


Requests for Collaboration

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<p>Research Interests</p> <ul style="list-style-type: none"> ● Wastewater treatment ● Recovery technology for phosphorus/rare metals ● Generation of renewable energy in environmental facilities ● Measurement and treatment of trace pollutants 	
<p>Creative Achievements in The Application of New and Existing Science and Technology</p>	
<p>(1) Recovery/removal of phosphorus from sewage sludge Recovery of phosphorus is important issue because we have no natural resource of phosphorus in Japan. I tried to evaluate the chemical form of phosphorus in sewage sludge with fractionation analysis and developed new extraction method for phosphorus.</p> <p>(2) Generation of renewable energy from sewage treatment plant Methane generated in sewage sludge treatment process is considered as renewable energy. But some of methane gas is not used effectively. I developed new system to increase the effective volume of methane using with unharnessed thermal energy.</p> <p>(3) Evaluation of estrogen-like chemicals and total estrogenic activity in sewage treatment system It is known that some chemicals act like natural hormones in human body. I developed an original evaluation method for total estrogenic activity with receptor-binding technique and <i>in vivo</i> method with frog larva. Using with these methods, I found that total estrogenic activity in sewage was almost equal to sum of estrogens, estrogen conjugates and some estrogen-like chemicals.</p>	
<p>Technology (Product, Process, Device, Service etc.) That I Want to Request for Collaboration</p>	
<ul style="list-style-type: none"> ● Recovery technology of phosphorus/rare metals ● Innovative technology of wastewater treatment ● Sustainability of environmental facilities 	
<p>A List of 5 Key Publications</p>	
<ul style="list-style-type: none"> • Simultaneous recovery of phosphorus and potassium as magnesium potassium phosphate from synthetic sewage sludge effluent S. Nakao, T. Nishio and <u>Y. Kanjo</u>, <i>Environ. Technol.</i>, 38, 2416-2426 (2017). • Evaluation with exergy for municipal solid waste incineration plant and sewage treatment plant, <u>Y. Kanjo</u>, S. Mizutani and A. Yamada, <i>Proc. of The 7th Forum on Studies of the Environ. & Public Health Issues in the Asian Mega-cities</i>, 222 (2017). • Deconjugation characteristics of natural estrogen conjugates by acid-catalyzed solvolysis and its application for wastewater samples, Z. Liu, <u>Y. Kanjo</u> and S. Mizutani, <i>J. Environ. monitoring</i>, 12, 1594-1600 (2010). • Application of modified BCR sequential extraction procedure for evaluation of heavy metal leaching in contaminated soil, <u>Y.Kanjo</u>, M. Mouri and T.Kase, <i>JJSCE</i>, 64(4), 304-313 (2008) (in Japanese). • Effect of xenoestrogens on the gonadal sex differentiation of the frog, <i>Xenopus laevis</i>, <u>Y. Kanjo</u>, Y. Urano and K. Ikenishi, <i>Advances in Asian Environ. Eng.</i>, 4(1), 37-42 (2005). 	