

# The 2024 Fall Meeting of Japan Poultry Science Association

September 19, 2024

Kyoto University

Presentation 7min.  
Discussion 3min.

## Room1

### Morning Session (9:00~11:40)

#### ○ I -1~○ I -14 Best Presentation Award Candidate Oral Session

#### (Genetics, Breeding, Reproduction, Physiology, Environment, Hygiene, Processing and Products)

- I - 1 QTL analysis for egg-related traits in an F<sub>2</sub> intercross population between Ryujin-Jidori and Rhode Island Red chickens.  
○Tomohiro Mizutani<sup>1</sup>, Hiromi Yuhashi<sup>2</sup>, Nozomu Matsui<sup>2</sup>, Akira Ishikawa<sup>1</sup> (<sup>1</sup>Nagoya Univ., <sup>2</sup>Poultry lab. Wakayama Pref.)
- I - 2 Evaluating phenotypic correlation among egg quality traits in Hinaidori chickens  
○Dipson Gyawali<sup>1</sup>, Yume Okada<sup>1</sup>, Prudence Nyirimana<sup>1</sup>, Mana Furuta<sup>1</sup>, Yuma Nishida<sup>1</sup>, Ami Shikano<sup>2</sup>, Kazuhiro Rikimaru<sup>2</sup>, Tatsuhiko Goto<sup>1</sup> (<sup>1</sup>Obihiro Univ., <sup>2</sup>Akita Pref Livest Cent)
- I - 3 Breed and sex differences in early growth traits of two Japanese indigenous chicken breeds.  
○Yuma Nishida<sup>1</sup>, Yume Okada<sup>1</sup>, Prudence Nyirimana<sup>1</sup>, Dipson Gyawali<sup>1</sup>, and Tatsuhiko Goto<sup>1</sup> (<sup>1</sup>Obihiro Univ.)
- I - 4 Breed and sex differences in morphology of four Japanese indigenous breed of chickens  
○Yume Okada<sup>1</sup>, Yuma Nishida<sup>1</sup>, Prudence Nyirimana<sup>1</sup>, Dipson Gyawali<sup>1</sup>, and Tatsuhiko Goto<sup>1</sup> (<sup>1</sup>Obihiro Univ.)
- I - 5 Delineating genetic diversity and relationships among seven native Japanese chickens by RAD-sequencing  
○Vanessa Viterbo Velasco<sup>1</sup>, Norikazu Hashimoto<sup>2</sup>, Masaoki Tsudzuki<sup>3</sup> and Akira Ishikawa<sup>1</sup> (<sup>1</sup>Nagoya Univ., <sup>2</sup>Poultry lab. Wakayama Pref., <sup>3</sup>Hiroshima Univ.)

9:50~10:00

Break (10min.)

- I -6 Research on the sex ratio of interfamily hybrids by Guinea fowl and Hinaidori.  
○Masahito Hikichi, Kippeï Yoko, Shion Hasegawa, Koumei Shirasuna, Hisataka Iwata and Takehito Kuwayama (Tokyo Univ. of Agri.)
- I -7 Improvement of semen cryotolerance by utilizing migration-gravity sedimentation method in chickens  
○Maiko Kuwabara<sup>1</sup>, Chathura Priyadarshana<sup>1</sup> and Atsushi Asano<sup>2</sup>  
(<sup>1</sup>Grad. Sch. of Life and Environmental Sci., <sup>2</sup>Fac. of Life and Environmental Sci., Univ. of Tsukuba)
- I -8 Investigation of immune response function in chicken crop  
○Yayako Oishi, Naoki Suzuki, Naoki Isobe, Takahiro Nii (Grad. Sch. of Integrated Sci. for Life, Hiroshima Univ)
- I -9 Effect of  $\alpha$ -dicarbonyl compounds on the viability of chicken skeletal muscle cells.  
○Meiko Okino<sup>1</sup>, Ryosuke Makino<sup>2</sup> and Tetsuya Tachibana<sup>1</sup> (<sup>1</sup>Ehime Univ., <sup>2</sup>Iwate Univ.)
- I -10 Comprehensive analysis of hepatic gene expressions affected by zymosan in chicks  
○Akari Yamada, Maki Takahashi and Tetsuya Tachibana (Ehime Univ.)

