

# Inaugural ASAS–CAAV Asia Pacific Rim Conference

November 8–10, 2009



**Conference Information and Scientific Program**



<http://www.asas.org/pacificrim09/>



# Welcome to the 2009 ASAS–CAAV Asia Pacific Rim Conference

We are pleased you have joined us here in Beijing, China, for the Inaugural ASAS-CAAV Asia Pacific Rim Conference. We hope that this meeting will facilitate productive and lasting relationships among animal scientists worldwide. The societies and program committees intend to provide the very best in professional networking and educational opportunities in all facets of animal science. This is the first joint meeting of ASAS and CAAV and the first of its kind for animal science societies. We encourage each attendee to take advantage of the numerous cross-species, cross-discipline, and cultural opportunities available.

This year's program is outstanding and promises something for everyone. The Opening Session will highlight two keynote speakers, one selected by ASAS and one selected by CAAV:

**ASAS Keynote Speaker:** Dr. D. Snyder, Elanco Animal Health: *The current and future role of the animal health industry in production of livestock*

**CAAV Keynote Speaker:** Wu Changxin: *Modern swine genetics in China*

The conference will feature more than 300 abstracts presented across 11 symposia, 12 general sessions, and 2 poster sessions. Our program committees have done a tremendous job organizing symposia covering a wide range of important topics including food safety; bioethics; foodstuffs; nutrition; breeding and genetics; physiology and endocrinology; animal behavior and well-being; growth and development; international animal agriculture; production, management and environment; and publishing in scientific journals.

Poster presentations will be held from 7:30 to 8:45 am on Monday and Tuesday. Oral scientific sessions will begin on Sunday afternoon at 1:00 pm and continue on Monday and Tuesday from 8:00 am to 12:00 pm and from 1:30 pm to 6:00 pm.

We invite all meeting attendees and their families to attend the opening and closing receptions on Sunday, November 8, at 6:00 pm and Tuesday, November 10 at 5:00 pm, respectively. Lunch will be provided for all attendees on Monday and Tuesday from 12:00 to 1:30 pm, and tickets are available for the ASAS-CAAV Asia Pacific Rim

Banquet on Monday night from 6:00 to 7:30 pm. The agenda for this year's meeting is a testament to the program organizers, who have invested enormous amounts of time and effort to bring distinguished scientists in animal agriculture and animal food products from around the world to one place. Thanks are due to the ASAS-CAAV program committees and especially the staff of ASAS, CAAV, CAFE, and FASS for their hard work. Thank you for participating in the Inaugural ASAS-CAAV Asia-Pacific Rim Conference and for helping to make it a success.

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<http://www.asas.org/pacificrim09/>

## General Meeting Information

### Location

The Friendship Hotel (*Beijing youyi binguan*) is located in the commercial and business district of Beijing, adjacent to the city's Silicon Valley and several technical institutes and universities. Only a short distance from the Contemporary Shopping Center (the largest shopping center in Beijing), the Friendship Hotel is the largest four-star garden hotel in Asia, offering services for tourists, business travelers, and long-term guests.

The hotel is uniquely Chinese in style. There are 26 dining halls on the premises serving continental and Chinese food and the various restaurants can accommodate a total of 3000 people. The business facilities in the hotel include translation services, conference facilities, and stages for performances. The hotel's multi-purpose rooms and conference halls of various sizes are furnished with high-tech facilities. There are also good sports facilities on the premises including a gym, sauna, swimming pool, video-games room, bowling court, tennis court, dance hall, karaoke room, and a golf training course. This pleasant and relaxed hotel was once a favorite haunt for Beijing's foreign correspondents, who still congregate in the hotel bar.

### Schedule of Events

The meeting will begin with sessions starting on Sunday afternoon followed by the opening session and reception on Sunday evening and then continue with 2 days of scientific sessions, ending on Tuesday evening with the closing reception. The 2009 opening session will feature two keynote speakers, one from ASAS and one from CAAV.

The complete schedule of events can be found on page 11 of this program or online at <http://www.asas.org/pacificrim09/>

**Program Format**

Poster sessions:	7:30 am – 8:45 am
Scientific sessions:	8:00 am – 12:00 pm
Lunch breaks:	12:00 pm – 1:30 pm
Scientific sessions:	1:30 pm – 6:00 pm

**Registration Hours**

Registration will be located in the 1st floor lobby of the Friendship Palace (inside the Friendship Hotel) in Beijing. Registration hours will be as follows:

Saturday, November 7	1:00 pm to 6:00 pm
Sunday, November 8	7:00 am to 7:00 pm
Monday, November 9	7:00 am to 5:00 pm
Tuesday, November 10	7:00 am to 12:00 pm

**Important Phone Numbers**

Friendship Hotel . . . . . +86-10-68498888  
Online weather information at: <http://www.beijingweather.net/>

**Onsite Upload and Speaker Ready Room**

The Speaker Ready Room is located in VIP Room 2 on the 2nd level of the Friendship Palace. This room will be available for speakers from 7:00 am to 5:00 pm on each day of the meeting.

