

List of Dissertation Abstract

(Risk Management and Environmental Sciences Life and Environment Management Course)

Name	Supervisor	Title	Abstract
Ryo ISHIHARA	Takashi KAMEYA	Development simultaneous analysis and AIQS-DB(Automated Identification and Quantification System with Database) of the target volatile organic compounds of Air Pollution Control Law	For hazardous air pollutants, environmental monitoring is required for grasping hazardous air pollutants as to whether they are detected in the environment and grasping the environmental concentration level around the general environment and the emission source, but few cases of atmospheric monitoring of most substances. Since it is necessary to continuously monitor and obtain measured values. We studied the development of AIQS-DB (fully automatic identification / quantitative database system), analyze multicomponent substances efficiently, of VOCs targeted for hazardous air pollutants of Air Pollution Control Law, and 59 substances AIQS - DB was developed.
Kana ITO	Satoshi NAKAI	Indoor Air Pollution due to Electronic Cigarette and Heat-not-burn Tobacco Smoking and Smoking Behavior Investigation	To determine the pollution of the indoor environment caused by non-combustible tobacco products such as heat-not-burn tobacco and electronic cigarettes, continuous measurements of PM2.5 and TVOC concentrations were conducted during the products were smoked in the test room. For PM2.5, we examined an apparatus that measures solid and vapor separately. It was confirmed that those concentrations increased, although they were lower than the concentrations due to conventional tobacco smoke. We conducted a web survey to obtain people's smoking behavior etc.
Ryosuke ITO	Fumito KOIKE	Effect of weed slashing frequency on biota in conservation agriculture.	We experienced differences in biota in the above-ground and underground areas by preparing three kinds of plots in which the number of weed slashing is 0, 1, 2 times in non-tillage / grass cultivation agriculture. As a result, the population of Diptera, an emergence insect, increased significantly as the number of weed slashing increased. There was no increase in the number of predators of above-ground due to the increase of emerged insects.
Toshiki OKUMA	Masaru OYA	Efficacy of natural surfactants of natural cleaning	The purpose of this study is to evaluate the detergency of natural cleaning and to confirm the correctness of the information between consumers. I examined and organized the effects of four types of cleaning methods (Rice soup, noodle soup, beer, vegetable soup) and cleaning power factors and mechanisms based on the information of consumers currently in circulation.

Takuma KISHI	Fumito KOIKE	Elucidation of the mechanism of the outflow of nitrate nitrogen in the Southern Alps Jingu River basin	In recent years, a phenomenon in which a harmful substance, nitrate nitrogen, leaks to a large amount in rivers and groundwater has been reported. In the survey site, the Southern Alps Jingu River Basin, groundwater is used as drinking water, but a large amount of nitrate nitrogen leaked from the soil has been confirmed, so there is concern about groundwater contamination. Therefore, we investigated what kind of mechanism the nitrate nitrogen leaked out. As a result of the survey, it was found that the increase of pH and the phenomenon of plant roots affected the outflow of nitrate nitrogen.
Zenya GOTO	Fumito KOIKE	Distribution of traces of digging up by wild boar and consideration of using the traces as a new density index.	For the management of the wild boars, density indices are necessary, but appropriate methods have not been established. Therefore, we aimed to obtain new density index using the traces of digging up by wild boar and to elucidate the preference of the local environment of wild boars. As a result, the density index using the traces and Catch Per Unit Effort obtained by camera trap had a positive correlation. Therefore the density of the traces of digging per unit distance can be reliable as the density index of wild boar. And the traces of digging were found in high probability at sites where the planting rate on the ground was not too high and where many ferns and forb were found.
Ayaka TANOOKA	Fumito KOIKE	Investigation of quantitative collecting method and population control mechanism of millipede (Diplopoda)	Millipede feeds litter mainly, but their abundance is small to amount of food resource in field. In this study, I considered method that can collect millipede more efficiently and recommended combination of pit-fall trap and hay trap. In addition, I observed interspecific difference in feed preference due to the decomposition stage of litter by feed preference experiment. It was suggested that abundance of millipede was influenced by amount of actual food resource which is different from apparent.
Remi TAMOGAMI	Masaru OYA	Removal mechanism of Ca-based scale in acid cleaning	An acid cleaner is used by the removal the scale. The removal performance is changed by the ingredient of a cleaner and the scale. I mixed citric acid and calcium carbonate and left it. I analyzed it after that. A result that removal rate fell in a mixed system of silicon and calcium was provided in the study. It was also confirmed by the removal with the citric acid that produced precipitate was different with time. In addition, I defined the pollution cloth as the cloth which attached calcium, silicon and phosphate. I washed the pollution cloth, examined removal performance.