**10:50~11:00**

**Break (10min.)**

- I -11 Comparison of antioxidant enzyme gene expression in Japanese quail embryo  
○Nanako Makihara<sup>1</sup>, Mostafa Helal<sup>2</sup> and Atsushi Iwasawa<sup>1</sup> (<sup>1</sup>Gifu Univ., <sup>2</sup>Cairo Univ.)
- I -12 Gene expression profiles in broilers with footpad dermatitis  
○Honoka Suzuki<sup>1</sup>, Sachi Ashizawa<sup>2</sup>, Yukako Tokutake<sup>3</sup>, Kyohei Furukawa<sup>4</sup>, Koichi Matsushita<sup>2</sup>, Masaaki Toyomizu<sup>1</sup>, Kan Sato<sup>1</sup> (<sup>1</sup>Tohoku Univ., <sup>2</sup>Yamanashi Pref., <sup>3</sup>Shinshu Univ., <sup>4</sup>Nagoya Univ.)
- I -13 Effects of different thawing method on the taste of chicken in meat-type Nagoya breed  
○Sawa Sugito<sup>1</sup>, Mika Akao<sup>1</sup>, Masaki kuwabara<sup>2</sup>, Akihiro Nakamura<sup>3</sup>, Hiromitsu Miyakawa<sup>1</sup> and Naokazu Minoguchi<sup>1</sup> (<sup>1</sup>Aichi Agric. Res. Ctr., <sup>2</sup>Aichi Cent. LHSC, <sup>3</sup>Aichi Pref. Chita Agri., Forestry and Fisheries Office.)
- I -14 Investigating the origin of gut microbiota in laying hen chicks  
○Naoko Ishimoto, Naoki Suzuki, Naoki Isobe and Takahiro Nii (Grad. Sch. of Integrated Sci. for Life, Hiroshima Univ.)