**Poster Presentations**

We have dedicated a 1 hour and 15 minute block each morning to poster presentations. The “open poster” sessions will be from 7:30 am to 8:45 am Monday and Tuesday in the Friendship Palace, 2nd Floor Rooms 1 to 6.

Each poster presentation will be available for public viewing for the entire day, with the presenting authors present during the “open posters” time (7:30 am–8:45 am) and then possibly again during the lunch hour. All posters must be in place on the board one-half hour before the beginning of the day’s session (**poster sessions begin at 7:30 am; all posters must be mounted on boards by 7:00 am**). **Posters must be removed after 5:00 pm each day.** Any posters remaining after 5:30 pm will be removed by the conference staff and discarded.

The poster board surface area is 90 inches high and 35 inches wide; use of this space is dictated by the presenter with the following exceptions: the top of the poster space should include the abstract number, title, authors, and affiliations. The lettering for this section should be at least 1 inch high.

## Official Meeting Hotel

Friendship Hotel  
1 Zhongguancun South St.  
Beijing 100873, P. R. China  
Phone: +86-10-68498888; Fax: +86-10-68498866

## History of Beijing

The city of Beijing has a long and rich history that dates back more than 3,000 years. For centuries, Beijing was the capital of the ancient state of Yan before the unification of China in 221 BC. Its stature grew in the 10th to 13th centuries when the nomadic Khitan and Jurchen peoples from the steppes expanded into northern China, and made the city a capital of their dynasties. When Kublai Khan made Dadu the capital of the Yuan Dynasty (1279-1368), all of China was ruled from Beijing. From this time onward, with the exception of two interludes from 1368 to 1421 and 1928 to 1949, Beijing would remain as China's capital, serving as the seat of power for the Ming (1421-1644) and Qing (1644-1912) dynasties, the early Republic of China (1912-1928) and now the People's Republic of China (1949-present).

## The Tiananmen Square

4 Jingshan qianjie (front street), Dongcheng District  
Phone: 8610-65243322

Tiananmen Square lies at the cross-section of the central axes of Beijing. It was first built in 1417, when it was known as the Chengtian Gate. It was twice destroyed in the Ming Dynasty—once by lightning and once by war. In 1651, in the Qing Dynasty, the Emperor Fulin had it rebuilt on a grand scale and changed its name to Tiananmen. Imposing and magnificent, Tiananmen stands out among ancient city gates in China. It was formerly a courtyard in front of the main gate to the Forbidden City; it has been renovated and expanded many times. To the east is the National Museum; to the west, the Great Hall of the People. In the middle stands the Monument to People's Heroes, and to the south is Chairman Mao's Memorial Hall. The national flag ceremony, held in the square every day, stirs strong patriotic feelings among the Chinese. Now, in this new age of reform and openness, the age-old Tiananmen, as a witness of the past and present of China's civilization, with its unrivaled political significance, attracts tourists from all over the world.

## **Badaling Great Wall**

Badaling Special Area, Yanqing County, Beijing  
Phone: 8610-69121383

The Badaling Great Wall is an important cultural relic and is the best preserved section of the Great Wall. It was rebuilt during the Ming Dynasty and has long been an important military and strategic stronghold. The Badaling Great Wall was the first part of the Great Wall to be opened to tourists, and millions of visitors have traveled to this historic site in recent years. The Badaling Great Wall is approximately 40 miles north of Beijing and can be reached by bus and subway.

## **Summer Palace**

No. 19, Xin-jian-gong-men Road, Haidian Dist., Beijing  
Phone: 8610-62881144

The Summer Palace, originally named Qingyi Yuan or the Garden of Clear Ripples, was first constructed in 1750, razed to the ground by the Anglo-French Allied Forces in 1860, and rebuilt in the 1880s. It was renamed Yihe Yuan or the Garden of Health and Harmony, and was to serve as a summer resort for the Empress Dowager Cixi. Also known as the Summer Palace, it was ravaged again by forces that invaded China in 1900; the damage was repaired in 1902. Since the founding of the People's Republic of China, the Summer Palace has undergone several major renovations. Its major attractions—the Four Great Regions, Suzhou Street, the Pavilion of Bright Scenery, the Hall of Serenity, the Wenchang Galleries and the Plowing and Weaving Scenery Area—have been restored. The Summer Palace landscape, dominated mainly by Longevity Hill and Kunming Lake, covers an area of 2.9 square kilometers, three quarters of which is under water. It features a variety of palaces, gardens, and other ancient-style architectural structures. Well known for its large and priceless collection of cultural relics, it was among the first group of historical and cultural heritage sites in China to be placed under special state protection.

