

# The 2019 Fall Annual Meeting of Japan Poultry Science Association

September 17, 2019 at Iwate University  
3-18-8 Ueda, Morioka, Iwate, 020-8550, JAPAN

## Room1

( Presentation 9min.  
Discussion 3min. )

### Morning Session

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

- I - 1 Blood profile of early chick embryos 9:00- 9:12  
○Minoru Takehara, Masaya Kishi, Atsushi Asano, Atsushi Tajima  
(Grad. School of Life and Environmental Sci., Univ. of Tsukuba)
- I - 2 Function of GLUT1 glucose transporter in chicken sperm: relationship between ATP 9:12- 9:24  
production pathways and motility  
○Rangga Setiawan<sup>1</sup>, Chathura Priyadarshana<sup>1</sup>, Atsushi Tajima<sup>2</sup>, Alexander J. Travis<sup>3</sup>,  
Atsushi Asano<sup>2</sup>  
(<sup>1</sup> Grad. Sch., Univ. Tsukuba • <sup>2</sup> Fac. of Life and Env. Sci., Univ. Tsukuba • <sup>3</sup> Cornell Univ)
- I - 3 Expression of SSEA-1 in chicken testis 9:24- 9:36  
○Fuko Nakano<sup>1</sup>, Hiroya Nakamura<sup>2</sup>, Ken Ito<sup>3</sup>, Kazuhiro Rikimaru<sup>4</sup>, Hiroshi Tanifuji<sup>5</sup> and  
Kazuei Matsubara<sup>1,2</sup>  
(<sup>1</sup>GS of Arts and Sci., Iwate Univ., <sup>2</sup>UGS of Agri. Sci., Iwate Univ., <sup>3</sup>Akita pref.  
Univ., <sup>4</sup>Akita Pref. Livestock Exp., <sup>5</sup>Koiwai Farm)
- I - 4 Effects of testicular and non-testicular testosterone on territorial and isolation-induced 9:36- 9:48  
aggressive behavior of male layer chicks  
○Yan Zhiqun<sup>1</sup>, Naoki Isobe<sup>1,3</sup> and Shin-Ichi Kawakami<sup>1,2,3</sup>  
(<sup>1</sup>Hiroshima Univ., <sup>2</sup>JAB, <sup>3</sup>RCAS)
- I - 5 Association between *Myostatin* gene polymorphism and behavioral traits in Tosa-Kukin 9:48- 10:00  
○Yoshimitsu Ouchi, Takashi Hirota and Takashi Bungo (Hiroshima Univ)
- I - 6 Role of triiodothyronine in broody hens. 10:00-10:12  
○Ayano Wada, Shunya Satoh, Masataka Minamimura, Koumei Shirasuna,  
Hisataka Iwata, Takehito Kuwayama (Tokyo Univ. of Agri.)
- I - 7 Development of Anti-Rabies Virus Nucleocapsid Protein IgY by Plasmid Immunization 10:12-10:24  
○Nanase Kubo<sup>1</sup>, Satoshi Inoue<sup>2</sup>, Akira Noguchi<sup>2</sup> and Hajime Hatta<sup>1</sup>  
(<sup>1</sup>Kyoto Women's Univ., <sup>2</sup>National Inst. of Infectious Diseases)

○ I - 8 Phenotypic analysis of tail feather traits in Chabo chickens 10:24-10:36  
○ Ryoko Ono and Tatsuhiko Goto (Obihiro Univ. of Agri. and Vet. Med.)

Break (12 min.) 10:36-10:48

I - 9 Optimization of cell culture condition for chick derived fibroblast 10:48-11:00  
○ Masafumi Katayama<sup>1</sup>, Manabu Onuma<sup>1</sup> and Tomokazu Fukuda<sup>2</sup>  
(<sup>1</sup> National Inst. for Environmental Studies, Japan, Center for Environmental Biology and Ecosystem Studies. <sup>2</sup> Iwate Univ., Graduate School of Sci. and Engineering)

I -10 Sustaining differentiated state of smooth muscle cells derived from E15 Chicken gizzards 11:00-11:12  
○ Kosuke Tokunaga<sup>1</sup>, Wataru Mizunoya<sup>2</sup> Ryuichi Tatsumi<sup>1</sup> and Mako Nakamura<sup>1</sup>  
(<sup>1</sup>Kyushu Univ., <sup>2</sup>Azabu Univ.)

