H. Okamura, H. Naganawa
Ind. Eng. Chem. Res., **61**, 6640 (2022).

**Invited Talks at International Conferences**

None

**Books and Scientific Articles**

None

**Patents**

None

**Awards**

None

**Press Release**

(1) 水に溶けたラジウムの姿を世界で初めて分子レベルで観測―キュリー夫妻による発見から 124 年、ラジウムの分子レベル研究の幕開け―
27 September 2022
https://www.jaea.go.jp/02/press2022/p22092701/

(2) 「その場」で測定 ！ 燃料デブリ取り出し作業で発生する放射性物質―空気中のα粒子のリアルタイム・モニタリングによる作業者の安全性向上へ―
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https://www.jaea.go.jp/02/press2022/p22051902/