**11:40~12:15**

**Break ( 35min.)**

**12:15~13:15**

**Luncheon Seminar ( 60min.)**

**13:15~14:30**

**Break ( 15min.)**

**14:30~15:00**

**General meeting • Award Ceremony ( 90min.)**

**15:00~15:10**

**Break ( 10min.)**

## Afternoon Session (15:10~17:00)

### I -15~ I -25 General Presentation Oral Session

#### (Genetics, Breeding, Reproduction, Physiology, Environment , Processing and Products)

- I -15 Food culture of Japanese quail in Japan, market research of quail egg product in flyer, after COVID-19 era  
○Akiko Sano (Inst.Anim.Sci.)
- I -16 Development of heat stress mitigation techniques based on the physiological responses of chickens to heat stress  
○Haruna Shinji, Tsukasa Sugiyama (Shizuoka Pref. Swine & Poultry Res. Cen)
- I -17 Expression and functional characterization of metalloprotease ADAM32L2 in chicken sperm: participation in sperm-egg binding  
○Atsushi Asano<sup>1</sup>, Mohamad Shuib Mohamad Mohtar<sup>1</sup>, Maiko Kuwabara<sup>1</sup>, Rangga Setiawan<sup>2</sup>  
(<sup>1</sup>Univ. Tsukuba Life and Environmental Sci., <sup>2</sup> Univ. Padjadjaran)
- I -18 Intraperitoneal injection of glyceraldehyde does not affect plasma biomarker of liver injury in chicks  
Meiko Okino, Chikato Yamashita, ○Tetsuya Tachibana (Fac. of Agric., Ehime Univ.)
- I -19 Comparison of re-growth cell and primary cell derived from chicken fibroblast with Comprehensive gene expression analysis  
○Masafumi Katayama<sup>1</sup>, Tohru Kiyono<sup>2</sup>, Manabu Onuma<sup>1</sup>, and Tomokazu Fukuda<sup>3</sup>  
(<sup>1</sup> Biodiversity Div., National Inst. for Environmental Studies, <sup>2</sup> Exploratory Oncology Res. and Clinical Trial Center, National Cancer Center, <sup>3</sup> Grad. Sch. of Sci. and Engineering, Iwate Univ..)
- I -20 Study of the mechanism for maintaining the undifferentiated state of avian primordial germ cells  
○Kennosuke Ichikawa<sup>1</sup>, Yuzuha Motoe<sup>2</sup>, Ryo Ezaki<sup>2</sup>, Mei Matsuzaki<sup>2</sup>, Hiroyuki Horiuchi<sup>2</sup>, and Mike J. McGrew<sup>1</sup> (<sup>1</sup>The Roslin Inst., Univ. of Edinburgh, UK, <sup>2</sup>Grad. Sch. of Integrated Sci. for Life, Hiroshima Univ., Japan)
- I -21 Usefulness of avian adeno-associated virus as vector for transduction of genome editing tool into avian cell  
○ Takumi Terada<sup>1</sup>, Sodai Fujii<sup>1</sup>, Tenkai Watanabe<sup>1</sup>, Ryo Ezaki<sup>1</sup>, Hiroyuki Horiuchi<sup>1</sup>, <sup>2</sup> and Mei Matsuzaki<sup>1</sup> (<sup>1</sup> Grad. Sch. Int. Sci. Life, Univ. Hiroshima., <sup>2</sup> Genome Edit. Innov. Ctr., Univ. Hiroshima.)
- I -22 Comparative biological studies on the growth and behavior of domesticated chickens and wild peafowls  
○Hiroshi Kagami<sup>1</sup>, Kie Murai<sup>1</sup>, Hinako Shindo<sup>1</sup>, Hanano Sai<sup>1</sup>, Ayuna Ohno<sup>1</sup>, Aoi Kuraishi<sup>1</sup>, Koki Mochizuki<sup>1</sup>, Tohoi Yamashita<sup>1</sup>, Kohzy Hiramatsu<sup>1</sup>, Ren Takeba<sup>2</sup>, Takehisa Asato<sup>2</sup>, Hiroki Nagai<sup>3</sup>, Qi-Long Ying<sup>4</sup>, Guojun Sheng<sup>3</sup> (<sup>1</sup>Fac. of Agri., Shinshu Univ, <sup>2</sup>Nansei Environmental Lab Co., Ltd., <sup>3</sup>IRCMS, Kumamoto Univ, <sup>4</sup> Keck Sch. of Medicine, USC, USA)
- I -23 Identification of novel QTLs associated with receiving feather pecking in chickens  
Hiromi Yuhashi<sup>1</sup>, Tomohiro Mizutani<sup>2</sup>, ○Akira Ishikawa<sup>2</sup> (<sup>1</sup>Poultry lab. Wakayama Pref., <sup>2</sup>Nagoya

Univ.)

- I -24 Selection for late-feathering gene and the effect on egg production traits in Rhode Island Red chickens  
○Shin-ichi Sato<sup>1</sup>, Satoshi Inou<sup>1,2</sup>, Masaki Yamanishi<sup>2</sup> and Takatoshi Kojima<sup>1</sup>  
(<sup>1</sup>NLBC., <sup>2</sup>NLBC Okazaki.)
- I -25 Genetic mapping of tame behavior in Japanese indigenous chickens.  
○Tatsuhiko Goto<sup>1</sup>, Prudence Nyirimana<sup>1</sup>, Riku Sasaki<sup>1</sup>, Dipson Gyawali<sup>1</sup>, Atsushi J. Nagano<sup>2</sup> and Akira Ishikawa<sup>3</sup> (<sup>1</sup>Obihiro Univ., <sup>2</sup>Ryukoku Univ., <sup>3</sup>Nagoya Univ.)

