

平成 16 年度 COE 水代謝グループ研究業績 (IF=60.216)

1. 先端的水処理システムの開発 (合計 IF=11.533)

1. Kimura, K., Toshima, S. and Watanabe, Y. (2004) Rejection of neutral endocrine disrupting compounds (EDCs), and pharmaceutically active compounds (PhACs) by RO membranes. *Journal of Membrane Science*, Vol. **245**, Pp. 71-78. (IF=2.081)
2. Kimura, K., Hane, Y., Watanabe, Y., Amy, G., and Ohkuma, N. (2004) Irreversible membrane fouling during ultrafiltration of a surface water. *Water Research*, Vol. **38**, Pp. 3431-3441. (IF=1.812)
3. Itonaga, T., Kimura, K., and Watanabe, Y. (2004) Influence of suspension viscosity and colloidal particles on permeability of membrane used in membrane bioreactor (MBR). *Water Science and Technology*, in press. (IF= 0.710)
4. 山村 寛、木村克輝、渡辺義公(2004)起源を異にする溶存有機物による不可逆的膜ファウリング、環境工学研究論文集、Vol. **41**、Pp. 257-267.
5. 大和信大、木村克輝、渡辺義公(2004)Membrane Bioreactor を用いた都市下水処理における膜ファウリングに関する研究、環境工学研究論文集、Vol. **41**、Pp. 269-278.
6. Takada H., Watanabe Y., and Iwamoto M. (2004) Zirconium sulfate-surfactant micelle mesostructure as an effective remover of selenite ion. *Chemistry Letters*. Vol. **33** (1): Pp.62-63. (IF=1.529)
7. Watanabe Y. and Itonaga T. (2004) Hybrid municipal wastewater treatment system with pre-coagulation/sedimentation. *Journal of Industrial and Engineering Chemistry*. Vol. **10** (1): Pp.122-128. (IF=1.239)
8. Itonaga T. and Watanabe Y. (2004) Performance of membrane bioreactor combined with pre-coagulation/sedimentation. *Water Science and Technology: Water Supply*. Vol. **4** (1): Pp. 143-149.
9. Kimura K., Amy G., Drewes J. E., Heberer T., Kim T. U., and Watanabe Y. (2003) Rejection of organic micropollutants (disinfection by-products, endocrine disrupting compounds, and pharmaceutically active compounds) by NF/RO membranes. *Journal of Membrane Science*. Vol. **227**(1-2), Pp.113-121. (IF=2.081)
10. Kimura K., Amy G., Drewes J. E., and Watanabe Y. (2003) Adsorption of hydrophobic compounds onto NF/RO membranes: an artifact leading to overestimation of rejection. *Journal of Membrane Science*. Vol. **221** (1-2), Pp.89-101. (IF=2.081)
11. Yi S.-H., Ahmed S., Watanabe Y. and Watari K. (2003) Arsenic removal by MF membrane with chemical sludge adsorption and NF membrane equipped with vibratory shear enhanced process. *Water Science and Technology: Water Supply*. Vol. **3** (5/6): Pp.303-310.
12. 糸永貴範、笹川学、木村克輝、渡辺義公(2003)新規硝化脱窒同時反応型 MBR を用いた都市下水処理の高度処理、環境工学研究論文集、Vol. **40**、Pp. 1-10.

2. 水環境中の有害物質のリスク評価と制御 (合計 IF=6.146)

1. Lee B.-C., Kamata M., Akatsuka, Y., Takeda M., Ohno K., Kamei T., and Magara Y. (2004) Effects of chlorine on the decrease of estrogenic chemicals. *Water Research*. Vol. **38** (3): Pp.

733-739. (IF=1.812)

