

# The 2019 Spring Annual Meeting of Japan Poultry Science Association

March 30, 2019 at Azabu University

1-17-71 Fuchinobe, Chuo-ku, Sagami-hara-shi, Kanagawa, 252-5201, JAPAN

## Room1

( Presentation 7min.  
Discussion 3min. )

### Morning Session

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

- I - 1 Exploration of genes for egg production in Nagoya breed using whole genome sequence 9:00-9:10  
○Kenji Nishimura<sup>1</sup>, Kyoko Kunishige<sup>2</sup>, Shun Sato<sup>2</sup> and Tatsuhiko Goto<sup>1</sup>  
(<sup>1</sup>Obihiro Univ., <sup>2</sup>Hokkaido Res. Org. Anim. Res. Ctr.)
- I - 2 Improvement in the growth performance of Amakusa Daioh cross chickens using an SNP marker information in the cholecystokinin A receptor gene. 9:10-9:20  
○Yui Momoi<sup>1</sup>, Tomohiro Tsusaki<sup>1</sup>, Hiroaki Yamashita<sup>1</sup>, Hideaki Takahashi<sup>2</sup>  
(<sup>1</sup>Anim. Husb. Res. Inst., Kumamoto Pref. Agri.Res.Ctr., <sup>2</sup>NARO Inst. Livestock Grassland Sci.)
- I - 3 Sex-specific Monitoring of Early Embryonic Development in Broiler Eggs Using Visible Transmission Spectroscopy 9:20-9:30  
○Rahman Afzal<sup>1</sup>, Syduzzaman Md<sup>1</sup>, Khaliduzzaman<sup>1</sup>, Shinichi Fujitani<sup>2</sup>, Ayuko Kashimori<sup>2</sup>, Tetsuhito Suzuki<sup>1</sup>, Yuichi Ogawa<sup>1</sup>, and Naoshi Kondo<sup>1</sup>  
(<sup>1</sup>Grad. Sch. of Agri., Kyoto Univ., Japan, <sup>2</sup>NABEL Co. Ltd., Japan)
- I - 4 Noninvasive Quantification of Yolk Content Using Vis-NIR Spectroscopy and its Effect on Hatching Time of Broiler Chicken 9:30-9:40  
○Syduzzaman Md<sup>1</sup>, Rahman Afzal<sup>1</sup>, Khaliduzzaman<sup>1</sup>, Shinichi Fujitani<sup>2</sup>, Ayuko Kashimori<sup>2</sup>, Tetsuhito Suzuki<sup>1</sup>, Yuichi Ogawa<sup>1</sup>, and Naoshi Kondo<sup>1</sup>  
(<sup>1</sup>Grad. Sch. of Agri., Kyoto Univ., Japan, <sup>2</sup>NABEL Co., Ltd., Japan)
- I - 5 A Non-invasive Measurement of Eggshell Thickness Using Terahertz Time-domain Spectroscopy 9:40-9:50  
○Khaliduzzaman Alin<sup>1,3</sup>, Tetsuhito Suzuki<sup>1</sup>, Ayuko Kashimori<sup>2</sup>, Shinichi Fujitani<sup>2</sup>, Naoshi Kondo<sup>1</sup>, Yuichi Ogawa<sup>1</sup>  
(<sup>1</sup>Kyoto Univ., <sup>2</sup>NABEL Co., Ltd., JAPAN, <sup>3</sup>Sylhet Agricultural Univ., BANGLADESH)