Hisako TSUNEKAWA	Masaru OYA	Possibility of the surfactant removal system using fine bubbles	The aim of this study is to construct a rinse examination system using method to analyze a very small amount of surfactants and examine the removal effect of the surfactants by fine bubbles. Therefore, a rinse of the washing has caught our attention and we conducted this study. As a result, the removal effect of surfactants by the fine bubbles shown when the mechanical power of the washing machine is weak. And it was found that the fine bubbles are effective for raising the removal rate of the surfactants.
Atsuki TOMOYORI	Hiroki OIKAWA	Ecosystem Services and litigations	A preceding study insists that ‘ecosystem services’ is the key concept to expand standing to sue in environmental administrative litigations. However, the study analysis on lower courts. Then, the purpose of this study is finding out how two supreme court decisions mention “ecosystem services” . The results show that standing to sue was judged based on “ecosystem services” .
Haruki NATSUKAWA	Hiroyuki MATSUDA	Determinants of breeding occupancy dynamics of the urban-breeding Northern Goshawks and recommendations for monitoring of their breeding status	In this study, I investigate the breeding situation of urban-breeding Northern Goshawks and elucidated the determinants of the initial occupation probability (ψ), the local colonization probability (γ , the probability of occupying a site by year $t+1$, which was unoccupied in year t), the local extinction probability (ϵ , the probability of not occupying a site by year $t+1$, which was occupied in year t) using a dynamic occupancy model. Consequently, the ψ was positively correlated with forest coverage, the open land coverage, and highly vegetated urban land coverage. The γ was negatively correlated with urban land coverage and the ϵ was negatively correlated with forest coverage.
Dan HASHIMOTO	Hiroyuki MATSUDA	Evaluating the dependence on overseas pollination service and micronutrient supply via agricultural crop trade	The pollination service is one of the ecosystem service that are concerned about the decline in quality. That research is enough to publish over 3,000 huge scientific papers. The pollination service contributes not only natural ecosystem but also human health and supply nutrients through agricultural crops. On the other hands, it has become necessary to consider the influence and interdependence between isolated lands, because of international trade have expanded. We analyzed dependency of pollination service between countries using pollinator dependence data and bilateral trade data.
Aya FUKUO	Satoshi NAKAI	NO2 concentrations at no-measurement points estimated by Land Use Regression model	Land Use regression (LUR) model is one of the standard methods for exposure assessment in air pollution epidemiologic studies. In 2016, we developed a LUR model for nitrogen dioxide (NO2) in Yokohama, Japan based on the annual mean of NO2 concentrations from April 2005 to March 2006, but we found that it should be necessary to check whether the predicted values at the unmeasured areas are correct or not. This study presents the results of validation study of the developed LUR model, and discusses the applicability of the model to air pollution epidemiologic study in Japan.

Shunsuke MATSUSAKA	Hiroki OIKAWA	How to control the location of mega-solar facilities-As a subject of recent lawsuits-	This research targets at regional disputes of mega-solar land that has surged since the establishment of the FIT law and analyzes recent lawsuits and regulations on renewable energy. It was suggested that in the future local governments seeking to harmonize mega solar facilities with the local environment should require a system design that takes into consideration the effectiveness of business restraint and the risk of litigation.
Mei MUTO	Fumito KOIKE	Improvement of decontamination efficiency of radiocesium by replacing wood chip	We developed a decontamination method using fungal transfer of radiocesium from soil to wood chips laid on the forest floor. To increase decontamination efficiency, it is necessary to increase fungi. We conducted experiments to improve the decontamination efficiency by replacing the wood chips. As a result, decontamination efficiency was improved by replacing, and about 1.5% of radiocesium in the soil could be removed. It was thought that the supply of carbon by replacing resulted in improvement of decontamination efficiency.
Ken MOROZUMI	Fumito KOIKE	Demands for various coastal ecosystems by citizens	If we understand the demand for ecosystems by citizens and can develop and open coasts which are difficult to access now properly in urban areas, it is expected to improve the lives of urban residents. In this study, we investigate use of citizen of various coastal ecosystems by route census for direct observation and grasp the demand of coastal ecosystem use by citizens. As a result, 53% of the total users of fishing and biological collection directly use ecosystems, it became clear that the demand for ecosystems is large on the coast.
Makoto YAIRO	Takashi KAMEYA	Investigation of photolysis/hydrolysis products of hazard concern organic compounds in water environment and examination of simultaneous analysis method	Examples of unregulated substances whose toxicity rises due to degradation in the environment have been reported, and GC/MS simultaneous analysis method for the PRTR Law compounds and its photolysis/hydrolysis products has been developed by the past research. In this study, the reaction rate of photolysis of parent substance in water was determined, and the relationship between parent - child substance detection in river and degradability was investigated. As a result, the detection rate of child substances tended to be higher for substances with higher degradability of parent substances, and it was thought that child substances were derived from parent substances.