

Faculty of Applied Biological Sciences
Gifu University

Annual Report of Research Activities 2024

Vol. 21

CONTENTS

I Research Achievement

1. Academic Paper	1
2. Book	13

II Lectures, Conference Presentation, etc.

1. Conference Presentation	14
2. Academic lecture	17

I Research Achievement

1) Academic Paper

【Course of Applied Life Science】

- [1] Badrunanto, Wulan Tri Wahyuni, Muhammad Farid, Irmanida Batubara, **Kosei Yamauchi**.
“Antioxidant components of the three different varieties of Indonesian ginger essential oil: In vitro and computational studies”
Food Chemistry Advances, Vol.4, pp.100558, 2024/06
- [2] Chizuru Akatsu, Yuko Naito-Matsui, Hajjaj H.M. Abdu-Allah, **Akihiro Imamura**, Wang Long, **Hideharu Ishida**, Hiromu Takematsu, Takeshi Tsubata.
“Neu5Gc-mediated high-affinity interaction is dispensable for CD22 cis-ligands to regulate B cell signaling”
Journal of Biological Chemistry, Vol.300(9), pp.107630, 2024/09
- [3] Cicih Sugianti, Teppei Imaizumi, **Manasikan Thammawong**, Mizuki Tsuta, Masayasu Nagata, **Kohei Nakano**.
“Time–temperature tolerance of harvested green bananas exposed to high temperatures”
Scientia Horticulturae, Vol.329, pp.112970, 2024/04/01
- [4] Daimon Syukri, Abdi, Tuty Anggraini, Alfi Asben, Rini, **Manasikan Thammawong**, **Kohei Nakano**.
“Profiling the Volatile Compound of Indonesian Rendang Using GC-MS/MS Analysis”
OnLine Journal of Biological Sciences, Vol.24(1), pp.95-102, 2024/01
- [5] Elsaman T, Muddathir AM, Mohieldin EAM, Batubara I, Rahminiwati M, **Yamauchi K**, Mohamed MA, Asoka SF, Büsselberg D, Habtemariam S, Sharif - Rad J.
“Ginsenoside Rg5 as an anticancer drug: a comprehensive review on mechanisms, structure-activity relationship, and prospects for clinical advancement”
Pharmacological Reports, Vol.76(2), pp.287-306, 2024/04
- [6] Hagino R, Komura N, **Imamura A**, **Ishida H**, Ando H, Tanaka H-N.
“Direct and Stereoselective Protecting-Group-Free *N*-ADP-Ribosylation through Traceless Staudinger Ligation”
Eur. J. Org. Chem., Vol.27(22), pp.e202400251, 2024/06/10
- [7] Hagino R, Kuwabara R, Komura N, **Imamura A**, **Ishida H**, Ando H, Tanaka H-N.
“Protecting-Group-Free Synthesis of ADP-Ribose and Dinucleoside Di-/Triphosphate Derivatives via P(V)-P(V) Coupling Reaction”
Chemistry-A European Journal, Vol.30(41), pp.e202401302, 2024/07/19
- [8] Haruka Kataoka, Yuya Kakumu, Davidson Obinna Agbo, Tohru Taniguchi, **Emiko Yanase**.
“Computational Study on the Conformational Flexibility-Mediated Intramolecular Oxidative Spirocyclization of Procyanidin B4”
The Journal of Organic Chemistry, Vol.89(17), pp.12240-12248, 2024/08/09
- [9] Hibino H, Zhou Y, Saito Y, **Ueno Y**.
“Novel synthesis and evaluation of oligonucleotides containing (S)-5′ -C-aminopropyl-modified thymidine analogs for RNase H-dependent antisense therapy”
Results in Chemistry, Vol.9, pp.101648, 2024
- [10] Hori M, Kawai Y, Noguchi K, **Nakamura K**, **Shimada M**, **Iwahashi H**, **Nagakawa T**.
“Antimicrobial activity and productivity of γ -aminobutyric acid in lactic acid bacteria isolated from traditional Gifu *ayu-narezushi*”
Food Sci Technol Res, Vol.30(2), pp.247-252, 2024
- [11] **Inagaki M**, Nohara M, Kobayashi C, Fukuoka M, Xijier, Matsumura K, Ohashi K, Enomoto H, **Yabe T**, Kanamaru Y.
“Two major bovine milk whey proteins induce distinct responses in IEC-6 intestinal cells”
Journal of Dairy Research, Vol.91(2), pp.239-245, 2024/09/23

- [12] Ishiguro N, Hayashi T, Okayama M, Yamaguchi T, Kohno M, Kawakami H, Mitsunaga T, **Nakamura K, Inagaki M.**
“Effects of blackcurrant extract on indole and ammonia productions in an in vitro human fecal culture model”
Bioscience of Microbiota, Food and Health, Vol.43(1), pp.23-28, 2024
- [13] **Katsuno N**, Onishi M, Taguchi T, Ohmoto C, Yamaguchi H, Hashimoto T, **Iwamoto S, Imaizumi T, Nishizu T.**
“Cross-hierarchical analysis of self-assembly dynamics in enzyme-treated rice gel during retrogradation”
Food Hydrocolloids, Vol.156, pp.110355, 2024/11
- [14] Kawaguchi T, Ishibashi Y, Matsuzaki M, Yamagata S, **Tani M.**
“Involvement of lipid-translocating exporter family proteins in determination of myriocin sensitivity in budding yeast”
Biochemistry and Biophysics Reports, Vol.39, pp.101785, 2024/09
- [15] Kishalay Chakraborty, **Akio Ebihara.**
“Pesticide Biosensors for Multiple Target Detection: Improvement Potential with Advanced Data-processing Methods”
Reviews in Agricultural Science, Vol.12, pp.128-146, 2024
- [16] Kotobuki N, Shirato T, Ciptaningtyas D, Benyakart N, Umehara H, Kitazawa H, Watanabe T, **Thammawong M, Shiina T.**
“A proposal of the optimal sampling interval for shock pulse measurement”
Acta Hortic., Vol.1396, pp.315-320, 2024/06
- [17] Kuroki S, Koizumi K, Tanaka M, Uno Y, Ito H, **Nakano K, Sotome I.**
“Cell membrane dysfunction in postharvest spinach leaves increases water permeability through parallel pathways involving the lipid bilayer and aquaporins”
Postharvest Biology and Technology, Vol.207, pp.112630, 2024/01
- [18] Lien T.K. Dang, **Teppei Imaizumi, Takahisa Nishizu.**
“Effects of transglutaminase on the retrogradation of wheat flour”
Food Hydrocolloids, Vol.152, pp.109924, 2024/07
- [19] Lillehoj EP, Yu Y, Verceles AC, **Imamura A, Ishida H, Piepenbrink KH, Goldblum SE.**
“*Stenotrophomonas maltophilia* provokes NEU1-mediated release of a flagellin-binding decoy receptor that protects against lethal infection”
iScience, Vol.27(9), pp.110866, 2024/09/20
- [20] Lydia Pui Ying Lam, Yuki Tobimatsu, **Shiro Suzuki**, Takuto Tanaka, Senri Yamamoto, Yuri Takeda-Kimura, Yuriko Osakabe, Keishi Osakabe, John Ralph, Laura E Bartley, Toshiaki Umezawa.
“Disruption of p-coumaroyl-CoA:monolignol transferases in rice drastically alters lignin composition”
Plant Physiology, Vol.194(2), pp.832-848, 2024/02
- [21] Maekawa Y, Matsui K, Okamoto K, Shimasaki T, Ohtsuka H, **Tani M, Ihara K, Aiba H.**
“Identification of plb1 mutation that extends longevity via activating Sty1 MAPK in *Schizosaccharomyces pombe*”
Mol Genet Genomics, Vol.299(1), pp.20, 2024/02/29
- [22] Maisha Adiba, Molie Rahman, Hosnara Akter, Md Mizanur Rahman, Mohammed Uddin, **Akio Ebihara, A.H.M.Nurun Nabi.**
“Mutational landscape of mitochondrial cytochrome b and its flanking tRNA genes associated with increased mitochondrial DNA copy number and disease risk in children with autism”
Gene Reports, Vol.35, pp.101895, 2024/06
- [23] Masuda R, Gotoh S, Ben Othman S, **Kitaguchi K, Yabe T.**
“Partial efficacy of Yuzu (*Citrus junos*) pectin side chains in elongating the jejunal villus in protein-deficient malnourished mice”
Journal of Functional Foods, Vol.121, pp.106454, 2024/10