## **Qianmen Street**

Qianmen Street, Xuanwu District, Beijing

Qianmen Street is a well-known commercial street in Beijing. Located in the axis of Beijing, Qianmen Street goes from Zhengyangmen Embraured Watchtower in the north and stretches to Tiantan (Temple of Heaven) Road in the south, which connects with Tianqiao South Street. With the urban development and building projects during the Ming and Qing dynasties, many bazaars and guild halls converged in Qianmen Street, and it gradually evolved into a major business district focusing on shopping and entertainment. Along with great shopping, Qianmen Pedestrian Street gives prominence to the original flavor of Beijing.



## Temple of Heaven

The Temple of Heaven is situated in the southeastern part of central Beijing, in Xuanwu District. The Temple was built in 1420 during the Ming Dynasty to offer sacrifice to Heaven. The Temple of Heaven is enclosed with a long wall. The higher northern part within the wall is semicircular, symbolizing the heavens, and the southern, lower part is square, symbolizing the earth. The most magnificent buildings are the Circular Mound Altar (Yuanqiutan), Imperial Vault of Heaven (Huangqiongyu), and Hall of Prayer for Good Harvest (Qiniandian). Almost all of the buildings are connected by a wide bridge called Vermilion Steps Bridge (Danbiquiao) or Sacred Way. Another interesting place to visit is the Echo Wall, which encloses the Imperial Vault of Heaven.

## Forbidden City

Lying at the center of Beijing, the Forbidden City (Gu Gong) was the imperial palace during the Ming and Qing dynasties. Now known as the Palace Museum, it is to the north of Tiananmen Square. The Forbidden City is divided into two parts. The southern section or the Outer Court is where the emperor exercised his supreme power over the nation. The northern section or the Inner Court is where he lived with his royal family. Until 1924 when the last emperor of China was driven from the Inner Court, fourteen emperors of the Ming dynasty and ten emperors of the Qing dynasty have reigned here. Having been the imperial palace for five hundred years, it houses numerous rare treasures and curiosities. Listed by UNESCO as a World Cultural Heritage Site in 1987, the Palace Museum is now one of the most popular tourist attractions worldwide.

## Currency Exchange

Currency Exchange Office  
Building No. 1 of the Friendship Hotel  
Open daily from 8:00 am to 11:00 pm

## Transportation

### Accessibility and Safety

Getting around Beijing can be easy, fun, and cheap. Subways and buses can be crowded at certain times of the day. Beijing is proud to be a very safe city, but visitors should be aware that pickpockets may frequent crowded areas.

### Taxi

Foreign visitors to Beijing can usually afford to take a taxi anywhere they want to go. The price ranges from 10 to 35 RMB for most destinations. **The fare from the airport to the Friendship Hotel is 100 to 140 RMB and this is the suggested form of transportation for all attendees.** Be prepared to have your destination written in Chinese characters to hand to the driver. English is almost nonexistent and place names all have their own unique Chinese names.

### Subway

The existing subway system in Beijing is undergoing rapid expansion to accommodate a growing population. A flat fare of 2 RMB applies on most lines, except for the Airport Express. The number 4 subway line passes by the Friendship Hotel with a subway station close to the hotel.

### Bus

Travel by bus is recommended only for the adventurous visitor. There are many different kinds of buses with prices starting at 1 RMB for a non-air-conditioned crowded bus or 2 RMB for a less crowded bus with some air conditioning. Communication is a major problem as there are virtually no buses with any English information.

## Special Events

### ***Opening Reception***

***Sunday, November 8 • 6:00 pm – 7:00 pm***  
***1st Floor Dining Hall, Friendship Palace***

Join us for food and drinks before the opening session and take advantage of the opportunity to socialize with colleagues and friends from around the world.

### ***Opening Session***

***Sunday, November 8 • 7:00 pm – 8:00 pm***  
***Friendship Palace Ballroom***

Join us for a memorable opening session with keynote speakers from ASAS and CAAV discussing the current and future role of the animal health industry in production of livestock and modern genetics in China.

### ***Monday Luncheon***

***Monday, November 9 • 12:00 pm – 1:30 pm***  
***1st Floor Dining Hall, Friendship Palace***

Join us for a quick lunch between sessions (provided by ASAS and CAAV).