I -11 Growth performance by a phase lighting on monochromatic light-emitting diode in broiler chicken 11:12-11:24  
○ Yoko Fujimura<sup>1</sup>, Namika Kobayashi<sup>2</sup>, Koichi Matsushita<sup>1</sup>, Jun-ichi Shiraishi<sup>3</sup>,  
Nobuhiro Nakao<sup>3</sup> and Yoshiyuki Ohta<sup>3</sup>  
(<sup>1</sup>Yamanashi Pref. Livestock Dairy Tech. Ctr., <sup>2</sup>Yamanashi Pref. East Livestock Health Ctr. <sup>3</sup>Dept.of Anim. Sci., Nippon Veterinary and Life Sci. Univ.)

I -12 Effects of day length on skeletal muscle weight and the imidazole dipeptides contents in Japanese quail 11:24-11:36  
○ Ai Egusa<sup>1</sup>, Noeru Takase<sup>1</sup>, Kanako Mayumi<sup>1</sup>, Jun-ichi Shiraishi<sup>1</sup>, Nobuhiro Nakao<sup>1</sup>,  
Toshihide Nishimura<sup>2</sup> and Mamoru Totsuka<sup>1</sup>  
(<sup>1</sup>Nippon Vet. and Life Sci. Univ. and <sup>2</sup>Kagawa Nutri. Univ.)

Lunch Break (84min.) 11:36-13:00

General Meeting • Award Ceremony (90min.) 13:00-14:30

Break (10 min.) 14:30-14:40

## Afternoon Session

### (Genetics, Breeding, Processing and Products)

I -13 Properties of dynein ATPase in quail spermatozoa 14:40-14:52  
○ Tomohiro Sasanami<sup>1</sup>, Mei Matsuzaki<sup>2</sup> and Shusei Mizushima<sup>3</sup>  
(<sup>1</sup>Shizuoka Univ., <sup>2</sup>Hiroshima Univ., <sup>3</sup>Hokkaido Univ.)

I -14 Performance comparison of mating species using new strain Yamanashi shamo. 14:52-15:04  
○ Koichi Matsushita<sup>1</sup>, Namika Kobayashi<sup>1</sup>, Kazuhiko Ito<sup>2</sup>, and Fumihiko Komai<sup>3</sup>  
(<sup>1</sup>Yamanashi Pref. Livestock Dairy Tec. Ctr. <sup>2</sup>Yamanashi Pref. East Livestock Health Ctr., <sup>3</sup>Yamanashi Meat Logistics Ctr. Co. Ltd.)

- I -15      Effect of short period of incubation during egg storage on hatchability and chick quality in stored Nagoya fertile eggs      15:04-15:16  
 ○Hiromitsu Miyakawa, Mika Akao, Saori Tamada and Masami Sato  
 (Aichi Agricultural Research Center)
- I -16      Metabolic properties of neonatal hexokinase activities in Japanese native chicken (YAKIDO).      15:16-15:28  
 ○Jun-ichi Shiraishi<sup>1</sup>, Kohtaro Ohgaki<sup>1</sup>, Haruki Watanabe<sup>2</sup>, Takahisa Ichikawa<sup>2</sup>,  
 Toshiyuki Sugino<sup>3</sup>, Yoshiyuki Ohta<sup>1</sup>, Takashi Bungo<sup>3</sup>  
 (<sup>1</sup>Department of animal Sci., Nippon Veterinary and Life Sci. Univ., <sup>2</sup> Department of Agri., Mie Prefectural Government, <sup>3</sup> Graduate School of Integrated Sci. for Life, Hiroshima Univ. )
- I -17      Effects of long-term administration of low-concentration dextran sodium sulfate on egg production in hens.      15:28-15:40  
 ○Takahiro Nii, Naoki Isobe, Yukinori Yoshimura  
 (Grad. School of Integrated Sci. for Life, Hiroshima Univ.)
- I -18      The effect of antibiotics administration on the expression levels of toll-like receptors in the chick cecum and cecum-tonsil.      15:40-15:52  
 ○Takumi Terada<sup>1</sup>, Takahiro Nii<sup>2,3</sup>, Naoki Isobe<sup>2,3</sup>, and Yukinori Yoshimura<sup>2,3</sup>  
 (<sup>1</sup>Grad. Schl. Biosphere Sci., Hiroshima Univ., <sup>2</sup>Grad. Schl. Integ. Sic. life., Hiroshima Univ., <sup>3</sup>RCAS, Hiroshima Univ.)