## Room2

### Morning Session (9:00~11:50)

#### ○II-1~○II-13 Best Presentation Award Candidate Oral Session (Nutrition and Feeds, Physiology)

#### II-14~II-15 General Presentation Oral Session (Nutrition and Feeds)

- II-1 Evaluation of vitamin B<sub>12</sub> nutrition based on plasma methylmalonic acid level in broiler chicks  
○Tomoharu Nozawa<sup>1</sup>, Jun-ichi Shiraishi<sup>2</sup>, Daichi Ijiri<sup>3</sup> and Shozo Tomonaga<sup>1</sup>  
(<sup>1</sup>Kyoto Univ., <sup>2</sup>Nippon Vet. Life Sci. Univ., <sup>3</sup>Kagoshima Univ.)
- II-2 Maternal effect of difference dietary protein levels on egg leptin level in Japanese quail.  
○Shiomi Sugimoto, Etsuko Hasegawa, Junichi Shiraishi and Yoshiyuki Ohta  
(Grad. Sch. Appl. Life Sci., Nippon Vet. Life Sci. Univ.)
- II-3 Comprehensive analysis of egg yolk components including amino acid-related substances in laying quail fed low-protein diets.  
○Ryousuke Taneto, Kyohei Furukawa and Atsushi Murai (Nagoya Univ.)
- II-4 The reduction of nitrogen excretion in broiler grower period by feeding of low-protein diet supplemented with synthetic amino acids.  
○Tomoka Ema, Fumika Nanto-Hara and Haruhiko Ohtsu (Inst. of Livestock and Grassland Sci., NARO)
- II-5 The effect of photoperiod and protein content in feed on the prevalence of keel bone fracture in layer hens  
○Mio Shibuya<sup>1</sup>, Jens Peter Christensen<sup>1</sup>, and Ida Thøfner<sup>1</sup> (<sup>1</sup>Poultry Diseases, VCM, IVH, UCPH)

9:50~10:00

Break (10min.)

- II -6 Effects of green LED light irradiation on allocation of intake feed energy in broiler chicks.  
○Takaki Utashiro, Etsuko Hasegawa, Jun-ichi Shiraishi and Yoshiyuki Ohta  
(Grad. Sch. Appl. Life Sci., Nippon Vet. Life Sci. Univ.)
- II -7 Role of leptin in establishing the feeding system in chickens.  
○Akari Yamanami<sup>1</sup>, Moe Ogiwara<sup>2</sup> and Takeshi Ohkubo<sup>1</sup> (<sup>1</sup>Grad. Sch. Agr., Ibaraki Univ., <sup>2</sup>Sch. Agr., Ibaraki Univ.)
- II -8 Cadaverine signaling as a metabolic signal of nutrients during late chick embryogenesis.  
○Manaka Akatsuka<sup>1</sup>, Miyu Nakano<sup>1</sup>, Tatsuhiko Goto<sup>2</sup>, Takahiro Kawase<sup>3</sup>, Shozo Tomonaga<sup>4</sup>, Yoshiyuki Ohta<sup>1</sup>, Jun-ichi Shiraishi<sup>1</sup> (<sup>1</sup>Nippon Vet. Life Sci., <sup>2</sup>Obihiro Univ. Agri.& Vet.Med., <sup>3</sup>Kyoto Inst. Nutri. & Pathol., Inc., <sup>4</sup>Kyoto Univ.)
- II -9 Crosstalk between central and peripheral AMPK signaling in avian brain chimeras during late embryogenesis  
○Miyu Nakano<sup>1</sup>, Eiki Osawa<sup>2</sup>, Yoshiyuki Ohta<sup>1,2</sup> and Jun-ichi shiraishi<sup>1,2</sup>  
(1Grad. Sch. Appl. Life Sci., Nippon Vet. Life Sci. Univ., 2Dept. Appl. Life Sci., Nippon Vet. Life Sci. Univ.)

10:40~10:50

Break (10min.)