2. K.Ohno, M.Uchiyama, M.Saito, T.Kamei and Y.Magara: Practical Design of Flocculator for New Polymeric Inorganic Coagulant - PSI, Water Science and Technology: Water Supply, 4 (1), pp67-75, 2004
3. Meea Kang, Tasuku Kamei and Yasumoto Magara (2003) Comparing polyaluminum chloride and ferric chloride for antimony removal, Water Research, Vol. 37, Pp4171-4179 (IF=1.812)
4. 大野浩一、古川明彦、林健司、亀井翼、眞柄泰基: バングラデシュにおける地下水と素濃度と他の金属・イオン類濃度との関連、環境工学研究論文集, 41, 591-600, 2004
5. Tabata, N. Miyamoto, Y. Ohnishi, M. Itoh, T. Yamada, T. Kamei and Y. Magara (2003) The effect of chlorination of estrogenic chemicals on the level of serum vitellogenin of Japanese medaka (*Oryzias latipes*), Water Science and Technology, Vol.47, No9, Pp51-57 (IF=0.710)
6. Meea Kang, Hong Chen, Yuko Sato, Tasuku Kamei and Yasumoto Magara (2003) Rapid and economical indicator for evaluating arsenic removal with minimum aluminum residual during coagulation process, Water Research, Vol. 37, Pp4599-4604 (IF=1.812)
7. Byoung-Cheun Lee, Koichi Ohno, Tasuku Kamei, Yasumoto Magara, Shun-Hwa Lee and Chul-Hee Lee, "ESTROGENIC ACTIVITY LEVEL OF NAKDONG RIVER BASIN AND ITS CONTROL BY WATER TREATMENT PROCESSES", Journal of Water and Environment Technology, Vol. 1, No. 2, pp.203-208, 2003
8. Saito, M.; and Magara, Y. (2003) Removal of organic pollutants and metabolic adaptation of microorganisms by micro-aeration. J. Environ. Sci. Health, Part A, A38(6), 991-1005.
9. 田畑彰久、亀井 翼、眞柄泰基、渡辺哲理、宮本信一、大西悠太、伊藤光明: ヒメダカビテロジェニンを指標としたノニルフェノール、ビスフェノール A、17 -エストラジオールおよびこれらの混合曝露の影響、水環境学会誌、Vol. 26, No. 10, pp671-676, 2003
10. 斉藤貢、岩本博幸、眞柄泰基: インドネシアにおける生活排水による水環境汚染の改善に関する費用便益分析、土木学会論文集、No. 741/ -28, pp131-141, 2003.8
11. 内山恵、大野浩一、亀井翼、眞柄泰基: PSI を用いたフロキュレーター設計の基礎的研究、水道協会雑誌、72(6)、pp.2-11、2003
12. 竹田誠、鎌田素之、大野浩一、亀井翼、眞柄泰基、寺尾良保: 塩素処理によるビスフェノール A および塩素処理副生成物のエストロゲン様活性低減に関する研究、水環境学会誌、26(11)、pp.743-749、2003

3. 持続可能なサニテーションシステム (合計 IF=6.279)

1. 成田裕樹、船水尚行 (2004) 活性汚泥の自己酸化過程における毒性物質の生成とその由来に関する研究、水環境学会誌 (印刷中)
2. Narita H., Ishiki I., Funamizu N., and Tetsuo Takakuwa T. (2004) Organic Matter released from Activated sludge Bacteria Cells during their Decay Process, Environmental Technology (in press) (IF=0.563)
3. Funamizu N. and Takakuwa T. (2004) Mathematical model for describing reactions of residual chlorine with organic matter in reclaimed wastewater. Water Science and Technology (in press) (IF=0.710)
4. Miguel Angel Lopez Zavala, Naoyuki Funamizu, Tetsuo Takakuwa (2005) Biological activity in the composting reactor of the bio-toilet system. Bioresource Technology, Vol 96/7, Pp.805-812 (IF=1.382)
5. 堀田真也、寺澤実、船水尚行 (2004) コンポスト型トイレにおけるアンモニアガスの揮発特

性に関する基本的研究. 環境工学研究論文集, Vol.41, Pp.69-78

6. Zavala L. M. A., Funamizu N., Takakuwa T. (2004) Temperature effect on aerobic biodegradation of feces using sawdust as a matrix. *Water Research*, Vol.38, No.9, Pp. 2406-2416 (IF=1.812)
7. Zavala L. M. A., Naoyuki Funamizu and Tetsuo Takakuwa (2004) Modeling of aerobic biodegradation of feces using sawdust as a matrix, *Water Research*, Vol.38, No.5, Pp.1327-1339 (IF=1.812)

4. 分子生物学的手法による新規廃水処理法および環境修復技術の創出

(合計 IF=36.258)

1. **Ito, T., Sugita, K., Yumoto, I., Nodasaka, Y., and Okabe S.** (2004) *Thiobacter sulfurophagus* gen. nov., sp. nov., a chemolithotrophic sulfur-oxidizing bacterium isolated from a microaerophilic wastewater biofilm. *International Journal of Systematic and Evolutionary Microbiology*. (in press) (IF=3.187)
2. **Okabe S., Ito T., Sugita K., and Satoh H.** (2004) Succession of internal sulfur cycle and sulfide-oxidizing bacterial community in a microaerophilic wastewater biofilms. *Applied and Environmental Microbiology*. (in press) (IF=3.820)
3. **Okabe S., Satoh H., Ito T., and Watanabe Y.** (2004) Analysis of microbial community structure and in situ activity of nitrifying biofilms. *E-Journal*. (in press).
4. **金田一 智規、河野 快子、伊藤 司、岡部 聡** (2004)、Real-time PCR を用いた生物膜内における硝化細菌のポピュレーションダイナミクス、環境工学論文集、Vol.41, Pp.321-330.
5. **Wuertz S., Okabe S., and Hausner M.** (2004) Microbial communities and their interactions in biofilm systems: an overview. *Water Science and Technology*. Vol.49 (11/12), Pp.327-336. (IF=0.710)
6. **Kindaichi T., Okabe S. Satoh H., and Watanabe Y.** (2004) Effect of hydroxylamine on microbial community structure and function of autotrophic nitrifying biofilms determined by in situ hybridization and the use of microelectrodes. *Water Science and Technology*. Vol.49 (11/12), Pp.61-68. (IF=0.710)
7. **Okabe S., Kindaichi T., and Ito T.** (2004) MAR-FISH: An ecophysiological approach to link phylogenetic identity and in situ metabolic activity of microorganisms at single-cell resolution. *Microb. Environ.* Vol. 19 (2), Pp. 83-98. (IF=1.376)
8. **Nakamura Y., Satoh H., Okabe S. and Watanabe Y.** (2004) Photosynthesis in sediment at a tidal area of Niida River, Hachinohe, Japan. *Water Research*. Vol. 38 (9), Pp. 2439-2447. (IF=1.812)
9. **岡部 聡** (2004) バイオフィルム内の細菌の特異的検出とその分布の測定、*Bacterial Adherence & Biofilm*, Vol.17, Pp.102-107.
10. **Ito T., Sugita K., and Okabe S.** (2004) Isolation, characterization and in situ detection of a novel chemolithoautotrophic sulfur-oxidizing bacterium in wastewater biofilms growing under microaerophilic conditions. *Applied and Environmental Microbiology*. Vol. 70 (5), Pp.3122-3129. (IF=3.820)
11. **Satoh H., Ono H., Bian R., Kamo J., Okabe S., and Fukushi K.** (2004) Macroscale and microscale analyses of nitrification in membrane aerated biofilm reactors. *Water Research*,