### ***ASAS-CAAV Asia Pacific Rim Banquet***

***Monday, November 9 • 6:00 pm – 7:30 pm***  
***Friendship Palace Ballroom***

Don't forget to purchase your ticket for the Asia Pacific Rim Banquet. Tickets are required and will be available for purchase at Registration.

### ***Tuesday Luncheon***

***Tuesday, November 10 • 12:00 pm – 1:30 pm***  
***1st Floor Dining Hall, Friendship Palace***

Join us for a quick lunch between sessions (provided by ASAS and CAAV).

### ***Closing Reception***

***Tuesday, November 10 • 5:00 pm – 8:00 pm***  
***1st Floor Dining Hall, Friendship Palace***

Join us one last time for food and drinks to wrap up the conference and enjoy a chance to network and mingle with your colleagues and say goodbye to new friends. Thank you for attending.

## Exhibits

### Exhibit Hours:

Saturday, November 7	
Exhibit set-up	12:00 pm – 6:00 pm
Sunday, November 8	
Exhibits open	1:00 pm – 5:00 pm
Monday, November 9	
Exhibits open	8:00 am – 5:00 pm
Tuesday, November 10	
Exhibits open	8:00 am – 5:00 pm
Exhibit tear-down	5:00 pm – 7:00 pm

**A special thank you to our 2009 ASAS-CAAV Asia Pacific Rim  
Conference Exhibiting Sponsors!**

## Schedule of Events

All meeting events are in the Friendship Palace. Scheduling and room locations are subject to change without notice.

### Saturday, November 7

1:00 pm – 6:00 pm  
Registration open . . . . . Lobby

1:00 pm – 6:00 pm  
Exhibit set-up . . . . . 2nd Floor Meeting Hall

### Sunday, November 8

7:00 am – 7:00 pm  
Registration open . . . . . Lobby

1:00 pm – 5:00 pm  
Scientific sessions . . . . . Ballroom, Buildings 1&7,  
Meeting Hall room 101

1:00 pm – 5:00 pm  
Hospitality lounge . . . . . VIP Room 1 on 1st floor

6:00 pm – 7:00 pm  
Opening reception . . . . . 1st Floor Dining Hall

7:00 pm – 8:00 pm  
Opening session. . . . . Ballroom

### Monday, November 9

7:00 am – 5:00 pm  
Registration open . . . . . Lobby

7:30 am – 8:45 am  
Poster presentations. . . . . 2nd Floor Rooms 1 to 6

7:30 am – 5:00 pm  
Exhibits open . . . . . 2nd Floor Meeting Hall

8:00 am – 5:00 pm  
Hospitality lounge . . . . . VIP Room 1 on 1st floor

8:00 am – 6:00 pm  
Scientific sessions . . . . . Ballroom, Buildings 1&7,  
Meeting Hall room 101

12:00 pm – 1:30 pm  
Lunch . . . . . 1st Floor Dining Hall

6:00 pm – 7:30 pm  
ASAS-CAAV Asia Pacific Rim Banquet . . . . . Ballroom

**Tuesday, November 10**

7:00 am – 12:00 pm  
Registration open . . . . . Lobby

7:30 am – 8:45 am  
Poster presentations. . . . . 2nd Floor Rooms 1 to 6

7:30 am – 5:00 pm  
Exhibits open . . . . . 2nd Floor Meeting Hall

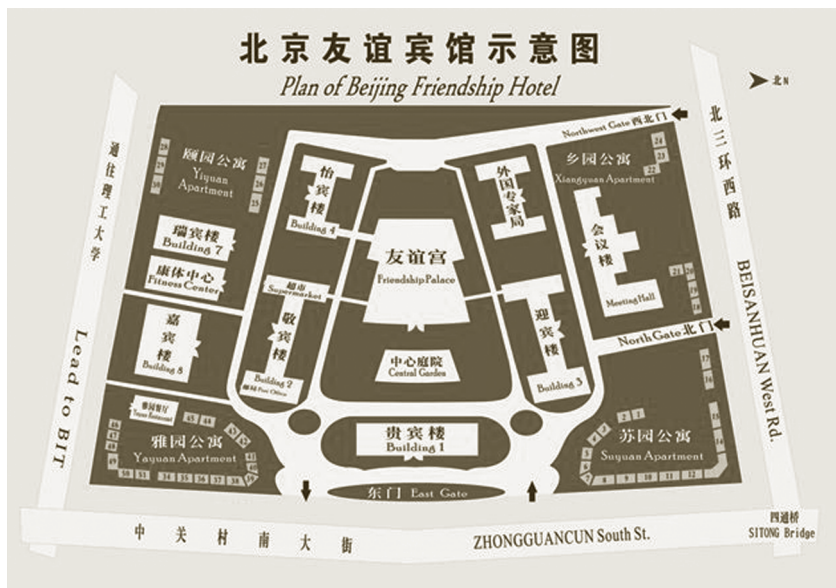
8:00 am – 5:00 pm  
Hospitality lounge . . . . . VIP Room 1 on 1st floor

