

# The 2023 Fall Meeting of Japan Poultry Science Association

September 21, 2023

Obihiro University of Agriculture and Veterinary Medicine

( Presentation 7min.  
Discussion 3min. )

## Room1

### Morning Session (9:00~10:40)

#### ○ I -1~○ I -9 Best Presentation Award Candidate Oral Session

#### (Genetics, Breeding, Reproduction, Physiology, Anatomy, Histology, Environment , Hygiene)

- I - 1 Effect of short-term lighting on productivity of meat quail 9:00-9:10  
○Mana Yamada and Akira Kurosawa  
(Tokyo Univ. of Agric.)
- I - 2 Phenotypic characterization of Japanese indigenous chickens based on an intercross 9:10-9:20  
population of Minohikichabo and Tosa-jidori breeds.  
○Nyirimana Prudence<sup>1</sup> Momoka Watanabe<sup>1</sup> and Tatsuhiko Goto<sup>1,2</sup>  
(<sup>1</sup> Obihiro Univ.; Anim. Sci, <sup>2</sup> Obihiro Univ.; GAMRC)
- I - 3 The Effects of Neonatal Probiotic Supplements on Gut Microflora and Pancreatic Insulin 9:20-9:30  
Signaling in Broiler chicks.  
○Kazuki Kimura, Yoshiyuki Ohta and Junichi Shiraishi  
(Grad.scl., Nippon Vet. Life Sci Univ)
- I - 4 Central injection of NPY regulates diencephalic and splenic catecholamine metabolism in 9:30-9:40  
heat-exposed chicks  
○Haruka Nishimura<sup>1</sup>, Rena Karashima<sup>1</sup>, Mohamed Z. Elhussiny<sup>1</sup>, Yoshimitsu Ouchi<sup>2</sup>,  
Shotaro Nishimura<sup>1</sup>,Yoshinao Z. Hosaka<sup>1</sup>, Takashi Bungo<sup>2</sup>, and Vishwajit S. Chowdhury<sup>1</sup>  
(<sup>1</sup>Kyushu Univ., <sup>2</sup>Okayama Univ. of Sci.)
- I - 5 Expression of relaxin family peptide receptor 1 & 3 in the ovarian follicle of Japanese 9:40-9:50  
quail  
○Hoang Xuan Khoi<sup>1</sup>, Mei Matsuzaki<sup>2</sup>, Tetsuya Kohsaka<sup>3</sup> and Tomohiro Sasanami<sup>1,4</sup>  
(<sup>1</sup>The United Grad. Schl. of Agricultural Sci., Gifu Univ., <sup>2</sup>Grad. Schl. of Integrated  
Sci. for Life, Hiroshima Univ., <sup>3</sup>Fac. of Health Sci., Butsuryo College of Osaka, <sup>4</sup>Fac. of  
Agric., Shizuoka Univ.)