- [24] Masuda R, Ohira N, **Kitaguchi K**, **Yabe T**.
“Novel role of homogalacturonan region of pectin in disrupting the interaction between fibronectin and integrin $\beta 1$ ”
Carbohydrate Polymers, Vol.336, pp.122122, 2024/07/15
- [25] Md. Mahbub Hasan, Maisha Adiba, Molie Rahman, Hosneara Akter, Mohammed Uddin, **Akio Ebihara**, A.H.M. Nurun Nabi, Tahirah Yasmin.
“Mutational analyses of mitochondrial *ATP6* gene reveal a possible association with abnormal levels of lactic acid and ammonia in Bangladeshi children with autism spectrum disorder: A case-control study”
Human Gene, Vol.42, pp.201325, 2024/12
- [26] **Nakagawa T**, Yoshimura A, Sawai Y, Hisamatsu K, Akao T, Masaki K.
“Japanese sake making using wild yeasts isolated from natural environments”
Biosci Biotechnol Biochem., Vol.88(3), pp.231-236, 2024/02/21
- [27] **Nakamura K**, Asano S, Nambu M, Ishiguro N, Tanikawa A, Naganuma N.
“Metagenome-assembled genome sequences of two bacterial species from polyvinyl alcohol-degrading colonies”
Microbiology resource announcements, Vol.13(7), pp. e00363-24, 2024/06/11
- [28] Ohmoto C, Taguchi T, Onishi M, Yamaguchi H, Sekita M, Hashimoto T, Hirata Y, **Katsuno N**, **Nishizu T**.
“Retrogradation inhibition and intragranular distribution in cooked rice by addition of α -glucosidase (AG) and branching enzyme (BE)”
Food Chemistry, Vol.456, pp.140049, 2024/10/30
- [29] Onishi S, Chandela A, **Ueno Y**.
“Synthesis and Evaluation of 4' -C-(S) and 4' -C-(R)-2-aminopropoxy-thymidine-modified DNAs for Thermal Stability, RNase H Digestion, and Nuclease Resistance”
ChemistrySelect, Vol.9(23), pp.e2022305090, 2024/06/18
- [30] Pal R, Yamazaki A, Komura N, Tanaka H-N, **Imamura A**, **Ishida H**, Ando H.
“Convergent synthesis of functionalized derivatives of stage-specific embryonic antigens 3 & 4”
Carbohydr. Res., Vol.535, pp.108990, 2024/01
- [31] Purohit S, Girisa S, Ochiai Y, Kunnumakkara AB, Sahoo L, **Yanase E**, Goud VV.
“Scirpusin B isolated from *Passiflora edulis* Var. *flavicarpa* attenuates carbohydrate digestive enzymes, pathogenic bacteria and oral squamous cell carcinoma”
3 Biotech, Vol.14(1), pp.28, 2024/01
- [32] Sachiko Yanagisawa, Takuto Kamei, **Atsuhiko Shimada**, Stephanie Gladysck, Siddhesh Aras, Maik Hüttemann, Lawrence I. Grossman, Minoru Kubo.
“Resonance Raman spectral analysis of the heme site structure of cytochrome c oxidase with its positive regulator CHCHD2”
Journal of Inorganic Biochemistry, Vol.260, pp.112673, 2024/11
- [33] Sawada H, Kakisawa Y, **Ueno Y**.
“Properties and synergistic effects of a nonionic backbone and aminoalkyl modified nucleosides in RNAs”
Bioorganic Chemistry, Vol.144, pp.107143, 2024/03
- [34] Sayeree Joardar, Prangan Duarah, **Emiko Yanase**, Mihir Kumar Purkait.
“Optimization of Inositol Extraction from Japanese Rice Bran and Its Potential Application in Inhibiting Calcium Oxalate Crystallization for Urolithiasis Prevention”
ACS Food Science & Technology, Vol.4(12), pp.3149-3160, 2024/12/20
- [35] Shafayater Nur Nadia, Md. Hasib, Imrul Hasan, Abdullah Al Saba, Mohammad Sayem, **Akio Ebihara**, A.K.M. Mahbub Hasan, A.H.M. Nurun Nabi.
“Genetic analyses of truncated variant rs200185429 in ZNT8 encoding SLC30A8 gene with respect to prediabetes and type 2 diabetes in Bangladeshi population”
Endocrine and Metabolic Science, Vol.16, pp.100189, 2024/09/30

- [36] Sharma S, **Nakano K**, Kumar S, Katiyar V.
“Edible packaging to prolong postharvest shelf-life of fruits and vegetables: A review”
Food Chemistry Advances, Vol.4, pp.100711, 2024/06
- [37] Shiina T, Iida R, Kitazawa T, Ciptaningtyas D, Benyakart N, Umehara H, **Thammawong M**, Naznin HA, **Nakano K**, Orikasa T, Nagata M.
“Transcriptome analysis of the effect of packaging conditions on the quality of edamame”
Acta Hortic., Vol.1396(48), pp.359-365, 2024
- [38] Sukumar Purohit, Sosmitha Girisa, Yuto Ochiai, Ajaikumar B Kunnumakkara, Lingaraj Sahoo, **Emiko Yanase**, Vaibhav V Goud.
“Scirpusin B isolated from *Passiflora edulis* Var. *flavicarpa* attenuates carbohydrate digestive enzymes, pathogenic bacteria and oral squamous cell carcinoma.”
3 Biotech, Vol.14(1), pp.28, 2024/01
- [39] Taga Y, **Yamauchi K**, **Mitsunaga T**.
“Phenolic compounds related to heartwood coloration of *Millettia pendula*”
Wood Science and Technology, Vol.58, pp.2033-2046, 2024/09/11
- [40] Taga Y, **Yamauchi K**, **Mitsunaga T**.
“Peltogynoids contributing to discoloration in *Peltogyne mexicana* heartwood.”
Wood Science and Technology, Vol.59(11), 2024/11/15
- [41] Takahama U, Ito Y, **Yanase E**, Ansai T, Hirota S.
“Formation of quercetin from taxifolin and quercetin 7-O-glucoside from taxifolin 7-O-glucoside by cooking sorghum grains: Possible mechanisms of their formation”
Food Chemistry Advances, Vol.4, pp.100740, 2024/06
- [42] Takahashi K, Hirano T, Kunieda M, Hirata Y, **Imaizumi T**, **Nishizu T**.
“Effect of lipase addition on inhibition of starch retrogradation in rice”
Food Hydrocolloids, Vol.155, pp.110216, 2024/10
- [43] **Tani M**.
“Biological importance of complex sphingolipids and their structural diversity in budding yeast *Saccharomyces cerevisiae*.”
Int J Mol Sci, Vol.25, pp.12422, 2024/11
- [44] Techavuthiporn C, Nimitkeatkai H, **Thammawong M**, **Nakano K**.
“A coating made from carboxymethyl cellulose derived from commercial nata de coco reduces postharvest changes in ‘Hom Thong’ banana fruit during ambient storage”
Postharvest Biology and Technology, Vol.208, pp.112650, 2024/02
- [45] **Thammawong M**, Shomodder A, Kuroki S, Nagata M, Shiina T, **Nakano K**.
“New insights into the relationship between clock genes and ascorbic acid metabolism in spinach during pre- and postharvest periods”
Postharvest Biology and Technology, Vol.216, pp.113066, 2024/10
- [46] Tsuchiya A, Suzuki M, Ito R, Batubara I, **Yamauchi K**, **Mitsunaga T**.
“New flavan trimer from *Daemonorops draco* as osteoclastogenesis inhibitor”
Fitoterapia, Vol.172, pp.105757, 2024/01
- [47] Xiwu J, Xiaohua L, **Katsuno N**, **Nishizu T**.
“Effects of moisture content and storage method on the physical properties of dried persimmon during frozen storage”
Journal of Food Science, Vol.36(3), pp.141-150, 2024/07/10
- [48] Yujun Zhou, Hitotaka Sato, Miwa Kawade, Kenji Yamagishi, **Yoshihito Ueno**.
“Application of 4'-C- α -aminoethoxy-2'-O-methyl-5-propynyl-uridine for antisense therapeutics.”
RSC advances, Vol.14(53), pp.39148-39162, 2024/12/10
- [49] Zhou Y, Sato H, Kawade M, Yamagishi K, **Ueno Y**.
“Application of 4' -C- α -aminoethoxy-2' -O-methyl-5-propynyl-uridine for antisense therapeutics”
RSC Advances, Vol.14, pp.39148-39162, 2024/12/10