8:00 am – 6:00 pm  
Scientific sessions . . . . . Buildings 1&7,  
Meeting Hall room 101

12:00 pm – 1:30 pm  
Lunch . . . . . 1st Floor Dining Hall

5:00 pm – 8:00 pm  
Closing reception . . . . . 1st Floor Dining Hall

## Friendship Hotel



## Beijing Map





# Thank you to the 2009 ASAS-CAAV Asia Pacific Rim Conference Sponsors!

## **Platinum (\$20,000+)**

Novus International  
Elanco Animal Health  
American Soybean Association

## **Gold (\$10,000+)**

American Meat Science Association  
EAAP  
Micronutrients Inc.  
American Society of Animal Science Foundation

## **Silver (\$5,000+)**

National Renderers Association

## **Contributor**

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ASAS-CAAV Asia Pacific Rim Banquet

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# Sunday, November 8

## SYMPOSIA AND ORAL SESSIONS

**Animal Health, Growth, Physiology, Endocrinology**  
Chairs: **Meghan Wulster-Radcliffe, American Society of Animal Science, Champaign, IL; Ruqian Zhao, Nanjing Agricultural University**

*Sponsored by Elanco Animal Health and Novus International*

### **Building 1 Meeting Hall**

- 1:00 PM      1      **Advanced needle-free injection technology.**  
W. Shao\*<sup>1</sup>, C. Funk<sup>2</sup>, and J. Poiron<sup>2</sup>, <sup>1</sup>*Sino Waypoint Consulting, Inc., Ottawa, Ontario, Canada*, <sup>2</sup>*AcuShot, Inc., Winnipeg, Manitoba, Canada.*
- 1:15 PM      2      **Isolation of mink enteritis virus and application of immune yolk antibody.**  
T. Tingting\* and Z. Yanlong, *Northeast Forest University, Harbin, China.*
- 1:30 PM      3      **Lipoic acid attenuates the anaphylactic reactions induced by soybean  $\beta$ -conglycinin in a rat model.**  
P. F. Han\*, X. Ma, and J. D. Yin, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- 1:45 PM      4      **Discrepancies between in vitro and in vivo aflatoxin binding.**  
J. N. Broomhead\* and F. Chi, *Amlan International, Chicago, IL, USA.*
- 2:00 PM      5      **Effects of in ovo feeding with carbohydrates and arginine on hatchability, BW, energy metabolism and perinatal growth in duck embryos and neonates.**  
T. Moussa, W. Chen, J. Xu, F. R. Huang, and J. Peng\*, *Department of Animal Nutrition and Feed Science, Huazhong Agricultural University, Wuhan, Hubei, P. R. China.*

2:15 PM		<b>Break</b>
2:30 PM	6	<p><b>Developmental changes in the plasma proteins of periparturient dairy cattle.</b>  Y. X. Yang*, J. Q. Wang, D. P. Bu, L. Y. Zhang, S. S. Li, C. L. Zhang, and L. Y. Zhou, <i>State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.</i></p>
2:45 PM	7	<p><b>Expression of immunologically active recombinant nine tandem repeats of porcine cholecystokinin-33.</b>  Z. Y. Gou, H. F. Luo, J. Wang, S. W. Jiang, and J. Peng*, <i>Huazhong Agricultural University, Wuhan, Hubei, China.</i></p>
3:00 PM	8	<p><b>The effect of active immunization against cholecystokinin with porcine cholecystokinin-33 multiple concatamers on performance, and the dynamic change in parts of blood biochemical indices in growing pigs.</b>  Z. Y. Gou, H. F. Luo, S. W. Jiang, and J. Peng*, <i>Huazhong Agricultural University, Wuhan, Hubei, China.</i></p>
3:15 PM	9	<p><b>Pig personality, meat quality, and metabolic programming.</b>  R. Zhao*, L. Li, S. Wei, X. Yang, and Q. Sun, <i>Key Laboratory of Animal Physiology and Biochemistry, Nanjing Agricultural University, Nanjing, Jiangsu, China.</i></p>
3:30 PM	10	<p><b>Effect of dbcAMP on growth performance and growth axis hormones in finishing pigs.</b>  W. Fang*<sup>1,2</sup>, Z. Jiang<sup>1</sup>, X. Ma<sup>1</sup>, C. Zheng<sup>1</sup>, and S. Jiang<sup>1</sup>, <sup>1</sup><i>Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China,</i> <sup>2</sup><i>School of Life Sciences, Sun Yat-sen University, Guangzhou, Guangdong, P. R. China.</i></p>
3:45 PM		J. Dibner, <i>Novus International.</i>