○ I - 6	Evaluation of IgA producing ability of broiler breeder hen oviduct before and after sexual maturation ○ Sayoko Maekawa <sup>1</sup> , Ryota Hirakawa <sup>1,2</sup> , Motoshi Hisamatsu <sup>1</sup> , Tsukasa Yamashita <sup>1</sup> , Mutsumi Furukawa <sup>1,2</sup> and Tomonori Nochi <sup>1,2</sup> ( <sup>1</sup> Tohoku Univ. Lab. of Animal Functional Morphology, <sup>2</sup> Tohoku Univ. Lab. of Animal Mucosal Immunology)	9:50-10:00
	Break ( 10min.)	10:00-10:10
○ I - 7	Relationship between prolactin and triiodothyronine in broody hens ○ Chihiro Murai <sup>1</sup> , Ayano Wada <sup>1</sup> , Masayuki Iigo <sup>2</sup> , Takeshi Ohkubo <sup>3</sup> , Koumei Shirasuna <sup>1</sup> , Hisataka Iwata <sup>1</sup> , Takehito Kuwayama <sup>1</sup> ( <sup>1</sup> Tokyo Univ. of Agri., <sup>2</sup> Utsunomiya Univ., <sup>3</sup> Ibaraki Univ)	10:10-10:20
○ I - 8	Expression of olfactory receptor genes in chicken olfactory epithelium ○ Kazushi Koyama <sup>1</sup> , Tomohisa Yokoyama <sup>1</sup> and Fuminori Kawabata <sup>1,2</sup> ( <sup>1</sup> Hirosaki Univ., <sup>2</sup> Iwate Univ.)	10:20-10:30
○ I - 9	Changes in the expression of taste receptors in the esophagus and crop during growth of chicks ○ Yayako Oishi <sup>1</sup> , Yoshimitsu Ouchi <sup>2</sup> , Naoki Suzuki <sup>1,3</sup> , Naoki Isobe <sup>1,3</sup> , Fuminori Kawabata <sup>4</sup> , Takashi Bungo <sup>2</sup> and Takahiro Nii <sup>1,3</sup> ( <sup>1</sup> Grad. Schl. of Integrated Sci. for Life, Hiroshima Univ, <sup>2</sup> Dep. of Veterinary Associated Sci., Okayama Univ of Sci., <sup>3</sup> RCAS, Hiroshima Univ, <sup>4</sup> Fac. of Agric. and Life Sci., Hirosaki Univ, <sup>5</sup> UGAS Iwate Univ.)	10:30-10:40
	Break (100min.)	10:40-12:20
	Luncheon Seminar (60min.)	12:20-13:20
	Break (10min.)	13:20-13:30
	General meeting • Award Ceremony (90min.)	13:45-15:00
	Break (15min.)	15:00-15:15

## **Afternoon Session (15:15~16:55)**

### **I -10~ I -19 General Presentation Oral Session**

#### **(Genetics, Breeding, Reproduction, Physiology, Anatomy, Histology)**

I -10	Developing new method of conservation of poultry genetic resources using gonadal primordial germ cells ○ Yuki Nakajima, Akina Kanda, Takahiro Tagami (Inst. of Livestock and Grassland Sci., NARO)	15:15-15:25
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- I -11 Detrimental effect of diethylstilbestrol on primordial germ cell in Japanese quail 15:25~15:35  
 ○Shusei Mizushima, Yuya Ogawa and Asato Kuroiwa  
 (Hokkaido Univ.)
- I -12 Verification of feather sexing in newly hatched Hinai-jidori chicks using a polymorphism 15:35~15:45  
 linked to late-feathering gene  
 ○Kazuhiro Rikimaru<sup>1</sup>, Tsuyoshi Otake<sup>2</sup>, Shinichi Sato<sup>2</sup>, Shiori Fukuda<sup>1</sup>, Ami Shikano<sup>1</sup>, Ken Tazawa<sup>1</sup>,  
 Nichika Sugawara and Takatoshi Kojima<sup>2</sup>  
 (<sup>1</sup>Akita Pref. Livest. Exp. Stn., <sup>2</sup>Natl. Livest. Breed. Ctr.)
- I -13 Research on reproductive function in dwarf chickens 15:45~15:55  
 ○Akira Tsukada (Nagoya Univ.)
- I -14 Differentiation of chicken iPS cells into neural-like cells with 3D culture 15:55~16:05  
 ○Masafumi Katayama<sup>1</sup>, Nobuyoshi Nakajima<sup>1</sup>, Manabu Onuma<sup>1</sup>, and Tomokazu Fukuda<sup>2</sup>  
 (<sup>1</sup>National Inst. for Environmental Studies., <sup>2</sup>Iwate Univ.)
- I -15 Expression and localization of purinergic receptors P2Xs in the chicken adrenal gland 16:05~16:15  
 ○Shotaro Nishimura, Akira Kondo, Haruka Nishimura and Yoshinao Z Hosaka  
 (Kyushu Univ.)
- I -16 Genetic basis of feather pecking in laying hens 16:15~16:25  
 ○Yuki Higashiura<sup>1</sup>, Ririka Yamada, Masaki Yamanishi<sup>2</sup>, and Hisashi Wakahara<sup>3</sup>, Tsuyoshi  
 Shimmura<sup>1</sup> (<sup>1</sup>TUAT, <sup>2</sup>NLBC, <sup>3</sup>Goto Hatchery Co., Ltd)
- I -17 Dietary administration of L-citrulline changes plasma cholesterol and plasma free amino 16:25~16:35  
 acids in broiler chicks  
 Saki Kono<sup>1</sup>, Maho Nakagiri<sup>1</sup>, Haruka Nishimura<sup>1</sup>, Mohamed Z. Elhussiny<sup>1</sup>, Yoshimitsu  
 Ouchi<sup>2</sup>, Shotaro Nishimura<sup>1</sup>, Yoshinao Z. Hosaka<sup>1</sup>, Takashi Bungo<sup>2</sup>, and ○Vishwajit S.  
 Chowdhury<sup>1</sup> (<sup>1</sup>Kyushu Univ., <sup>2</sup>Okayama Univ. of Sci.)
- I -18 Characterization of taste sensitivities to amino acids and sugars by conditioned taste 16:35~16:45  
 aversion learning in chickens  
 ○Yuta Yoshida<sup>1</sup>, Shu Fujishiro<sup>1</sup>, Ryota Kawai<sup>1</sup>, and Fuminori Kawabata<sup>2</sup>  
 (<sup>1</sup>Ibaraki Univ., <sup>2</sup>Hirosaki Univ.)
- I -19 Expression analysis of taste sense related candidate molecules in chicken taste tissues 16:45~16:55  
 ○Fuminori Kawabata<sup>1,2</sup>  
 (<sup>1</sup>Hirosaki Univ., <sup>2</sup>Iwate Univ.)