【Course of Agricultural and Environmental Science】

- [1] Badrunanto, Wulan Tri Wahyuni, Muhammad Farid, Irmanida Batubara, **Kosei Yamauchi**.
“Antioxidant components of the three different varieties of Indonesian ginger essential oil: In vitro and computational studies”
Food Chemistry Advances, Vol.4, pp.100558, 2024/06
- [2] Bagus Himawan Wicaksono, marina Norimatsu, **Akemi Yamamoto**.
“Estimation of metabolisable energy value of okara meal in broiler chicken using approximate nutritive value, in vivo and in vitro digestibility”
Proceeding of Asian Australian Animal Production, 2024/07
- [3] Chowra UK, Regon P, **Kobayashi Y**, **Koyama H**, Panda SK.
“Characterization of Al³⁺-toxicity responses and molecular mechanisms underlying organic acid efflux in *Vigna mungo* (L.) Hepper”
Planta, Vol.260(5), pp.116, 2024/10/14
- [4] Emiko Okubo-Kurihara, Tri Rapani Febbiyanti, Firman Ashari, Yuki Yanagawa, Emi Osada, Tomoko Kuriyama, **Masafumi Shimizu**, Farriza Diyasti, Minami Matsui.
“Screening of effective pesticides to control rubber tree leaf fall disease (LFD) caused by *Neopestalotiopsis* and *Colletotrichum* fungi in Indonesia”
Journal of Pesticide Science, Vol.49(4), pp.277-284, 2024/11/20
- [5] Ezeh OS, **Yamamoto YY**.
“Combinatorial effects of *cis*-regulatory elements and functions in plants”
Reviews Agri Sci, Vol.12, pp.79-92, 2024
- [6] Fumina Inokuchi, Maki N. Inoue, Yuya Kanbe, Masaaki Ito, Jun-ichi Takahashi, Tetsuro Nomura, Koichi Goka, **Koji Tsuchida**.
“Polyandry may mitigate the negative impact of reproductive interference among bumblebees in Japan”
The Science of Nature, Vol.111(3), pp.31, 2024/05/23
- [7] Gojobori J, Arakawa N, Xiayire X, Matsumoto Y, **Matsumura S**, Hongo H, Ishiguro N, Terai Y.
“Japanese wolf is most closely related to modern dogs and its ancestral genome has been widely inherited by dogs throughout East Eurasia.”
Nature Communications, Vol.15, pp.1680, 2024
- [8] *¹Hano K, Takashima S, Inatani Y, Kainuma R, Oiji Y, Nakamura K, **Yayota M**, Takasu M.
“Ovarian dynamics in progesterone tablet-induced superovulation in goats assessed by magnetic resonance imaging”
Animal Science Journal, Vol.95(1), pp.e13914, 2024/01
- [9] Ishida T, **Hirota I**, Yokoyama S.
“Tracing of fire - induced soil phosphorus transformations using phosphate oxygen isotope ratio”
European Journal of Soil Science, Vol.75(5), pp.e13591, 2024/10/08
- [10] Jun Gojobori, Nami Arakawa, Xiayire Xiaokaiti, Yuki Matsumoto, **Shuichi Matsumura**, Hitomi Hongo, Naotaka Ishiguro, Yohey Terai.
“Japanese wolves are most closely related to dogs and share DNA with East Eurasian dogs”
Nature Communications, Vol.15(1), pp.1680, 2024/02/23
- [11] Kashima Y, **Yayota M**, Tsuchiya Y, Shiota Y.
“Bamboo feeding induces complex browsing activity and increases foraging time in zoo-kept Asian elephants (*Elephas maximus*)”
Animal Behaviour and Management, Vol.60(3), pp.55-65, 2024
- [12] Kawamura K, Kato Y, Yasuda T, Aozasa E, **Yayota M**, Kitagawa M, Kunishige K.
“Cattle dung detection in pastures from drone images using YOLOv5”
Grassland Science, Vol.70(4), pp.168-174, 2024/10

- [13] K. E. Tian, Dicky Aldian, Gan Luo, Armess Sossou, **Masato Yayota**.
“Condensed tannin - induced variations in the rumen metabolome and the correlation with fermentation characteristics in goats”
Animal Science Journal, Vol.95(1), pp.e13925, 2024/01
- [14] K. E Tian, Dicky Aldian, **Masato Yayota**.
“Metabolomic and morphologic surveillance reveals the impact of lactic acid-treated barley on in vitro ruminal fermentation”
Animal Bioscience, Vol.37(11), pp.1901-1912, 2024/05/07
- [15] Koffi Pacome Kouame, Raj Kishan Agrahari, Noren Singh Konjengbam, **Hiroyuki Koyama, Yuriko Kobayashi**.
“Ability of Nutrient Management and Molecular Physiology Advancements to Overcome Abiotic Stress: A Study on Sub-Saharan African Crops”
Agriculture (Switzerland), Vol.14(2), pp.285, 2024/02
- [16] Koffi Pacome Kouame, Raj Kishan Agrahari, Tasuku Miyachi, Yasufumi Kobayashi, Toshihiro Watanabe, Toshiki Nakamura, Akiko Maruyama-Nakashita, **Masafumi Shimizu, Hiroyuki Koyama, Yuriko Kobayashi**.
“Alleviating effect of calcium sulfate on aluminum stress through enhanced malate release with increased gene expression of malate transporter and sulfate transporter”
Soil Science and Plant Nutrition, Vol.70(5-6), pp.416-423, 2024
- [17] Luthfan Nur Habibi, **Tsutomu Matsui, Takashi S. T. Tanaka**.
“Critical evaluation of the effects of a cross-validation strategy and machine learning optimization on the prediction accuracy and transferability of a soybean yield prediction model using UAV-based remote sensing”
Journal of Agriculture and Food Research, Vol.16, pp.101096, 2024/01
- [18] *²Manabe N, Hoshino Y, **Himaki T**, Sakaguchi K, Matsumoto S, Yamamoto T, Murase T.
“Lysate of bovine adipose-derived stem cells accelerates in-vitro development and increases cryotolerance through reduced content of lipid in the in vitro fertilized embryos”
Biochemical and Biophysical Research Communications, Vol.735, pp.150834, 2024/11/26
- [19] Md. Suruj Mia, Luthfan Nur Habibi, **Tsutomu Matsui, Takashi S. T. Tanaka**.
“A Bayesian approach to assessing uncertainty in the effect of fertilization strategies on paddy rice yield via multiple on-farm experiments”
Plant Production Science, Vol.27(3), pp.197-211, 2024/06
- [20] Mitsuishi H, **Yayota M**.
“The Efficacy of β -Carotene in Cow Reproduction: A Review”
Animals, Vol.14(14), pp.2133, 2024/07/22
- [21] *³Nikolai D Shamaev, Tatiana Batanova, Yuki Iwatake, **Junji Moribe**, Hisako Kyan, Tatsunori Masatani, Yuko Kitamura, Keisuke Nakagawa, Taizo Saito, Yasuhiro Takashima.
“Diversity of genes encoding immune-related GTPase B2 protein, an inherited element responsible for resistance against virulent *Toxoplasma gondii* strains, among wild *Mus musculus* in local area of Japan”
Journal of Veterinary Medical Science, Vol.86(10), pp.1056-1062, 2024/10/01
- [22] **Ninomiya S**, Nishi A, Nakamura R, Shibata M.
“Positive correlation of social rank and hair cortisol concentration in group-housed pregnant cows.”
Animals, Vol.15(1), pp.13, 2024/12/24
- [23] **Ochiai M**, Maruyama D, Haruyama J, **Yamada K**.
“Individual differences in disease progression of rose crown gall disease in a cross population between tetraploid *Rosa multiflora* and R. ‘PEKcougel’”
Acta Horticulturae, Vol.1404, pp.989-994, 2024