- II -10 Effect of low phosphorus diet on egg production and metabolic characterization in hens during the early laying period  
○Natsuki Kawaguchi<sup>1</sup>, Haruhiko Ohtsu<sup>2</sup>, Fumika Hara<sup>2</sup> and Kan Sato<sup>1</sup> (<sup>1</sup>Tohoku Univ., <sup>2</sup>NARO.)
- II -11 The effect of waste perilla seeds additive feed on n-3 unsaturated fatty acid content in Guinea fowl egg yolk  
Gai Murata, Ryota Ohtsuki, Koutaro Hibino, Daiki Hayashi, ○Chihiro Murai, Masahito Hikichi, Ken Takahata, Fumio Eguchi, Koumei Shirasuna, Hisataka Iwata, Takehito Kuwayama (Tokyo Univ. of Agri)
- II -12 Effects of dietary supplementation of L-citrulline on central monoamine metabolism in broiler chicks  
○Maho Nakagiri<sup>1</sup>, Saki Kono<sup>1</sup>, Haruka Nishimura<sup>1</sup>, Mohamed Z. Elhussiny<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. Sci.)
- II -13 Untargeted metabolomic analysis of serum samples from chickens with heat stress-induced decrease in muscle imidazole dipeptide concentration  
○Ayumi Katafuchi<sup>1</sup> • Kanami Ishibashi<sup>2</sup> • Shozo Tomonaga<sup>3</sup> • Saki Shimamoto<sup>4</sup> • Shinya Ishihara<sup>5</sup> • Akira Ohtsuka<sup>1,2,4</sup> • Daichi Ijiri<sup>1,2,4</sup>  
(<sup>1</sup>Utd. Grad. Sch. Agr., Kagoshima Univ., <sup>2</sup>Fac. Agr., Kagoshima Univ., <sup>3</sup>Grad. Sch. Agr., Kyoto Univ., <sup>4</sup>Joint. Fac. Vet. Med., Kagoshima Univ. <sup>5</sup>Grad. Sch. Appl. Life Sci., Nippon Vet. Life Sci. Univ.)

II -14 Effects of *Bacillus hisashii* supplementation on broiler production  
○Motoi Kikusato<sup>1</sup>, Fu Namai<sup>1</sup>, Toru Okada<sup>2</sup> (<sup>1</sup>Tohoku Univ., <sup>2</sup>ASKA Animal Health CO., Ltd.)

II -15 Comprehensive analysis on lipid profile and vitamin E in the egg yolk of brown rice-fed quails  
○Kyohei Furukawa, Mizuki Yamamoto, Mitsuko Enomoto and Atsushi Murai (Nagoya Univ.)

11:50~12:15 **Break** ( 25min.)

12:15~13:15 **Luncheon Seminar** ( 60min.)

13:15~14:30 **Break** ( 15min.)

14:30~15:00 **General meeting • Award Ceremony** ( 90min.)

15:00~15:10 **Break** ( 10min.)

## Afternoon Session (15:10~17:00)

### II -16~ II -26 General Presentation Oral Session (Nutrition and Feeds, Physiology)

II -16 Effect of probiotics on blood serum parameters in broiler chickens  
○Mostafa W. Taha<sup>1</sup>, Abdul. S. Chaudhry<sup>1</sup>  
(<sup>1</sup>Sch. of Natural and Environmental Sci., Newcastle Univ., Newcastle upon Tyne, NE1 7RU, UK )

II -17 Effect of *Enterococcus faecium* BIO on the growth of *Enterococcus cecorum* from broilers  
○Keiko Kotsuna<sup>1</sup>, Yusuke Ogino<sup>1</sup>, Keiko Saito<sup>2</sup>, Kenji Nakao<sup>2</sup>, Keiichiro Imaizumi<sup>1</sup>, Takanori Miyoshi<sup>1</sup>  
(<sup>1</sup>Teijin Meguro Institute Co., Ltd., <sup>2</sup>Kohkin Chemical Co., Ltd.)

II -18 Metabolomic analysis of egg yolk and egg white of Tsushima Jidori crossbred chickens for eggs and hens.  
○Shogo Matsunaga<sup>1,2</sup>, Shozo Tomonaga<sup>3</sup>, Hanwool Do<sup>3</sup>, Saki Shimamoto<sup>4</sup>, Satoru Fukagawa<sup>1</sup>, Akira Ohtsuka<sup>2,4</sup>, Daichi Ijiri<sup>2,4</sup>  
(<sup>1</sup>Nagasaki Agri. For. Tech. Develop. Ctr., <sup>2</sup>Utd. Grad. Sch. Agr., Kagoshima Univ., <sup>3</sup>Kyoto Univ., <sup>4</sup>Kagoshima Univ.)