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## Room2

### Morning Session (9:00~10:50)

#### ○ II-1~○ II-10 Best Presentation Award Candidate Oral Session (Physiology, Nutrition and Feeds, Environment , Hygiene)

- II - 1 Effects of dietary ginger powder on growth, metabolism and cecal microflora in chicks 9:00-9:10  
○Rena Karashima<sup>1</sup>, Haruka Nishimura<sup>1</sup>, Mohamed Z. Elhussiny<sup>1</sup>, Yoshimitsu Ouchi<sup>2</sup>,  
Shotaro Nishimura<sup>1</sup>, Yoshinao Z. Hosaka<sup>1</sup>, Takashi Bungo<sup>2</sup> and Vishwajit S. Chowdhury<sup>1</sup>  
(<sup>1</sup>Kyushu Univ., <sup>2</sup>Okayama Univ. of Sci.)
- II - 2 Chick computer interaction using sound 9:10-9:20  
○Kanakano Ichishima<sup>1</sup>, Kanoko Hayakawa<sup>1</sup>, Ryosuke O. Tachibana<sup>2</sup>, Tsuyoshi Shimmura<sup>1</sup>  
(<sup>1</sup>Tokyo Univ. of Agr. and Tech., <sup>2</sup>AIST)
- II - 3 Characteristics of Glutamate Receptor Expression in The Intestinal Tract of Chicks 9:20-9:30  
○Shiori Ohashi<sup>1</sup>, Yuki Higashiura<sup>1</sup>, Tsuyoshi Shimmura<sup>1</sup> and Kan Sato<sup>1,2</sup> (<sup>1</sup>Tokyo Univ.  
of Agric. and Tech. • <sup>2</sup>Tohoku Univ.)
- II - 4 Effect of dietary nucleic acids supplementation to high-energy and low-protein diet on fatty 9:30-9:40  
liver and production performance of laying quail.  
○Shinya Yoshida<sup>1</sup>, Mizuki Yamamoto<sup>1</sup>, Toru Okada<sup>2</sup>, Atsushi Murai<sup>1</sup>  
(<sup>1</sup>Grad. Sch. Bioagr. Sci., Nagoya Univ., <sup>2</sup>ASKA Animal Health Co., Ltd.)
- II - 5 Feeding brown rice to laying quail results in decreased bile IgA levels and transient 9:40-9:50  
fluctuations in blood and yolk free amino acid concentrations  
○Mizuki Yamamoto, Mitsuko Enomoto, Shinya Yoshida and Atsushi Murai  
(Nagoya Univ.)
- Break (10min.) 9:50-10:00