- [24] Okechukwu Samson Ezech, Natsuki Hayami, Kana Mitai, Wasei Kodama, Satoshi Iuchi, **Yoshiharu Y. Yamamoto**.
“Requirement of two simultaneous environmental signals for activation of Arabidopsis *ELIP2* promoter in response to high light, cold, and UV-B stresses”
Plant Signaling and Behavior, Vol.19(1), pp.2389496, 2024/12/31
- [25] Parker J, Maruyama M, **Okamoto T**, Schultz TR, Alvarado M.
“Evolution of leafcutter ant myrmecophiles: *Hamotus heidia*, a new symbiont of *Acromyrmex* colonies with undetectable hydrocarbons (Coleoptera: Staphylinidae: Pselaphinae)”
Insectes Sociaux, Vol.72, pp.319-332, 2024/11/11
- [26] Ruoming Cao, Siyu Chen, Shinpei Yoshitake, **Takeo Onishi**, Yasuo Iimura, Toshiyuki Ohtsuka.
“The Nitrogen Cycle of a Cool-Temperate Deciduous Broad-Leaved Forest”
Forests, Vol.15(4), pp.725, 2024/04/21
- [27] Sanjib Kumar Panda, Divya Gupta, Mayur Patel, Christell Van Der Vyver, **Hiroyuki Koyama**.
“Functionality of Reactive Oxygen Species (ROS) in Plants: Toxicity and Control in Poaceae Crops Exposed to Abiotic Stress”
Plants, Vol.13(15), pp.2071, 2024/07
- [28] Shawon RAR, Rahman MM, Iqbal MM, Russel MA, **Moribe J**.
“An Assessment of the Diversity and Seasonal Dynamics of Small- and Medium-Sized Mammals in Pittachhara Forest, Bangladesh, Using a Camera Trap Survey”
Animals, Vol.14(24), pp.3568, 2024
- [29] Syahrul Efendi, Komariah Komariah, Jauhari Syamsiyah, Widyatmani Sih Dewi, **Ken Hiramatsu**, Adhia Azhar Fauzan.
“Effect of Microbial Fuel Cell, fertilizer, and plant spacing on nitrogen dynamics in paddy soil”
SAINS TANAH - Journal of Soil Science and Agroclimatology, Vol.21(1), pp.83-94, 2024/06/30
- [30] Takumi Arakawa, **Takashi S. T. Tanaka**, Shinji Kamio.
“Detection of On-tree Chestnut Fruits Using Deep Learning and RGB UAV Imagery for Estimation of Yield and Fruit Load”
Agronomy Journal, Vol.116(3), pp.973-981, 2024
- [31] Tamura H, Noda T, Hayashi M, Fujii Y, Iwata N, Yokota Y, Murata M, Tatematsu C, Tera A, Ono K, Yokoi K, Kato T, **Okamoto T**, **Tsuchida K**.
“Dual expansion routes likely underlie the present-day population structure in a *Parnassius* butterfly across the Japanese Archipelago”
BioRxiv, 2024/07/17
- [32] Tian KE, Aldian D, Luo G, Sossou A, **Yayota M**.
“Condensed tannin-induced variations in the rumen metabolome and the correlation with fermentation characteristics in goats”
Animal Science Journal, Vol.95(1), pp.e13925, 2024
- [33] Tian KE, Liu J, **Yayota M**.
“From nutrients to performance: Advances in using lactic acid-treated cereals in ruminant feed”
Animal Feed Science and Technology, Vol.313, pp.116006, 2024/007
- [34] Tian KE, Luo G, Aldian D, **Yayota M**.
“Treatment of corn with lactic acid delayed in vitro ruminal degradation without compromising fermentation: a biological and morphological monitoring study.”
Frontiers in Veterinary Science, Vol.11, pp.1336800, 2024/01/22
- [35] **Yamada K**, Nakayama M, Ichimura K.
“The Sixth Special Issue of The Horticulture Journal—Quality Improvement of Ornamental Flowers—”
The Horticulture Journal, Vol.93(2), pp.99, 2024

- [36] **Yamamoto A**, Chiba N.
 “Effect of supplementary vitamin E and stocking density on egg production and yolk oxidative status in laying hens under summer heat”
Proceeding of Asian Australian Animal Production, pp.266-267, 2024
- [37] Yingxi Chen, Kohji Nishimura, Mutsutomo Tokizawa, **Yoshiharu Y Yamamoto**, Yoshito Oka, Tomonao Matsushita, Kousuke Hanada, Kazumasa Shirai, Shoji Mano, Takayuki Shimizu, Tatsuru Masuda.
 “Alternative localization of HEME OXYGENASE 1 in plant cells regulates cytosolic heme catabolism”
Plant Physiology, Vol.195(4), pp.2937-2951, 2024/07/31
- [38] Yoshida T, Shimokawa Y, Ohta M, Takayanagi M, **Kusuda S**.
 “Reproductive Seasonality, Estrous Cycle, Pregnancy, and the Recurrence of Postpartum Estrus Based on Long-Term Profiles of Fecal Sex Steroid Hormone Metabolites regarding Zoo-Housed Female Golden Takins (*Budorcas taxicolor bedfordi*)”
Animals, Vol.14(4), pp.571, 2024/02
- [39] Yoshioka H, Tsujimura M, **Yoshioka Y**.
 “A Rational Logit Dynamic for Decision-Making Under Uncertainty: Well-Posedness, Vanishing-Noise Limit, and Numerical Approximation”
Computational Science – ICCS 2024, pp.265-279, 2024/06/29
- [40] Yoshioka H, **Yoshioka Y**.
 “Assessing fluctuations of long-memory environmental variables based on the robustified dynamic Orlicz risk”
Chaos, Solitons & Fractals, Vol.180, pp.114336, 2024/03
- [41] Yoshioka H, **Yoshioka Y**.
 “Generalized divergences for statistical evaluation of uncertainty in long-memory processes”
Chaos, Solitons & Fractals, Vol.182, pp.114627, 2024/05
- [42] Yoshioka H, **Yoshioka Y**.
 “Risk assessment of river water quality using long-memory processes subject to divergence or Wasserstein uncertainty”
Stochastic Environmental Research and Risk Assessment, Vol.38(8), pp.3007-3030, 2024/05/18
- [43] Yui Yokoyama, Allard de Wit, **Tsutomu Matsui**, Takashi S. T. Tanaka.
 “Accuracy and robustness of a plant-level cabbage yield prediction system generated by assimilating UAV-based remote sensing data into a crop simulation model”
Precision Agriculture, Vol.25, pp.2685-2702, 2024/11/04
- [44] Yui Yokoyama, **Tsutomu Matsui**, **Takashi S. T. Tanaka**.
 “An instance segmentation dataset of cabbages over the whole growing season for UAV imagery”
Data in Brief, Vol.55, pp.110699, 2024/08
- [45] ※⁴Yuka Matsuda, Misuzu Okajima, Yuji Fujii, Fumiki Izumi, Maho R Takahashi, Yuki Iwatake, Kyoko Saito, Yasuyo Terashi, **Junji Moribe**, Yasuhiro Takashima, Naoto Ito, Tatsunori Masatani.
 “Diversity of piroplasma species in small rodents and ticks captured in suburbs of Gifu City, central Japan.”
The Journal of veterinary medical science, Vol.87(1), pp.43-51, 2024/11/18