II -19 Effects of feeding food production by-products during summer hot weather on productivity and meat quality in meat-type Nagoya chickens  
○Keizou Kobayashi<sup>1</sup>, Akihiro Nakamura<sup>2</sup>, Hiromitsu Miyakawa<sup>1</sup> and Naokazu Minoguchi<sup>1</sup>  
(<sup>1</sup>Aichi Agric.Res.Ctr., <sup>2</sup>Aichi Pref. Chita Agriculture, Forestry, and Fisheries Office)

II -20 Effects of accumulated uremic toxin indoxyl sulfate on the kidneys of laying hens under chronic heat conditions.  
○Fumika Nanto-Hara, Haruhiko Ohtsu (Inst. of Livestock and Grassland Science, NARO)

II -21 A high dose of central neuropeptide Y induces hyperthermia under heat exhaustion in chicks  
○Vishwajit S. Chowdhury<sup>1</sup>, Haruka Nishimura<sup>1</sup>, Mohamed Z. Elhussiny<sup>1</sup>, Yoshimitsu Ouchi<sup>2</sup> and Takashi Bungo<sup>2</sup> (<sup>1</sup>Kyushu Univ., <sup>2</sup>Okayama Univ. Sci.)

- II -22 Effects of paprika extract and dried chili flakes as red pigment sources on egg quality and biochemical values in Silky fowl  
○Sadao Kojima (Tokyo Met. Agri. and Fores. Res. Cent.)
- II -23 Efforts towards establishing a new poultry farming system based on insect feed  
○Shun-ichi Tanaka<sup>1</sup>, Keisuke Nishida<sup>2</sup>, Naoki Nishida<sup>2</sup>, Teruki Okada<sup>3</sup>, Keita Tatsumi<sup>1</sup>, Miku Konishi<sup>1</sup>, Keisuke Okamoto<sup>1</sup>, Atsushi Nakao<sup>1</sup> (<sup>1</sup>Kyoto Pref. Univ., <sup>2</sup>Nishida Poultry Farm, <sup>3</sup>Okaebi Japan Inc.)
- II -24 Effects of laying age and early-stage feed on the incidence of wooden breast in broilers  
○Tomohito Iwasaki<sup>1</sup>, Yasuhiro Hasegawa<sup>1</sup>, Naoyuki Maeda<sup>1</sup>, Takafumi Watanabe<sup>2</sup>, Naoki Takahashi<sup>2</sup> and Takeshi Kawasaki<sup>3</sup> (<sup>1</sup>Rakuno Gakuen Univ., <sup>2</sup>Kawavet LLC.)
- II -25 Changes in blood organic acid concentrations during song learning in Zebra Finches (*Taeniopygia guttata*).  
○Jun-ichi Shiraishi<sup>1</sup>, Akari Kawata<sup>2</sup>, Miko Shibano<sup>1</sup>, Yutaro Yano<sup>2</sup>, Haruna Ishikawa<sup>1</sup>, Yoshiyuki Ohta<sup>1</sup> and Yasuko Tobar<sup>2</sup> (<sup>1</sup>Nippon Vet. Life Sci. Univ., <sup>2</sup>Azabu Univ.)
- II -26 Specificity of thiamine-degrading enzyme activity in excreta of chickens compared to piscivore birds  
○Yoshiyuki Ohta<sup>1</sup> • Mitsuki Konishi<sup>1</sup> • Etsuko Hasegawa<sup>1</sup> • Kentaro Kazama<sup>2</sup> • Jun-ichi Shiraishi<sup>1</sup> (<sup>1</sup>Nippon Vet. Life Sci. Univ. • <sup>2</sup>Waseda Univ.)