## Biosecurity and Food/Feed Security

Chairs: **Bud Harmon, Purdue University, West Lafayette, IN; Weihuan Fang, Zhejiang University Building 7 Meeting Rooms 1&2**

- 1:00 PM 11 **The importance of feed safety for animal health and food safety: Accepted principles for producing safe feed.**  
R. S. Sellers\*, *American Feed Industry Association, Arlington, VA, USA.*
- 1:45 PM 12 **Human food safety of veterinary substances: The link between the acceptable daily intake, the maximum residue limit in tissues, and the analytical method.**  
T. J. Burnett\*<sup>1</sup> and L. A. Stobbs<sup>2</sup>, <sup>1</sup>*Elanco Animal Health, Greenfield, IN, USA* <sup>2</sup>*Anson Group, Pendleton, IN, USA.*
- 2:30 PM 13 **Bioequivalence and human food safety: When and why?**  
R. P. Hunter\*, *Elanco Animal Health, Greenfield, IN, USA.*
- 3:15 PM **Break**
- 3:30 PM **Xenobiotic metabolism and human food safety.**  
Z. Yuan, *Huazhoung Agricultural University, China.*
- 4:15 PM 14 **Managing cleansing practices to minimize disease build-up. Programmed topical spraying of animal quarters with selected minerals to improve physical and microbial micro-environment.**  
B. Harmon\*, *Purdue University, West Lafayette, IN, USA.*
- 5:00 PM **Break**
- 5:15 PM 15 **Transfer efficiency of melamine from feed to milk in lactating dairy cows treated with different doses of melamine.**  
J. S. Shen, J. Q. Wang\*, H. Y. Wei, D. P. Bu, P. Sun, and L. Y. Zhou, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*

5:30 PM 16 **Determination of melamine in feedstuffs and milk using molecularly imprinted solid-phase extraction technique.**  
M. Li<sup>1</sup>, L. Zhang<sup>\*1</sup>, Z. Meng<sup>2</sup>, Z. Wang<sup>1</sup>, and H. Wu<sup>1</sup>, <sup>1</sup>*State Key Laboratory of Animal Nutrition, China Agricultural University, Beijing, China,* <sup>2</sup>*School of Chemical and Environmental Engineering, Beijing Institute of Technology, Beijing, China.*

5:45 PM 17 **The contamination and distribution rule of fumonisins in feedstuffs and products in China.**  
Y. Zhen<sup>\*1</sup>, F. Bai<sup>2,1</sup>, K. Zhang<sup>1</sup>, Y. Li<sup>2</sup>, X. Ding<sup>1</sup>, and Y. Feng<sup>2</sup>, <sup>1</sup>*Institute of Animal Nutrition, Key Laboratory for Animal Disease-Resistance Nutrition of China Ministry of Education,, Sichuan Agricultural University, Yaan, Sichuan, P. R. China,* <sup>2</sup>*The Test Center for Feed Quality Supervision and Inspection (Chengdu), The Ministry of Agriculture, Chengdu, Sichuan, P. R. China.*

## **EAAP-ASAS Genetic Symposium: Importance of Genotype by Environment Interaction in Animal Breeding**

Chairs: **Andrea Rosati, European Association for Animal Production, Rome, Italy; Ning Yang, China**

**Agricultural University**

*Sponsored by EAAP*

**Friendship Palace Ballroom**

1:00 PM 18 **Importance of genotype by environment interaction in animal breeding.**  
E. Strandberg<sup>\*</sup>, *University of Agricultural Sciences, Department of Animal Breeding and Genetics, Uppsala, Sweden.*

1:45 PM 19 **Differences in maternal abilities between Meishan and French sows.**  
L. Canario<sup>\*</sup>, *INRA, Jouy-en-Josas, France.*

2:30 PM 20 **Genetic diversity of Chinese poultry breeds.**  
N. Yang<sup>\*</sup>, L. Qu, W. Liu, X. Li, and G. Xu, *China Agricultural University, Beijing, China.*