※1 Also recorded on Joint Department of Veterinary Medicine

※2 Also recorded on Joint Department of Veterinary Medicine

※3 Also recorded on Joint Department of Veterinary Medicine

※4 Also recorded on Joint Department of Veterinary Medicine

【Joint Department of Veterinary Medicine】

- [1] Asako Ando, **Tatsuya Matsubara**, Shingo Suzuki, Noriaki Imaeda, Masaki Takasu, Atsuko Shigenari, Asuka Miyamoto, Shino Ohshima, Yoshie Kametani, Takashi Shiina, Jerzy K. Kulski, Hitoshi Kitagawa. “Genetic Links between Reproductive Traits and Amino Acid Pairwise Distances of Swine Leukocyte Antigen Alleles among Mating Partners in Microminipigs”
International Journal of Molecular Sciences, Vol.25(13), pp.7362, 2024/7/04
- [2] Fujii Y, **Masatani T**, Nishiyama S, Takahashi T, Okajima M, Izumi F, Sakoda Y, Takada A, Ozawa M, Sugiyama M, **Ito N**. “Molecular characterization of an avian rotavirus a strain detected from a large-billed crow (*Corvus macrorhynchos*) in Japan.”
Virology, Vol.596, pp.110114, 2024/08
- [3] Fumiaki Ihara, Hisako Kyan, **Yasuhiro Takashima**, Fumiko Ono, Kei Hayashi, Tomohide Matsuo, Makoto Igarashi, Yoshifumi Nishikawa, Kenji Hikosaka, Hirokazu Sakamoto, Shota Nakamura, Daisuke Motooka, Kiyoshi Yamauchi, Madoka Ichikawa-Seki, Shinya Fukumoto, Motoki Sasaki, Hiromi Ikada, Kodai Kusakisako, Yuma Ohari, Ayako Yoshida, Miwa Sasai, Michael E Grigg, Masahiro Yamamoto. “Far-East Asian *Toxoplasma* isolates share ancestry with North and South/Central American recombinant lineages”
Nature communications, Vol.15(1), pp.4278, 2024/05/22
- [4] Fuyuki A, Soheli MSH, Homma T, Kitamura K, Takashima S, **Onouchi S, Saito S**. “Selective prosaposin expression in Langerhans islets of the mouse pancreas”
Tissue and Cell, Vol.88, pp.102367, 2024/06
- [5] ¹Hano K, **Takashima S**, Inatani Y, Kainuma R, Oiji Y, Nakamura K, Yayota M, Takasu M. “Ovarian dynamics in progesterone tablet-induced superovulation in goats assessed by magnetic resonance imaging”
Animal Science Journal, Vol.95(1), pp.e13914, 2024
- [6] Hiroko Kobayashi, Herman Chambaro, Koshiro Tabata, Takuma Ariizumi, Wallaya Phongphaew, Kunda Ndashe, Joseph Ndebe, Paul Fandamu, Shintaro Kobayashi, **Naoto Ito**, Michihito Sasaki, Bernard M Hang'ombe, Edgar Simulundu, Yasuko Orba, Hirofumi Sawa. “African lineage 1a West Nile virus isolated from crocodiles exhibits low neuroinvasiveness in mice.”
The Journal of general virology, Vol.105(11), pp.002051, 2024/11/26
- [7] Hirota T, Yonemaru K, Hattori M, **Murakami M, Sakai H, Hirata A**. “Highly malignant endometrial stromal sarcoma in a cat”
Journal of comparative pathology, Vol.208, pp.11-14, 2024/01
- [8] Kamio T, Odani Y, Ohtomo W, Ogushi A, Akune Y, Kurita M, **Okada A, Inoshima Y**. “Bronchial tree system analysis of live beluga whale (*Delphinapterus leucas*) using bronchoscopy”
Veterinary Sciences, Vol.11(1), pp.33, 2024/01/15
- [9] Kamio T, Odani Y, Ohtomo W, Ogushi A, Akune Y, Kurita M, **Okada A, Inoshima Y**. “Midazolam and butorphanol combination for sedating beluga whales (*Delphinapterus leucas*).”
The Journal of Veterinary Medical Science, Vol.86(2), pp.207-210, 2024/02/08
- [10] Kawano K, **Sakaguchi K**, Ninpetch N, Yanagawa Y, Katagiri S. “Physiological high temperatures alter the amino acid metabolism of bovine early antral follicles”
Journal of Reproduction and Development, Vol.70(3), pp.184-191, 2024/06/01
- [11] Kei Konishi, Shinji Kusakabe, Nijiho Kawaguchi, Takao Shishido, **Naoto Ito**, Michiko Harada, Satoshi Inoue, Ken Maeda, William W Hall, Yasuko Orba, Hirofumi Sawa, Michihito Sasaki, Akihiko Sato. “ β -d-N4-hydroxycytidine, a metabolite of molnupiravir, exhibits in vitro antiviral activity against rabies virus.”
Antiviral research, Vol.229, pp.105977, 2024/09

- [12] Kida I, Hayashi N, Yokoyama N, **Nagata N**, Sasaoka K, Sasaki N, Morishita K, Nakamura K, Kouguchi H, Yagi K, Nakao R, Takiguchi M, Nonaka N.
“Case report: *Echinococcus multilocularis* infection in a dog showing gastrointestinal signs in Hokkaido, Japan”
Frontiers in Veterinary Science, Vol.11, pp.1373035, 2024/06/13
- [13] Kitamura K, Saito K, Homma T, Fuyuki A, **Onouchi S, Saito S**.
“Prosaposin/Saposin Expression in the Developing Rat Olfactory and Vomeronasal Epithelia”
Journal of Developmental Biology, Vol.12(4), pp.29, 2024
- [14] Kitashin I, Kumano H, **Nakagawa K**.
“Complete Genome Sequences of Feline Astroviruses from Asymptomatic Stray Cats in Japan”
Microbiology Resource Announcements, Vol.13(11), pp.e0071224, 2024/10/21
- [15] Kumano H, **Nakagawa K**.
“Molecular epidemiology and risk analysis for asymptomatic infection with feline enteric coronavirus in domestic and stray cats in Japan”
Archives of virology, Vol.169(11), pp.230, 2024/10/25
- [16] *²Manabe N, Hoshino Y, Himaki T, **Sakaguchi K**, Matsumoto S, Yamamoto T, **Murase T**.
“Lysate of bovine adipose-derived stem cells accelerates in-vitro development and increases cryotolerance through reduced content of lipid in the in vitro fertilized embryos”
Biochemical and Biophysical Research Communications, Vol.735, pp.150834, 2024/11/26
- [17] **Matsubara T**, Fukatsu R, Yamamoto M, Moriya M, Hano K, Nakamura K, **Ohba Y**, Takasu M.
“Assessment of horse behavior using an activity monitoring device used for cats and dogs”
Journal of Equine Science, Vol.35(4), pp.47-55, 2024
- [18] Miyanishi K, Igase M, **Murakami M**, Sakai Y, Sakurai M, Tani K, Motegi T, Mizuno T.
“Establishment of a novel canine soft tissue sarcoma cell line and comparison of its characteristics with other soft tissue sarcoma cell lines”
Research in veterinary science, Vol.171, pp.105245, 2024/05
- [19] Mizuno R, **Mori T**.
“Prognostic factors and survival following radiation therapy for canine nasal tumors: A single-institution retrospective study of 166 cases”
Open veterinary journal, Vol.14(7), pp.1538-1552, 2024/07
- [20] **Murakami M**, Owaki K, Goto M, Yonemaru K, **Hirata A, Sakai H**.
“What is your diagnosis? Intraabdominal mass in a dog.”
Veterinary clinical pathology, Vol.53(S2), pp.116-118, 2024/05
- [21] **Murakami M**, Yonemaru K, **Hirata A, Sakai H**.
“Uterine haemangiosarcoma in a Netherland Dwarf rabbit (*Oryctolagus cuniculus* Netherland dwarf).”
Veterinary medicine and science, Vol.10(1), pp.e1311, 2024/01
- [22] Muramoto M, Mineoka N, Fukuda K, Kuriyama S, **Masatani T**, Fujita A.
“Coordinated regulation of phosphatidylinositol 4-phosphate and phosphatidylserine levels by Osh4p and Osh5p is an essential regulatory mechanism in autophagy”
Biochim Biophys Acta Biomembr, Vol.1866(4), pp.184308, 2024/04
- [23] **Nagata N**, Ikenaka Y, Sawamura H, Sasaki N, Takiguchi.
“Reference intervals for urinary metanephrines to creatinine ratios in dogs in Japan”
The Journal of veterinary medical science, Vol.86(10), pp.1096-1099, 2024/10/01
- [24] **Nagata N**, Sawamura H, Ikenaka Y, Morishita K, Hosoya K, Sasaki N, Nakamura K, Takiguchi M.
“Urinary steroid profiling using liquid chromatography-tandem mass spectrometry for the diagnosis of canine Cushing's syndrome.”
Veterinary journal , Vol.306, pp.106151, 2024/08