○ I - 6	The effect of Three Types of mixed Anesthetic Agents and atipamezole in chickens. ○Ryusuke Namiki, Keitaro Yagi , Tatsuyuki Yoshida and Hiroki Furuta (Nippon Veterinary and Life Sci. Univ.)	9:50-10:00
○ I - 7	Effect of Thermal Conditioning on BDNF methylation Related Thermoregulation in Chicks. ○Yoshimitsu Ouchi, Kouichi Yoshidome, Takashi Hirota, Naoki Uchikawa, Miko Yamato and Takashi Bungo (Hiroshima Univ.)	10:00-10:10
○ I - 8	Functional involvement of src family tyrosine kinases in regulation of acrosome reaction in chicken sperm ○Chathura Priyadarshana <sup>1</sup> , Rangga Setiawan <sup>1</sup> , Naoto Ishikawa <sup>2</sup> , Atsushi Tajima <sup>2</sup> , Alexander Travis <sup>3</sup> , Atsushi Asano <sup>2</sup> ( <sup>1</sup> Univ. Tsukuba Grad. Sch. • <sup>2</sup> Univ. Tsukuba • <sup>3</sup> Cornell Univ.)	10:10-10:20
	Break (10 min.)	10:20-10:30
I - 9	Relationship between migration into sperm-storage tubules and sperm competition in Japanese quail ○Mei Matsuzaki, Noritaka Hirohashi, Masaoki Tsudzuki, Teruo Maeda, Shusei Mizushima, Tomohiro Sasanami ( <sup>1</sup> Shizuoka Univ., <sup>2</sup> Shimane Univ., <sup>3</sup> Hiroshima Univ., <sup>4</sup> JAB Project Res. Ctr., <sup>5</sup> Setouchi Field Sci. Ctr., <sup>6</sup> Hokkaido Univ.)	10:30-10:40
I -10	Study on the role of DNase I during fertilization in Japanese quail ○Shusei Mizushima <sup>1</sup> , Tomohiro Sasanami <sup>2</sup> , Tamao Ono <sup>3</sup> , and Asato Kuroiwa <sup>1</sup> ( <sup>1</sup> Sci. Hokkaido Univ., <sup>2</sup> Agr. Shizuoka Univ., <sup>3</sup> Agr. Shinshu Univ., <sup>4</sup> IBS. Shinshu Univ.)	10:40-10:50
I -11	Gametogenesis of Chicken Primordial Germ Cells in Opposite-Sex Gonad ○Takahiro Tagami <sup>1</sup> , Daichi Miyahara <sup>2</sup> , Isao Oishi <sup>3</sup> and Yuko Matsubara <sup>1</sup> ( <sup>1</sup> NILGS, <sup>2</sup> Shinshu Univ., <sup>3</sup> AIST)	10:50-11:00
I -12	Effects of Calcium Lactate on the Viability and Blood Biochemistry Profiles in the Chick Embryo under Shell-less Culture System ○Katsuya Obara <sup>1,3</sup> , Mitsuru Naito <sup>2</sup> and Atsushi Tajima <sup>3</sup> ( <sup>1</sup> Takanedai Animal Clinic, <sup>2</sup> NARO, <sup>3</sup> Tsukuba Univ.)	11:00-11:10
	Lunch Break (140min.)	11:10-13:30
	General Meeting • Award Ceremony (80min.)	13:30-14:50
	Break (10 min.)	14:50-15:00