- II - 6 Effects of pre-slaughter fasting times on antemortem muscle protein degradation levels and postmortem meat quality in broiler chickens. 10:00-10:10  
 ○ Sachi Katsumata<sup>1</sup>, Mizuki Kamegawa<sup>2</sup>, Ayumi Katafuchi<sup>2</sup>, Akira Ohtsuka<sup>2</sup>, and Daichi Ijiri<sup>2</sup> (<sup>1</sup>Okayama Univ., <sup>2</sup>Kagoshima Univ.)
- II - 7 Effects of Cyclic-high Ambient Temperature on Muscle Free Amino Acids and Imidazole Dipeptides in Broiler Chickens 10:10-10:20  
 ○ Ayumi Katafuchi<sup>1</sup>, Mizuki Kamegawa<sup>1</sup>, Serina Goto<sup>2</sup>, Daichi Kuwahara<sup>3</sup>, Yukiko Osawa<sup>3</sup>, Saki Shimamoto<sup>4</sup>, Shinya Ishihara<sup>5</sup>, Akira Ohtsuka<sup>1,2</sup> and Daichi Ijiri<sup>1,2</sup>  
 (<sup>1</sup>Grad. Sch. Agr. Forest. Fish., Kagoshima Univ., <sup>2</sup>Fac. Agr., Kagoshima Univ., <sup>3</sup>ENEOS, <sup>4</sup>Grad. Sch. Sci. Technol., Niigata Univ. <sup>5</sup>Grad. Sch. Appl. Life Sci., Nippon Vet. Life Sci. Univ.)
- II - 8 Effects of Astaxanthin Dried Cell Powder on Imidazole Dipeptide Contents in Broiler Chicken Meat 10:20-10:30  
 ○ Mizuki Kamegawa<sup>1</sup>, Ayumi Katafuchi<sup>1</sup>, Yoshinao Kume<sup>2</sup>, Daichi Kuwahara<sup>3</sup>, Yukiko Osawa<sup>3</sup>, Akira Ohtsuka<sup>1</sup> and Daichi Ijiri<sup>1</sup> (<sup>1</sup> Grad. Sch. Agr. Forest. Fish., Kagoshima Univ., <sup>2</sup>Fac. Agr., Kagoshima Univ., <sup>3</sup> ENEOS)
- II - 9 Influence of amino acid Amadori products on glucose uptake of chicken embryonic fibroblasts and myotubes. 10:30-10:40  
 ○ Kazuki Nakamura, Miyu Sugita, Kazumi Kita (Iwate Univ.)
- II -10 Influence of varying dietary protein levels on fructosamine-3-kinase gene expression in various tissues of chickens 10:40-10:50  
 ○ Nami Ohno, Ryosuke Makino and Kazumi Kita (Iwate Univ.)

Break (90min.) 10:50-12:20

Luncheon Seminar (60min.) 12:20-13:20

Break (10min.) 13:20-13:30

General meeting • Award Ceremony (90min.) 13:45-15:00

Break (15min.) 15:00-15:15

## Afternoon Session (15:15~16:45)

### I -10~ I -19 General Presentation Oral Session

#### (Genetics, Breeding, Reproduction, Physiology, Anatomy, Histology)

- II -11 Current status of cowsheds using electrolytic hypochlorous acid water (clean refre) and its application to avian influenza virus 15:15-15:25  
 ○ Hiroshi Uchiumi (Act Co., Ltd.)