- [25] Nijiho Kawaguchi, Yukari Itakura, Kittiya Intaruck, Takuma Ariizumi, Michiko Harada, Satoshi Inoue, Ken Maeda, **Naoto Ito**, William W. Hall, Hirofumi Sawa, Yasuko Orba, Michihito Sasaki.
“Reverse genetic approaches allowing the characterization of the rabies virus street strain belonging to the SEA4 subclade”
Scientific reports, Vol.14(1), pp.18509, 2024/08/09
- [26] ^{※3}Nikolai D Shamaev, Tatiana Batanova, Yuki Iwatake, Junji Moribe, Hisako Kyan, **Tatsunori Masatani**, Yuko Kitamura, **Keisuke Nakagawa**, **Taizo Saito**, **Yasuhiro Takashima**.
“Diversity of genes encoding immune-related GTPase B2 protein, an inherited element responsible for resistance against virulent *Toxoplasma gondii* strains, among wild *Mus musculus* in local area of Japan”
Journal of Veterinary Medical Science, Vol.86(10), pp.1056-1062, 2024/10/01
- [27] Norikazu Koyasu, Fuminori Hyodo, Ryota Iwasaki, Abdelazim Elsayed Elhelaly, **Takashi Mori**, Yoshifumi Noda, Hiroki Kato, Murali C. Krishna, Shun Kishimoto, Masayuki Matsuo.
“Quantitative spatial visualization of X-ray irradiation via redox reaction by dynamic nuclear polarization magnetic resonance imaging”
Free Radical Biology and Medicine, Vol.225, pp.388-397, 2024/11/20
- [28] **Onouchi S**, Yoshida T, **Saito S**, Atoji Y.
“Relationship between the left–right asymmetric motor-related conformation and the orientation of facial hair whorls in Japanese Kiso horses”
J Vet Med Sci., Vol.86(9), pp.920-924, 2024/09/01
- [29] Owaki K, **Murakami M**, Kato K, **Hirata A**, **Sakai H**.
“Reduction of phosphorylated signal transducer and activator of transcription-5 expression in feline mammary carcinoma”
The Journal of veterinary medical science, Vol.86(7), pp.816-823, 2024/07/02
- [30] Saho Furukawa, Kyoka Kawaguchi, Kotomi Chikama, Ryohei Yamada, Yuji O Kamatari, Lee Wah Lim, Hiroko Koyama, **Yasuo Inoshima**, Mitsushi J Ikemoto, Saishi Yoshida, Yoko Hirata, Kyoji Furuta, Hiroshi Takemori.
“Simple methods for measuring milk exosomes using fluorescent compound GIF-2250/2276”
Biochemical and Biophysical Research Communications, Vol.696, pp.149505, 2024/02/12
- [31] **Sakaguchi K**.
“In Vitro Growth of Mammalian Follicles and Oocytes”
Animals, Vol.14(9), pp.1355, 2024/04/30
- [32] Sawamura T, Yuki N, Aoki K, Horii K, **Horii Y**, Naitou K, Tsukamoto S, **Shiina T**, **Shimizu Y**.
“Alterations in descending brain-spinal pathways regulating colorectal motility in a rat model of Parkinson’s disease”
American Physiological Society, Vol.326(2), pp.G195-G204, 2024/02
- [33] ^{※5}Shichijo T, Ikeda T, Higashide D, Omori A, Suzuki T, **Suzuki M**.
“Quantification of wildlife visits to pig farms via camera traps in Japan”
Preventive Veterinary Medicine, Vol.232, pp.106318, 2024/11
- [34] **Shiina T**, Suzuki Y, Horii K, Sawamura T, Yuki N, **Horii Y**, **Shimizu Y**.
“Purinerbic inhibitory regulation of esophageal smooth muscle is mediated by P2Y receptors and ATP-dependent potassium channels in rats”
J. Physiol. Sci., Vol.74(1), pp.26, 2024/04/23
- [35] Shimizu K, Mori C, **Okada A**, **Inoshima Y**.
“Use of blood meals from stable flies to evaluate the bovine leukemia virus infection status in cattle herds: a pilot study. ”
Journal of Veterinary Diagnostic Investigation, Vol.37(1), pp.148-154, 2024/10/27
- [36] Shimizu K, **Saito T**, **Takashima Y**, Okada H, Asakawa M, **Inoshima Y**.
“First report of Mermithidae (Enoplea: Mermithida) parasitizing adult stable flies in Japan.”
Journal of Nematology, Vol.56(1), pp.2024022, 2024/05/25

- [37] Shino Y, Muraki N, **Kobatake Y**, Kamishina H, Kato R, Furukawa Y.
“Disulfide-mediated oligomerization of mutant Cu/Zn-superoxide dismutase associated with canine degenerative myelopathy”
PROTEIN SCIENCE, Vol.33(12), pp.e5210, 2024/12
- [38] Shiori Ueno, Sodbayasgalan Amarbayasgalan, Yoshiro Sugiura, Tatsuki Takahashi, Kenta Shimizu, **Keisuke Nakagawa**, Reika Kawabata-Iwakawa, Wataru Kamitani.
“Eight-amino-acid sequence at the N-terminus of SARS-CoV-2 nsp1 is involved in stabilizing viral genome replication”
Virology, Vol.595, pp.110068, 2024/07/08
- [39] Suzuki Y, **Shimizu Y**, **Shiina T**.
“ATP-Induced Contractile Response of Esophageal Smooth Muscle in Mice.”
Int. J. Mol. Sci., Vol.25(4), pp.1985, 2024/02/06
- [40] Tsukamoto S, Sawamura T, Yuki N, Horii K, **Horii Y**, Homma T, **Saito S**, **Shiina T**, **Shimizu Y**.
“Sexual dimorphism in prokinetic effects of a ghrelin agonist acting through the lumbosacral defecation center in rats.”
J. Physiol. Sci., Vol.74(1), pp.54, 2024/11/22
- [41] Welsh, J.A., MISEV Consortium (**Yasuo Inoshima**), et al.
“Minimal information for studies of extracellular vesicles (MISEV2023): From basic to advanced approaches.”
Journal of Extracellular Vesicles, Vol.13(2), pp.e12404, 2024/02
- [42] Yoshida K, **Kobatake Y**, **Takashima S**, **Nishii N**.
“Evaluation of muscle mass and intramuscular fatty infiltration in dogs with hypercortisolism and their association with prognosis”
J Vet Intern Med, Vol.38(3), pp.1334-1344, 2024/05
- [43] ※⁴Yuka Matsuda, Misuzu Okajima, Yuji Fujii, Fumiki Izumi, Maho R Takahashi, Yuki Iwatake, Kyoko Saito, Yasuyo Terashi, Junji Moribe, **Yasuhiro Takashima**, **Naoto Ito**, **Tatsunori Masatani**.
“Diversity of piroplasma species in small rodents and ticks captured in suburbs of Gifu City, central Japan.”
The Journal of veterinary medical science, Vol.87(1), pp.43-51, 2024/11/18
- [44] Yurina Ohno, Md Matiur Rahman, Hiroe Maruyama, **Yasuo Inoshima**, **Ayaka Okada**.
“Exploration of genes associated with induction of the viable but non-culturable state of *Campylobacter jejuni*”
Archives of Microbiology, Vol.206(6), pp.260, 2024/05/15

※¹ Also recorded on Course of Agricultural and Environmental Science

※² Also recorded on Course of Agricultural and Environmental Science

※³ Also recorded on Course of Agricultural and Environmental Science

※⁴ Also recorded on Course of Agricultural and Environmental Science

※⁵ Also recorded on Research Center for Wildlife Management

【Gifu Field Science Education and Research Center】

- [1] Setsuko S, Sugai K, **Tamaki I**, Hayama K, Kato H.
“Ecotype variation in the endemic tree *Callicarpa subpubescens* on small oceanic islands: genetic, phenotypic, and environmental insights”
Heredity, Vol.132, pp.309-319, 2024/05/07
- [2] Suzuki Setsuko, Satoshi Narita, **Ichiro Tamaki**, Kyoko Sugai, Atsushi J. Nagano, Tokuko Ujino - Ihara, Hidetoshi Kato, Yuji Isagi.
“Adaptive radiation of the *Callicarpa* genus in the Bonin Islands revealed through double - digest restriction site - associated DNA sequencing analysis”
Ecology and Evolution, Vol.14(9), pp.e70216, 2024/09/13

- [3] Tomoko Fukuda, Naoko Ishikawa, Olga A Chernyagina, Vyacheslav Y Barkalov, Aleksandr A Taran, Valentin V Yakubov, Elena A Marchuk, Elena V Linnik, **Ichiro Tamaki**.
 “Phylogeography and chromosome number variation in *Micranthes nelsoniana* and related species (Saxifragaceae) in Northeast Asia”
Botanical Journal of the Linnean Society, Vol.205(3), pp.313-338, 2024/07/01