## Afternoon Session

### (Genetics, Breeding, Reproduction, Physiology, Nutrition)

- I-13 Improvement of Slaughter Weight in the Miyazaki-Jitokko Chickens Raised in General Farmers by Marker-Assisted Selection of a Single Nucleotide Polymorphism Site in the Cholecystokinin Type A Receptor Gene. 15:00-15:10  
○Shojiro Horinouchi<sup>1</sup>, Hiromi Nakayama<sup>1</sup>, Tadahiro Ando<sup>2</sup>, Hideaki Takahashi<sup>3</sup>  
(<sup>1</sup>Miyazaki Pref. Livestock Res. Kawaminami, <sup>2</sup>Miyazaki-Jitokko Cooperative Association, <sup>3</sup>NARO ILGS)
- I-14 Verification of improvement of growth in the Hinai-jidori chickens by selection using *Cholecystokinin Type A Receptor* g.420 C > A polymorphism 15:10-15:20  
○Kazuhiro Rikimaru<sup>1</sup>, Yuki Sato<sup>1</sup>, Yukari Ito<sup>1</sup>, Daiki Aoya<sup>1</sup>, Shiori Fukuda<sup>1</sup>, Senetsu Sasaki<sup>1</sup> and Hideaki Takahashi  
(<sup>1</sup>Akita Prefectural Livestock Experiment Station, <sup>2</sup> NARO ILGS)
- I -15 Confirmation of association between plumage colors and plumage-color related mutant genes in native Japanese chicken breeds. 15:20-15:30  
○Atsushi Takenouchi<sup>1,3</sup>, Naoya Ito<sup>1,2</sup>, Md Humayun Kabir<sup>1</sup>, Yoshiaki Nakamura<sup>1,3</sup>, Masaoki Tsudzuki<sup>1,3</sup>  
(<sup>1</sup>GSBS, Hiroshima Univ., <sup>2</sup>Yamaguchi Pref. Livestock Exp. Stn., <sup>3</sup>JAB, Hiroshima Univ.)
- I -16 Transcriptions and Neighboring Genes of ERVKs in Chick Skeletal Muscle Myoblasts 15:30-15:40  
○Tomohide Takaya<sup>1,2</sup>, Yuma Nihashi<sup>2</sup>, Tamao Ono<sup>1,2</sup> and Hiroshi Kagami<sup>1,2</sup>  
(<sup>1</sup>Fac. Agri., Shinshu Univ., <sup>2</sup>Grad. Sch. Sci. Tech., Shinshu Univ.)
- I -17 Effects of vaccination on the expression of innate immune molecules and induction of histone modification in ovarian cells of chicks 15:40-15:50  
Ye Kang<sup>1</sup>, Takahiro Nii<sup>1,2</sup>, Naoki Isobe<sup>1,2</sup>, and ○Yukinori Yoshimura<sup>1,2</sup>,  
(<sup>1</sup>Grad. Sch. Biosphere Sci, Hiroshima Univ., <sup>2</sup>RCAS, Hiroshima Univ.)
- I -18 Effect of induced-ovulation and delayed-oviposition on gene expression of PG synthase in follicular theca membranes 15:50-16:00  
Yasuhiro Yamada and ○Noboru Saito  
(Lab. Animal Physiology, Okayama Univ.)
- I -19 Effect of peripheral injection of resiquimod on feeding behavior and physiological condition in chicks 16:00-16:10  
○Tetsuya Tachibana<sup>1</sup>, Kasumi Takeda<sup>1</sup>, Ryosuke Makino<sup>1</sup>, Mohammad Sakirul Islam Khan<sup>2</sup> (<sup>1</sup>Fac. of Agri., Ehime Univ., <sup>2</sup>Sch. of Med., Ehime Univ.)

- I -20      Effects of *Lactobacillus reuteri* on the intestinal immune response against Salmonella antigen in broiler chicks.      16:10-16:20  
Haruna Kakuya, Naoki Isobe, Yukinori Yoshimura, Takahiro Nii (Grad. Sch. of Biosphere Sci., Hiroshima Univ.)
- I -21      Insulin and Glucose Tolerance Test in Dwarf Chicken      16:20-16:30  
○Akira Tsukada<sup>1</sup>, Naohisa Katori<sup>2</sup>, Takaharu Kozakai<sup>2</sup>  
(<sup>1</sup>Nagoya Univ., <sup>2</sup>Yamagata Univ.)

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

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

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## Room2

( Presentation 7min.  
Discussion 3min. )

### Morning Session

#### (Nutrition, Feeds, Physiology)

- II- 1 Acaricidal effect of a phenylpyrazole-class compound, fipronil on the red mite 9:00-9:10  
*Dermanyssus gallinae*  
○Kazuma Ishida<sup>1</sup>, Kyoichi Sakamoto<sup>1</sup>, Yukari Nakamura<sup>2</sup> and Tohru Fukase<sup>3</sup>  
(<sup>1</sup>Ehime Res. Inst. Poultry, <sup>2</sup>Katsuragi Inst. Life Sci., <sup>3</sup>Fac. Vet. Med., Okayama Univ. Sci.)
  
- II- 2 The effect of 5-ALA added diet on the economic-trait values of 500-day old hens 9:10-9:20  
○ Shigeru Nomura<sup>1</sup>, Takenouchi<sup>1</sup>, Shin Taniguchi<sup>1,2</sup>, Atsushi Takenouchi<sup>1,4</sup>,  
Mohammad Ibrahim Haqani<sup>1</sup>, Md Humayun Kabir<sup>1</sup>, Yoshitaka Nagamine<sup>3</sup>, Yoshiaki  
Nakamura<sup>1,4</sup>, Masaoki Tsudzuki<sup>1,4</sup>  
(<sup>1</sup>GSBS, Hiroshima Univ., <sup>2</sup>Neopharma Japan Co., <sup>3</sup>DASA, Nihon Univ., <sup>4</sup>JAB,  
Hiroshima Univ.)
  