- Vol. 38(6), Pp.1633-1641. (IF=1.812)
12. **Kindaichi T., Ito T., and Okabe S.** (2004) Eco-physiological interaction between nitrifying bacteria and heterotrophic bacteria in autotrophic nitrifying biofilms. *Applied and Environmental Microbiology*. Vol. 70 (3), Pp.1641-1650. (IF=3.820)
 13. **Okabe S., Kindaichi T., Ito T., and Satoh H.** (2004) Analysis of size distribution and cell density of ammonia-oxidizing bacterial microcolonies, in relation to substrate microprofiles in biofilms. *Biotechnology and Bioengineering* Vol. 85 (1), Pp.86-95. (IF=2.173)
 14. **Okabe S. Ito T., and Satoh H.** (2003) Sulfate-reducing bacterial community structure, function and their contribution to carbon mineralization in a wastewater biofilm growing microaerophilic conditions. *Applied Microbiology and Biotechnology* Vol. 63(3), Pp.322-334. (IF=2.034)
 15. **岡部 聡、伊藤 司、佐藤 久** (2003) バイオフィルム内における硫黄循環と関連微生物群集構造の解析、月刊海洋号外「海洋微生物 II - 基礎 ,応用研究とその利用」No.35, Pp.54-63.
 16. **金田一 智規、伊藤 司、岡部 聡、渡辺 義公** (2003)、16S rDNA 解析によるアンモニア酸化細菌の多様性評価、環境工学論文集, Vol. 40, Pp.71-80.
 17. **Okabe S., Ito T., Satoh H., and Watanabe Y.** (2003) Effect of nitrite and nitrate on biogenic sulfide production in sewer biofilms as determined by use of microelectrodes. *Water Science and Technology* Vol.47 (11), Pp.281-288. (IF=0.710)
 18. **Satoh H., Nakamura Y., and Ono H., and Okabe S.** (2003) Effect of oxygen concentration on nitrification and denitrification in single activated sludge flocs. *Biotechnology and Bioengineering*. Vol. 83 (5), Pp.604-607. (IF=2.173)
 19. **Chen G.-H., Wong M.-T., Okabe S., and Watanabe Y.** (2003) Dynamic response of nitrifying activated sludge batch culture to increased chloride concentration. *Water Research*. Vol. 37, No.13, Pp.3125-3135. (IF=1.812)
 20. **Satoh H., Okabe S., Yamaguchi Y., and Watanabe Y.** (2003) Evaluation of the bioaugmentation and biostimulation by in situ hybridization and microelectrodes. *Water Research* Vol. 37, No.9, Pp.2206-2216. (IF=1.812)
 21. **Jang A., Bishop P. L., Okabe S., Lee S. G., and Kim In-S.** (2003) Effect of dissolved oxygen (DO) concentration on the nitrifying bacteria in biofilm and in situ analysis by fluorescence in situ hybridization (FISH) and microelectrodes. *Water Science and Technology* Vol. 47, No.1, Pp. 49-57. (IF=0.710)
 22. **Okabe S., Santegoeds C. M., and deBeer D.** (2003) Effect of nitrite and nitrate on in situ sulfide production in an activated sludge immobilized agar gel film as determined by use of microelectrodes. *Biotechnology and Bioengineering*. Vol. 81 (5), Pp.570-577. (IF=2.173)
 23. **Briones, A. M., Okabe, S., Umemiya, Y., Ramsing N. -B., Reichardt W., and Okuyama, H.** (2003) Ammonium-oxidizing bacteria on root biofilms and their possible contribution to N use efficiency of different rice cultivars. *Plant and Soil* Vol. 250 (2), Pp.335-348. (IF=1.594)