The candidates for the Presentation Award of young scientists are the following numbers.

I - 1, 2, 3, 4, 5, 6, 7, 8

# The 2019 Fall Annual Meeting of Japan Poultry Science Association

September 17, 2019 at Iwate University  
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## Room2

( Presentation 9min.  
Discussion 3min. )

### Morning Session

#### (Nutrition, Feeds, Physiology, Anatomy and Histology)

- II - 1 Effects of dietary shrimp meal and persimmon peel on nutrient digestibility and intestinal microflora in laying hens 9:00- 9:12  
○Manisa Sangkaew and Katsuki Koh (Shinshu Univ.)
- II - 2 Effect of Prebiotics on DSS-induced inflammatory bowel disease in broiler chicks 9:12- 9:24  
○Takashi Hirota<sup>1</sup>, Yoshimistu Ouchi<sup>1</sup>, Takahiro Nii<sup>1</sup>, Lautine Faivre<sup>2</sup>, Berger Clara<sup>2</sup>, Takahiro Ide<sup>3</sup> and Takashi Bungo<sup>1</sup>  
(<sup>1</sup>Hiroshima Univ., <sup>2</sup>Phileo Lesaffre Animal Care, <sup>3</sup>YPTECH Co., Ltd. )
- II - 3 Influence of dietary carbohydrate level on histological changes of chicken distal ileum 9:24- 9:36  
○Md Salahuddin<sup>1</sup>, Kazumi Kita<sup>2</sup> and Kohzy Hiramatsu<sup>3</sup>  
(<sup>1</sup>Shinshu Univ., <sup>2</sup>Iwate Univ., <sup>3</sup>Shinshu Univ.)
- II - 4 Immunohistochemical study on the innervation of ileum in Bobwhite quails. 9:36- 9:48  
○Kento Tamura<sup>1</sup>, Kohzy Hiramatsu<sup>2</sup> and Tamao Ono<sup>2</sup>  
(<sup>1</sup>Shinshu Univ., <sup>2</sup>Shinshu Univ.)
- II - 5 Effects of *in ovo* leucine and glucose administration on plasma steroid hormone concentrations of newly hatched chicks 9:48- 10:00  
○Yuriko Yamakawa, Sakie Nakajima, Jun-ichi Shiraishi and Yoshiyuki Ohta  
(Nippon Vet. Life Sci. Univ.)
- II - 6 Influence of amino acid-Amadori products on amino acid uptake and protein synthesis of chicken embryonic myotubes. 10:00-10:12  
○Natsuki Kawashima<sup>1</sup>, Chie Takita<sup>1</sup> and Kazumi Kita<sup>2</sup>  
(<sup>1</sup>Grad. Sch. Arts Sci., Iwate Univ., <sup>2</sup>Fac. Agr., Iwate Univ.)
- II - 7 Changes in glucose metabolism function of yolk sac membrane during development of chick embryo 10:12-10:24  
○Mitsuhiro Shibata<sup>1</sup> and Atsushi Iwasawa<sup>1,2</sup>  
(<sup>1</sup>UGSAS, Gifu Univ., <sup>2</sup>Fac. Applied Biol. Sci., Gifu Univ.)