【Animal Medical Center】

- [1] Igase M, Inanaga S, Nishibori S, Itamoto K, Sunahara H, Nemoto Y, Tani K, **Horikirizono H**, Nakaichi M, Baba K, Kambayashi S, Okuda M, Sakai Y, Sakurai M, Kato M, Tsukui T, Mizuno T.
 “Proof-of-concept study of the caninized anti-canine programmed death 1 antibody in dogs with advanced non-oral malignant melanoma solid tumors. ”
Journal of Veterinary Science, Vol.25(1), pp.e15, 2024/01/11
- [2] Itoh H, Itamoto T, Tani K, Sunahara H, Nemoto Y, Nakaichi M, Iseri T, **Horikirizono H**, Itamoto K.
 “Relationship between clinical parameters and malformations in dogs diagnosed with atlanto-axial instability”
PloS one, Vol.19(2), pp.e0293363, 2024/02/07

【Research Center for Wildlife Management】

- [1] **Ikeda T**, Koizumi I.
 “Evaluation of multiple behavioral responses of sika deer to human hunting pressures”
Journal of Wildlife Management, Vol.88(1), pp.e22499, 2024/01
- [2] ※5 Shichijo T, **Ikeda T**, Higashide D, Omori A, **Suzuki T**, Suzuki M.
 “Quantification of wildlife visits to pig farms via camera traps in Japan”
Preventive Veterinary Medicine, Vol.232, pp.106318, 2024/11

※5 Also recorded on Joint Department of Veterinary Medicine

2) Book

【Course of Applied Life Science】

- [1] Tani A, Mitsui R and **Nakagawa T**.
 “Lanthanides in Enzymology and Microbiology.”
 Academic, 2024

【Course of Agricultural and Environmental Science】

- [1] Debbarma A, Chaturvedi R, Maruyama K, **Yamamoto YY**.
 「Conservation and diversification of the cold stress response in higher plants.」 『Plant in challenging environments』
 Springer Nature Switzerland AG, 2024/12

II Lectures, Conference Presentation, etc.

1) Conference Presentation

【Course of Applied Life Science】

- [1] Hattori H, Ito K, **Thammawong M**, Nagata M, **Nakano K**.
“Development of freshness evaluation method for fruits and vegetables based on NAD metabolism”
The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [2] Higuchi T, Kono Y, Ishibashi Y, Yamauchi H, **Tani M**.
“Structure replacement of sphingolipid to plant types in budding yeast”
Glyco-Core Symposium 2024(Nagoya), 2024/07/16
- [3] Hirasawa S, Ito K, **Kitaguchi K**, **Yabe T**.
“Characterization of protein interactions between differentiated Caco-2 cell membranes and chondroitin sulfate proteoglycans”
2024 Sakura-Bio Meeting (Okinawa), 2024/12/16
- [4] Homma H, Kurimoto S, **Thammawong M**, Nagata M, **Nakano K**.
“Feasibility of mass-based spectrometer for assessing the freshness of leaf lettuce”
The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [5] Inoue M, **Nishizu T**, **Nakano K**, **Imaizumi T**.
“Effects of vacuum microwave drying on aroma and structural characteristics of crickets”
Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/27-29
- [6] Ito K, **Thammawong M**, Nagata M, **Nakano K**.
“Development of a quantitative analytical method for NAD-related metabolites in harvested fruits and vegetables”
The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/27
- [7] **Kasumi Nakagawa**, Sena Kawai, Wakana Takahashi, Pongphen Jitareerat, **Kohei Nakano**.
“Screening of biocontrol activity of *Bacillus* spp. isolated from fermented foods against fungal pathogens causing crown rot disease in bananas cv. Cavendish”
The 21st National Postharvest Technology Conference(Bangkok, Prathet Thai), 2024/07/05
- [8] Kimura T, Suzuki S, Ito A, Sakamoto S, Mitsuda N, **Suzuki S**.
“Localization analysis and heterologous expression of an enzyme involved in feruloylation of arabinoxylan in rice”
Glyco-Core Symposium 2024(Nagoya), 2024/07/16
- [9] Koide T, Sakurai M, **Thammawong M**, Nagata M, **Nakano K**.
“Screening of quality indicator substances in Chinese yams by GCMS-based metabolomics”
The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/27
- [10] Kurokawa M, Kamei Y, Saida M, Takeuchi M, Sakuradani E, **Yabe T**, **Nakagawa K**.
“Effects of pH fluctuations on indigo-reducing activity and morphological changes of indigo-reducing bacteria”
2024 Sakura-Bio Meeting (Okinawa), 2024/12/16
- [11] Li Wenchao, **Takahisa Nishizu**, Takashi Watanabe, Tadasu Teramoto, **Teppei Imaizumi**.
“Effects of alpha-lipoic acid treatment on quality retention and electrical properties of fresh-cut avocados”
Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28

- [12] Minamoto H, **Imaizumi T, Nishizu T.**
 “CHARACTERIZATION OF VOLATILE COMPOUNDS GENERATED FROM FRESH-CUT BANANAS TREATED WITH ANTIOXIDANTS ”
 Young Scientist 2024 conference, 2024/04/11
- [13] Minamoto H, **Nishizu T, Nakano K, Thammawong M, Teramoto T, Imaizumi T.**
 “Effects of α -lipoic acid treatment on volatile compounds of fresh-cut fruits and vegetables”
 Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/27
- [14] Nakano A, Usami S, **Nakagawa K, Thammawong M**, Nagata M, **Nakano K.**
 “Ultrasound treatment to delay the ripening of mature green bananas”
 The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [15] Oka Kikunaga, Nijolė Vaitkevičienė, Dovilė Levickienė, Jurgita Kulaitienė, Kanta Machi, **Takahisa Nishizu, Teppei Imaizumi.**
 “Effects of CA storage on skin characteristics and polyphenol retention of blue berries”
 Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [16] Ono M, **Thammawong M**, Nagata M, **Nakano K.**
 “Effect of controlled atmosphere storage on quality change and clock gene expression in banana”
 The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [17] Oshima T, Ando Y, **Nishizu T, Imaizumi T.**
 “Effects of UV-C treatment and storage on surface and internal conditions of tomatoes”
 Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [18] Oshima T, **Imaizumi T, Nishizu T.**
 “COMPREHENSIVE ANALYSIS OF TOMATO TISSUE CHANGES BY UV-C TREATMENT AND STORAGE”
 Young Scientist 2024 conference, 2024/04/11
- [19] Saat Egra, **Kosei Yamauchi, Tohru Mitsunaga**, Harlinda Kuspradini, Irawan Wijaya Kusuma, Irmanida Batubara.
 “Garcidepsidon B from *Garcinia parvifolia*: Antimicrobial Activities of The Medicinal Plants from North Kalimantan against Dental Caries and Periodontal Disease Pathogens”
 The 74th Annual Meeting of Japan Wood Research Society(Kyoto), 2024/03/13-15
- [20] Sena Kawai, Wakana Takahashi, Pongphen Jitareerat, **Kohei Nakano, Kasumi Nakagawa.**
 “Biological Control of Banana Crown Rot Disease by *Bacillus* sp. Isolated from Japanese Fermented Foods”
 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024) (Bali, Indonesia), 2024/09/28
- [21] Suzuki S, Kizuka Y, Ishimizu T, **Suzuki S.**
 “Effect of Fluorescent Labeling on Oligosaccharides Substrates for Arabinoxylan Xylosyltransferase activity”
 Glyco-Core Symposium 2024(Nagoya), 2024/07/16
- [22] **Thammawong M**, Sugiyama N, **Nakano K.**
 “Impact of exogenous melatonin on cucumber fruits during cold storage”
 The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [23] Wada M, Umehara A, **Nishizu T, Imaizumi T.**
 “Evaluation of mechanical properties of carrot cell walls modified by heat treatments”
 Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28
- [24] Wenchao Li, **Teppei Imaizumi, Takahisa Nishizu.**
 “ESTIMATING SOYBEAN SOFTENING THROUGH RAMAN PROFILING OF COOKING WATER”
 Young Scientist 2024 conferenc, 2024/04/11