- II -12 Effect of feeding gluco-oligosaccharides on egg-laying function and intestine and liver damage in laying hens under disruption of intestinal environment. 15:25~15:35  
Aika Koyanagi, Naoki Suzuki, Naoki Isobe, Yukinori Yoshimura, Takehiko Hayakawa, Tomoo Wada and ○Takahiro Nii  
(Grad. Schl. of Integrated Sci. for Life, Hiroshima Univ.)
- II -13 Effects of delaying post-hatch feeding on lipid peroxidation and antioxidant enzyme mRNA expression in the pectoralis major muscle of newly hatched chicks 15:35~15:45  
○Momoko Ohga<sup>1</sup>, Rukana Kohrogi<sup>1</sup>, Saki Shimamoto<sup>2</sup>, Kazuki Nakashima<sup>3</sup>, Daichi Sonoda<sup>1</sup>, Akira Ohtsuka<sup>1</sup>, Daichi Ijiri<sup>1</sup>  
(<sup>1</sup>Kagoshima Univ., <sup>2</sup>Niigata Univ., <sup>3</sup>Inst. of Livestock and Grassland Sci., NILGS)
- II -14 Effects of heat-inactivated probiotics on growth performance, immune parameters, and intestinal microbiota of broiler chickens reared at high stocking density 15:45~15:55  
○ Motoi Kikusato<sup>1</sup>, Kyohei Furukawa<sup>1</sup>, Kazuo Fukui<sup>2</sup> ( <sup>1</sup>Tohoku Univ., <sup>2</sup>TOA BIOPHARMA Co., Ltd.)
- II -15 Effect of in ovo administration of Asai organogermanium on immunocompetence and fatty acid oxidation ability of broilers at hatching. 15:55~16:05  
○Yoshiyuki Ohta<sup>1</sup>, Toshihisa Kanamitsu<sup>2</sup>, Etsuko Hasegawa<sup>1</sup> and Jun-ichi Shiraishi<sup>1</sup>  
(<sup>1</sup>Nippon Vet. Life Sci. Univ., <sup>2</sup>Landmaster Inc.)
- II -16 Effects of graded levels of sake lees in brown rice-based diet on growth performance and meat color in broiler chickens 16:05~16:15  
○Kazuhisa Honda<sup>1</sup>, Kouki Nishikawa<sup>1</sup>, Ayaka Shimizu<sup>1</sup>, Takehiro Hirai<sup>2</sup>, and Takaoki Saneyasu<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr. Sci. Kobe Univ., <sup>2</sup>Hakutsuru Sake Brewing Co., LTD.)
- II -17 The reduction of nitrogen excretion by the feeding of low-protein diet supplemented with synthetic amino acids in broiler starter period. 16:15~16:25  
○Haruhiko Ohtsu, Fumika Nanto-HARA, and Hitoshi Murakami  
(Inst. of Livestock and Grassland Sci., NARO)
- II -18 Effects of feeding eggshells to laying hens on shell egg quality 16:25~16:35  
○ Kazuhiro Isobe<sup>1</sup>, Kenta Susaki<sup>1</sup>, Atsushi Shiraishi<sup>1</sup>, Yuki Higashiura<sup>2</sup>, Tsuyoshi Shimmura<sup>2</sup>, Yuto Ikehata<sup>3</sup>, Takahiro Morimoto<sup>3</sup>, Ryou Sasahara<sup>1</sup>  
(<sup>1</sup>Kewpie Corp., <sup>2</sup>Tokyo Univ. of Agr. and Tech., <sup>3</sup>Chubushiryō Co., Ltd.)
- II -19 Effect of Supplemental Feeding of Paprika Extract to Laying Hens on Egg Storage and Biochemical Values 16:35~16:45  
○Sadao Kojima (Tokyo Met. Agri. and Fores. Res. Cent.)