3:15 PM **Break**



- 3:30 PM 21 **Reprogramming of differentiated somatic cells by nuclear transplantation and iPS.**  
S. Gao\*, *National Institute of Biological Sciences, Beijing, China.*
- 4:15 PM 22 **Association of goat (*Capra hircus*) CD4 gene exon 6 polymorphism with ability of sperm internalizing exogenous DNA.**  
Y. Zhao\*, J. Fan, H. Xu, M. Yu, and L. Wang, *College of Animal Science and Technology, Chongqing Key Laboratory of Forage and Herbivore, Southwest University, Beibei, Chongqing, China.*
- 4:30 PM 23 **Restriction fragment length polymorphism in MC3R and MC4R genes and their association with carcass traits in chicken.**  
D.-G. Cao, Y. Zhou, Q.-X. Lei, H.-X. Han, F.-W. Li, G.-M. Li, and Y. Lu\*, *Institute of Poultry Science, Shandong Province, China.*
- 4:45 PM 24 **An insertion polymorphism in diacylglycerol acyltransferase 1 promoter region and its associations with birth weight, backfat thickness, and messenger RNA expression in pigs.**  
Y. Hu<sup>1</sup>, Y. Zhang<sup>4,1</sup>, Y. Liu<sup>5</sup>, J. Wang<sup>2</sup>, Y. Wu<sup>2</sup>, S. Wei<sup>3</sup>, and Y. Jiang<sup>\*1</sup>, <sup>1</sup>*College of Animal Science and Veterinary Medicine, Shandong Agricultural University, Taian, China,* <sup>2</sup>*Institute of Animal Science and Veterinary Medicine, Shandong Academy of Agricultural Sciences, Jinan, China,* <sup>3</sup>*Bureau of Livestock of Laiwu City, Laiwu, China,* <sup>4</sup>*College of Life Science, Linyi Normal University, Linyi, China,* <sup>5</sup>*Central Agricultural Broadcasting and Television School, Beijing, China.*
- 5:00 PM 25 **Genetic evaluations for measures of the milk flow curve in the Italian Brown Swiss.**  
K. A. Gray<sup>\*1</sup>, F. Vacirca<sup>2</sup>, A. Bagnato<sup>2</sup>, A. Rossoni<sup>3</sup>, A. B. Samoré<sup>2</sup>, J. P. Cassady<sup>1</sup>, and C. Maltecca<sup>1</sup>, <sup>1</sup>*North Carolina State University, Raleigh, NC, USA,* <sup>2</sup>*Università degli studi di Milano, Milano, Italy,* <sup>3</sup>*Italian Brown Swiss Breeders Association, Bussolengo, Italy.*
- 5:15 PM **Genetic dissection of complex traits on SSC7 reveals new breeding potential of Chinese pigs.**  
L. Huang, *Shandong Agricultural University, China.*

## Nonruminant Nutrition I

Chairs: **Scott Radcliffe, Purdue University, West Lafayette, IN; Anshan Shan, Northeast Agricultural University Meeting Hall Building Room 101**

- 1:00 PM 26 **Effects of dietary energy density on plasma glucose and lipid profile, morphofunctional aspects, and chemical characteristics in adipose tissue of finishing pigs.**  
Y. Liu\*<sup>1</sup>, J. Chao<sup>1</sup>, Y. Yin<sup>1,2</sup>, Y. Hou<sup>1</sup>, H. Zhu<sup>1</sup>, and X. Kong<sup>2</sup>,  
*<sup>1</sup>Hubei Key Laboratory of Animal Nutrition and Feed Science, Wuhan Polytechnic University, China, <sup>2</sup>Institute of Subtropical Agriculture, the Chinese Academy of Sciences, China.*
- 1:15 PM 27 **Effect of dietary supplementation of fish oil for lactating sows and weaned piglets on piglet T helper cell polarization.**  
J. Luo<sup>1</sup>, F. Huang<sup>1</sup>, C. Xiao<sup>1</sup>, W. Chen<sup>1</sup>, S. Jiang<sup>2</sup>, and J. Peng\*<sup>1</sup>,  
*<sup>1</sup>Department of Animal Nutrition and Feed Science, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, P. R. China, <sup>2</sup>Key Laboratory of Swine Breeding and Genetics of Agricultural Ministry, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, P. R. China.*
- 1:30 PM 28 **Genome-wide transcriptional response of feeding n-3 polyunsaturated fatty acid-enriched diet in porcine skeletal muscle.**  
H. Wei<sup>1</sup>, H. Luo<sup>1</sup>, F. Huang<sup>1</sup>, J. Luo<sup>1</sup>, J. Peng\*<sup>1</sup>, and S. Jiang<sup>2</sup>,  
*<sup>1</sup>Department of Animal Nutrition and Feed Science, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China, <sup>2</sup>Key Laboratory of Swine Breeding and Genetics of Agricultural Ministry, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China.*
- 1:45 PM 29 **Effects and mechanisms of N<sup>6</sup>, 2'-O-dibutyryl adenosine 3', 5' cyclic monophosphate on growth performance and fat deposition in finishing pigs.**  
L. Wang\*, Z. Jiang, Y. Lin, C. Zheng, and X. Ma, *Key Laboratory of Animal Nutrition and Feed Science (South China), Ministry of Agriculture of P. R. China, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*