- [25] Yamauchi H, Higuchi T, **Tani M**.
“Effect of overexpression of sphingolipid hydroxylase on stress sensitivities of budding yeast”
Glyco-Core Symposium 2024(Nagoya), 2024/07/16
- [26] Yamauchi Y, **Nakano K**, Umezawa T, **Suzuki S**.
“In vitro lignan O-demethylation system constituted by recombinant proteins of a human intestinal (F) bacterium, *Blautia producta* ATCC27340”
Glyco-Core Symposium 2024(Nagoya), 2024/07/16
- [27] Yen Thi Hoang Kieu, **Kosei Yamauchi**, **Tohru Mitsunaga**.
“Molecular networking assisted in the rapid discovery of bioactive compounds from *Excoecaria cochinchinensis* leaves”
The 74th Annual Meeting of Japan Wood Research Society(Kyoto), 2024/03/13-15
- [28] Yura M, **Thammawong M**, Nagata M, **Nakano K**.
“Effect of ultrasound treatment on expression of cell wall modifying genes in banana”
The 11th International Symposium on Machinery and Mechatronics for Agriculture and Biosystems Engineering (ISMAB 2024)(Bail, Indonesia), 2024/09/28

【Course of Agricultural and Environmental Science】

- [1] ※⁶Manabe N, Hoshino Y, **Himaki T**, Sakaguchi K, Matsumoto S, Yamamoto T, Murase T.
“The effect of bovine adipose-derived stem cell lysate to the in vitro culture medium on bovine blastocyst development”
The chair of the 4th Joint Meeting of Veterinary Science in East Asia(Obihiro, Japan), 2024/09/08
- [2] **Yamamoto A**, Chiba N.
“Effect of dietary citamin E supplementation on egg production and yolk oxidative status in laying hens reared under different stocking densities in summer heat”
Joint AAAP & AAAS Animal Production Congress 2024(Melbourne, Australia), 2024/07/09-11

※⁶ Also recorded on Joint Department of Veterinary Medicine

【Joint Department of Veterinary Medicine】

- [1] Fuyuki A, Homma T, Kitamura K, **Onouchi S**, **Saito S**.
“Prosaposin in mouse posterior pituitary gland and hypothalamic nuclei.”
9th Congress of the Asian Association of Veterinary Anatomists(Laguna, Philippine), 2024/10/24-25
- [2] Homma T, Kitamura K, Fuyuki A, **Onouchi S**, **Saito S**.
“Expression of prosaposin and G-protein coupled receptor 37 mRNAs in mouse cochlear and vestibular nuclei ”
9th Congress of the Asian Association of Veterinary Anatomists(Laguna, Philippine), 2024/10/24-25
- [3] Jeremiah Buumba Chijikwa, Takashi Tanida, **Kenichiro Sakaguchi**, Tomochika Sugiura, Yojiro Yanagawa, Seiji Katagiri.
“Vaginal osteopontin receptive mechanisms in dairy cows to normalize the endometrial epidermal growth factor concentrations”
The 12th Sapporo Summer Seminar for One Health(Sapporo), 2024/09/04
- [4] Kamio T, Odani Y, Kanda K, Akune Y, Kurita M, **Okada A**, **Inoshima Y**.
“Classification of white blood cell differential in the bronchoalveolar lavage fluid for bottlenose dolphins (*Tursiops truncatus*) and beluga whales (*Delphinapterus leucas*)”
55th Annual Conference of the International Association for Aquatic Animal Medicine (Galway, Ireland), 2024/05/19
- [5] ※⁶Manabe N, Hoshino Y, Himaki T, **Sakaguchi K**, Matsumoto S, Yamamoto T, **Murase T**.
“The effect of bovine adipose-derived stem cell lysate to the in vitro culture medium on bovine blastocyst development”
The chair of the 4th Joint Meeting of Veterinary Science in East Asia(Obihiro, Japan), 2024/09/08
- [6] Md. Jannat Hossain, **Ayaka Okada**, **Yasuo Inoshima**.
“Establishment of novel condition to detect the viable but non-culturable (VBNC) state of *Campylobacter jejuni* by qPCR with propidium monoazide (PMA)”
The 167th meeting of the Japanese Society of Veterinary Science (Obihiro), 2024/09/10

- [7] Michael Essien Sakyi, Takashi Kamio, Ryohei Kitani, Keiichi Ueda, Koji Ono, Sayo Sonezaki, **Ayaka Okada, Yasuo Inoshima.**
 “Comparative study of marine mammal immunoglobulins using proteins A, G, and AG”
 THE 35th ANNUAL MEETING OF THE JAPANESE ASSOCIATION FOR DEVELOPMENTAL & COMPARATIVE IMMUNOLOGY (Yokohama), 2024/08/31
- [8] Okauchi N, Shibutani S, Sakurai M, Yamamoto H, Nakagawa T, **Maeda S**, Mizuno T, Igase M.
 “IL-8 secreted from canine melanoma cells promotes macrophage migration”
 The 83rd Annual Meeting of the Japanese Cancer Association(Fukuoka), 2024/09/19
- [9] **Sakaguchi K**, Ball L, Srsen V, Grosbois J, Picton HM, Telfer EE.
 “Hypoxanthine improves oocyte growth and energy metabolism during in vitro growth of bovine secondary follicles”
 Fertility 2024 (Scotland), 2024/01/12
- [10] Sawamura T, Horii K, Yuki N, Yoshimura M, Ueta Y, **Shiina T, Shimizu Y.**
 “Evidence that inhibitory regulation of oxytocinergic neurons to the spinal defecation center is manifested by hindpaw inflammatory pain in rats”
 ISAN 2024(13th Congress of International Society for Autonomic Neuroscience) (Birmingham, UK) , 2024/7/25-27
- [11] **Shimizu Y, Horii Y**, Okuda S, **Shiina T.**
 “House musk shrews (*Suncus murinus*) as a useful model animal for analysing the mechanism of daily torpor”
 The chair of the 4th Joint Meeting of Veterinary Science in East Asia(Obihiro, Japan), 2024/09/08
- [12] Terauchi M, Iwasaki R, Fujii Y, **Mori T.**
 “Evaluation of the utility of a novel high-dose radiotherapy protocol of 10 × 4 Gy using 3D-CRT for canine apocrine gland anal sac adenocarcinoma: A comparative study with the conventional protocol of 8 × 3.8 Gy”
 World Veterinary Cancer Congress TOKYO 2024(Tokyo), 2024/03/21-24
- [13] Uno A, Iwasaki R, **Mori T.**
 “Treatment outcomes of canine orbital meningiomas in seven cases”
 World Veterinary Cancer Congress TOKYO 2024(Tokyo), 2024/03/21-24
- [14] Yoshikawa R, Iwasaki R, Kumazaki M, Sakai H, **Mori T.**
 “Impact of radiation therapy on canine perianal gland adenocarcinoma with lymph node metastasis: A retrospective study of six cases”
 World Veterinary Cancer Congress TOKYO 2024(Tokyo, Japan), 2024/03/21-24
- [15] Yuki N, Sawamura T, Horii K, Yamaguchi H, **Shiina T, Shimizu Y.**
 “Involvement of neurons projecting from the hypothalamus to the medullary raphe in stress-induced defecation in rats”
 ISAN 2024(13th Congress of International Society for Autonomic Neuroscience) (Birmingham, UK) , 2024/7/25-27

※6 Also recorded on Course of Agricultural and Environmental Science

2) Academic lecture

【Course of Applied Life Science】

- [1] **Suzuki S.**
 “Biosynthesis and utilization of bamboo cell walls”
 Japan-NER Bioeconomic Technology Cooperation Symposium 2024(Assam, India), 2024/03/04
 (Invitation lecture)
- [2] **Yamauchi K.**
 “Utilization of bioactive compound from plants.”
 International Conference on Climate Change, Agriculture, Biodiversity, and Environment Study(online), 2024/01/23 (Invitation lecture)

【Course of Agricultural and Environmental Science】

〔1〕 Yamaguchi T.

“Comprehensive Understanding of Agricultural Production with Explainable Artificial Intelligence”

1st International Summer Course on Integrated Sustainable Agriculture for Circular

Economy(Zoom)2024/07/22 (Invitation lecture)



GIFU UNIVERSITY

Faculty of Applied Biological Sciences

Gifu University

Annual Report of Research Activities 2024 Vol.21

October 21, 2025

Publisher Faculty of Applied Biological Sciences
Gifu University
1-1 Yanagido, Gifu City 501-1193