○ II - 8	Changes in amino acid concentrations in broiler chickens under chronic heat-stressed condition ○Daiki Igarashi, Masaaki Toyomizu, Motoi Kikusato (Graduate School of Agricultural Sci., Tohoku Univ.)	10:24-10:36
○ II - 9	A search for causes of decline in egg production rate due to aging: Comparison of lipid metabolism in hens at peak-laying stage and retirement stage ○Hayato Watanabe, Daiki Mori, Misato Kobayashi, Fumihiko Horio, Atsushi Murai (Nagoya Univ., Graduate School Bioagr. Sci.)	10:36-10:48
	Break (12 min.)	10:48-11:00
II -10	Effects of stepwise replacements of corn with brown rice in diets on egg production and egg quality of laying hens ○Hitoshi Murakami <sup>1</sup> , Makoto Yamazaki <sup>1</sup> , Fumika Hara <sup>1</sup> and Haruhiko Ohtsu <sup>2</sup> ( <sup>1</sup> Inst. of Livestock and Grassland Sci., NARO, <sup>2</sup> Headquarters, NARO)	11:00-11:12
II -11	Nutritional evaluation of non-colored or colored rice in chicken ○Makoto Yamazaki <sup>1</sup> , Hitoshi Murakami <sup>1</sup> , Haruhiko Ohtsu <sup>2</sup> and Fumika Hara <sup>1</sup> ( <sup>1</sup> Inst. of Livestock and Grassland Sci., NARO , <sup>2</sup> NARO headquarters)	11:12-11:24
II -12	Effect of feeding periods and feeding amount of Sake cake on growth performance and meat quality ○Hideshi Ohguchi <sup>1</sup> , Hiromitsu Miyakawa <sup>1</sup> and Kazuhisa Nakamura <sup>2</sup> ( <sup>1</sup> Aichi Agricultural Research Center, <sup>2</sup> Aichi Livestock and Poultry Breeding Center )	11:24-11:36
II -13	Effect of Sesame meal on Productive Growth Performance and Meat Quality in the kanagawadori ○Kumiko Hirai <sup>1</sup> , Koji Hikichi <sup>1</sup> and Setoyama Ou <sup>2</sup> ( <sup>1</sup> Kanagawa Pref. Livestock Tech. Ctr., <sup>2</sup> Kanagawa pref. Inst.of Industrial Sci. and Tech.)	11:36-11:48
	Lunch Break (72min.)	11:48-13:00
	General Meeting • Award Ceremony (90min.)	13:00-14:30
	Break (10 min.)	14:30-14:40

**Afternoon Session**  
(Nutrition, Feeds)

II -14	Effects of GT-S solution on production performance and fecal odor of broiler chickens ○Ken Tatsuda <sup>1</sup> , Masanao Toyama <sup>2</sup> , Eiichi Kato <sup>3</sup> ( <sup>1</sup> Hyogo Pref. Agri. Inst., <sup>2</sup> Canasia Japan Ltd., <sup>3</sup> Environmental Sci. Research Center)	14:40-14:52
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| II -15 | Effect of the feeding of <i>Euglena</i> replaced with dietary soybean on the growth and intestinal mucus of chickens.<br>○Ken Ito <sup>1</sup> , Kakeru Sasawatari <sup>2</sup> , Rurika Abe <sup>2</sup> , Wako Fujimori <sup>2</sup> , Shota Watanabe <sup>2</sup> , Kengo Suzuki <sup>3</sup> , Yuta Asayama <sup>3</sup> , Ichiro Minami <sup>4</sup> , Megumi Nishimukai <sup>2</sup> and Kazumi Kita <sup>2</sup> .<br>( <sup>1</sup> Akita Pref. Univ., <sup>2</sup> Iwate Univ., <sup>3</sup> euglena co., Ltd. <sup>4</sup> Minami Food's Inc.) | 14:52-15:04 |
| II -16 | Metabolome profiles of L-citrulline treated broiler liver<br>○Vishwajit S. Chowdhury <sup>1</sup> , Kosuke Tashiro <sup>1</sup> , Mitsuhiro Furuse <sup>1</sup> and Takashi Bungo <sup>2</sup><br>( <sup>1</sup> Kyushu Univ., <sup>2</sup> Hiroshima Univ.)   | 15:04-15:16 |
| II -17 | Effects of lycopene feeding on lycopene content in egg yolk and egg quality of laying hens<br>○Yoshiaki Hayashi <sup>1</sup> , Hiroto Ishikawa <sup>1</sup> and Masaki Honda <sup>2</sup><br>( <sup>1</sup> Fac. Agric. Meijo Univ., <sup>2</sup> Fac. Sci. Tech. Meijo Univ.)   | 15:16-15:28 |
| II -18 | Influence of metformin on growth performance and free amino acids in chickens<br>○Ryosuke Makino, Maaya Uda and Tetsuya Tachibana (Ehime Univ.)  | 15:28-15:40 |
| II -19 | Comparison in plasma testosterone concentration between broilers and Japanese native chicken, Mie, on Days 0 and 3 post-hatch<br>○Yoshiyuki Ohta <sup>1</sup> , Yuriko Yamakawa <sup>1</sup> , Takahisa Ichikawa <sup>2</sup> , Nakajima, and Jun-ichi Shiraishi <sup>1</sup><br>( <sup>1</sup> Nippon Vet. Life Sci. Univ. <sup>2</sup> Mie Pref. Livestock Exp. Stn.)  | 15:40-15:52 |

The candidates for the Presentation Award of young scientists are the following numbers.

II - 1, 2, 3, 4, 5, 6, 7, 8, 9