- II- 3 Effect of Probiotics Supplementation on Intestinal Environment in Heat Stressed 9:20-9:30  
Chicks  
○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- 4 The effect of various dietary carbohydrate sources on the gene expression of 9:30-9:40  
fructosamine-3-kinase in various tissues of chickens.  
○Chie Takita, and Kazumi Kita (Fac. Agr., Iwate Univ.)
  
- II- 5 Changes on Urate Concentrations and SLC2A9(GLUT9) Expressions During Rapid 9:40-9:50  
Growth Stage of Chicken Ovarian Follicle  
○Akihiro Kurosawa, Yua Shoji and Kan Sato (Tokyo Univ. of Agri. and Tech.)
  
- II- 6 AMPK activation by Leu and Ile induces the proliferation status in chicken skeletal 9:50-10:00  
muscle cells  
○Taeko Ohki, Tatsuya Koyama, Yu Kato, Kan Sato (Tokyo Agri. and Tech. Univ.)

○ II- 7	The comparison of intestinal amino acid absorption between 1- and 5-week-broiler chickens. ○Mikako Shibata <sup>1</sup> · Tatsuyuki Takahashi <sup>1</sup> · Takaharu Kozakai <sup>2</sup> · Yoshiyuki Azuma <sup>1</sup> · Yohei Kurose <sup>1</sup> ( <sup>1</sup> Kitasato Univ., <sup>2</sup> Yamagata Univ.)	10:00-10:10
	Break (10 min.)	10:10-10:20
II- 8	Influence of multiple oral administration of dextran sodium sulfate on gut barrier function in chicks. ○Atsushi Murai <sup>1</sup> , Daiki Mori <sup>1</sup> , Hayato Watanabe <sup>1</sup> , Takahiro Nii <sup>2</sup> , Misato Kobayashi <sup>1</sup> , Fumihiko Horio <sup>1</sup> ( <sup>1</sup> Nagoya Univ., Grad. Sch. Bioagr. Sci., <sup>2</sup> Hiroshima Univ., Grad. Sch. of Biosphere Sci.)	10:20-10:30
II- 9	Relationships between changes in bacterial flora and barrier system in terminal ileum of young chickens by aging and phytic acid feeding . ○Kazuaki Takahashi (Yonezawa Univ. of Nutrition Sci.)	10:30-10:40
II-10	Reduction of <i>Campylobacter jejuni</i> in the crop of broiler chicks with whole grain paddy rice feeding ○Mari Nishii, Masaharu Yasutomi (Kyoto Pref. Livestock Exp. Stn.)	10:40-10:50
II-11	Effects of feeding the diet containing 16% whole rice on egg production and quality of laying hens in a commercial farm ○Hitoshi Murakami <sup>1</sup> , Makoto Yamazaki <sup>1</sup> , Fumika Hara <sup>1</sup> , Haruhiko Ohtsu <sup>2</sup> , Namika Kobayashi <sup>3</sup> and Koichi Matsushita <sup>3</sup> ( <sup>1</sup> Inst. of Livestock and Grassland Sci., NARO, <sup>2</sup> Headquarters, NARO, <sup>3</sup> Yamanashi Pref. Livestock Dairy Tech. Ctr.)	10:50-11:00
II-12	Effects of differences in dietary paddy rice varieties on laying performance and egg quality in layers ○Miho Asano, Sumiyo Ishikawa, Kiyoshi Sakai and Saburo Kondo (Gifu Pref. Livestock Res. Inst.)	11:00-11:10
	Lunch Break (140min.)	11:10-13:30
	General Meeting · Award Ceremony (80min.)	13:30-14:50
	Break (10 min.)	14:50-15:00

## Afternoon Session

### (Nutrition, Feeds, Processing and Products)

- II-13 Effect of feeding dehulled rice on performance, antioxidant ability and expression of immune related genes of Hakata Ichiban-dori in hot summer season 15:00-15:10  
○Makoto Yamazaki<sup>1</sup>, Tatsuya Hirakawa<sup>2</sup>, Fumika Hara<sup>1</sup>, Haruhiko Ohtsu<sup>3</sup>, Norihiko Koga<sup>4</sup> and Hitoshi Murakami<sup>1</sup>  
(<sup>1</sup>Inst. of Livestock and Grassland Sci., NARO, <sup>2</sup>Fukuoka Agr. Forest. Res. Ctr., <sup>3</sup>NARO headquarters, <sup>4</sup>Kurume Hatchery Co. Ltd.)
- II-14 Effect of Storage Period of Feed Rice on Growth Performance and Meat Quality in the Meat-type Nagoya Breed 15:10-15:20  
○Hiromitsu Miyakawa, Tomoko Kojima, Hideshi Ohguchi and Kazuhisa Nakamura (Aichi Agricultural Res. Ctr.)
- II-15 Effects of a brown rice-based diet on meat quality and yield in broiler and jidori chickens 15:20-15:30  
Kazuhsia Honda, Motoi Miyashita, Mayuko Tanaka, Takaoki Saneyasu and Hiroshi Kamisoyama (Grad. Sch. of Agricultural Sci., Kobe Univ.)
- II-16 Screening of sensory words for cooked eggs laid from hens fed rice grain 15:30-15:40  
○Keisuke Sasaki<sup>1</sup>, Genya Watanabe<sup>1</sup>, Takumi Narita<sup>1</sup>, Koichi Matsushita<sup>2</sup>, Fuyuko Honda<sup>3</sup>, Michiyo Motoyama<sup>1</sup> and Ikuyo Nakajima<sup>1</sup>  
(<sup>1</sup>Inst. of Livestock and Grassland Sci., NARO, <sup>2</sup>Yamanashi Pref. Livestock Dairy Tech. Ctr., <sup>3</sup>Chiba Pref. Livestock Res. Ctr.)
- II-17 Influence of repeated intraperitoneal injection of methylglyoxal on glucose and lipid metabolism in broilers 15:40-15:50  
○Ryosuke Makino and Tetsuya Tachibana (Fac. of Agric., Ehime Univ.)
- II-18 Comparison of Feeding Behavior and Feed Digestibility between Fast- and Slow-growing Chicks during the Neonatal Period. 15:50-16:00  
○Saki Shimamoto<sup>1</sup>, Daigo Ikeda<sup>1</sup>, Kazuki Nakashima<sup>2</sup>, Akira Ohtsuka<sup>1</sup>, Daichi Ijiri<sup>1</sup>  
(<sup>1</sup>Kagoshima Univ., <sup>2</sup>NILGS)
- II-19 Evaluation of extraction residue from pork bone as feedingstuff for Japanese quail 16:00-16:10  
Misaki Tsuchiya, Naoya Tsuduike, ○Akira Kurosawa (Tokyo Univ. of Agri.)
- II-20 Effects of Enkephalins on Growth and Differentiation of Chick Skeletal Muscle Myoblasts 16:10-16:20  
○Yuma Nihashi<sup>1</sup>, Koji Umezawa<sup>2,3</sup>, Tamao Ono<sup>1,2</sup>, Hiroshi Kagami<sup>2</sup> and Tomohide Takaya<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Sci. Tech., Shinshu Univ., <sup>2</sup>Fac. Agric., Shinshu Univ., <sup>3</sup>IBS, Shinshu Univ.)

II-21      Suppressive effect of feeding glutamate and glutamine on muscle proteolysis in heat-stressed broiler chickens      16:20-16:30  
○Kyohei Furukawa<sup>1</sup>, Motoi Kikusato<sup>1</sup>, Guoyao Wu<sup>2</sup> and Masaaki Toyomizu<sup>1</sup>  
(<sup>1</sup>Tohoku Univ., <sup>2</sup>Texas A&M Univ.)

II-22      Effects of 1% dietary supplementation of cystine or taurine on growth performance and the artery blood pH of broiler chicks.      16:30-16:40  
○Yoshiyuki Ohta, and Jun-ichi Shiraishi ( Nippon Vet. Life Sci. Univ.)

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