- 2:00 PM 30 **Effects of spray-dried animal plasma on growth performance, serum antioxidation, and immunity of neonatal piglets.**  
Y. Gao\*<sup>1,2</sup>, Z. Jiang<sup>1</sup>, Y. Lin<sup>1</sup>, S. Jiang<sup>1</sup>, and F. Chen<sup>1</sup>, <sup>1</sup>Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Science, Guangzhou, Guangdong, P. R. China, <sup>2</sup>College of Animal Science, South China Agricultural University, Guangzhou, Guangdong, P. R. China.
- 2:15 PM 31 **Effects of spray-dried animal plasma on intestinal morphology, immunity, and antioxidation of neonatal piglets.**  
Y. Gao\*<sup>1,2</sup>, Z. Jiang<sup>1</sup>, C. Zheng<sup>1</sup>, Y. Lin<sup>1</sup>, and X. Ma<sup>1</sup>, <sup>1</sup>Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Science, Guangzhou, Guangdong, P. R. China, <sup>2</sup>College of Animal Science, South China Agricultural University, Guangzhou, Guangdong, P. R. China.
- 2:30 PM 32 **Effects of sodium butyrate on performance and biochemical parameters of blood in weanling pigs.**  
H. Niu, W. Ma, Y. Wang, Y. Zhou, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang Province, China.*
- 2:45 PM 33 **Effects of zearalenone on nutrient digestibility in young pigs: A research review.**  
Z. B. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, W. R. Yang<sup>1</sup>, H. Zhao<sup>1</sup>, C. C. Chen<sup>2</sup>, and F. Chi\*<sup>3</sup>, <sup>1</sup>Shandong Agricultural University, Taian, Shandong, P. R. China, <sup>2</sup>Chaoyang University Technology, Taichung, Taiwan, <sup>3</sup>Amlan International, Chicago, IL, USA.
- 3:00 PM 34 **Effect of purified zearalenone on nutrient digestibility when broilers were fed two levels of fumonisin from naturally contaminated maize.**  
Z. B. Yang\*<sup>1</sup>, Y. Zou<sup>1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, G. G. Zhang<sup>1</sup>, C. C. Chen<sup>2</sup>, and F. Chi<sup>3</sup>, <sup>1</sup>Shandong Agricultural University, Taian, Shandong, P. R. China, <sup>2</sup>Chaoyang University Technology, Taichung, Taiwan, <sup>3</sup>Amlan International, Chicago, IL, USA.

- 3:15 PM 35 **Effects of *Jatropha curcas* seed meal on the growth performance and tissue lesions of broilers.**  
Y. Du\*, X. Ding, K. Zhang, D. Chen, and S. Bai, *Institute of Animal Nutrition, Engineering Research Center for Animal Disease-Resistance Nutrition of China Ministry of Education, Sichuan Agricultural University, Yaan, Sichuan 625014, P. R. China.*
- 3:30 PM 36 **Nutrient-sparing effects of virginiamycin in broiler diet.**  
J. Wan\*<sup>1</sup>, M. Zhong<sup>3</sup>, K. Zhang<sup>1</sup>, and X. Luo<sup>2</sup>, <sup>1</sup>*Institute of Animal Nutrition, Sichuan Agricultural University, Ya'an, Sichuan 625014, P. R. China,* <sup>2</sup>*Mineral Nutrition Research Division, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing 100193, P. R. China,* <sup>3</sup>*Phibro Corporation Limited Shanghai Rep. Office, Shanghai 200336, P. R. China.*
- 3:45 PM 37 **Effects of dietary soybean isoflavone on meat quality and oxidative stability in yellow broilers.**  
Shouqun Jiang\*, Zongyong Jiang, Yingcai Lin, Guilian Zhou, and Chuntian Zheng, *Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- 4:00 PM 38 **Essential oils and feed enzymes improve nutrient utilization in broiler chickens fed a corn/soy-based diet reduced in calcium and phosphorus.**  
P. H. Cao<sup>1,2</sup>, F. D. Li<sup>1</sup>, Y. F. Li<sup>3</sup>, Y. J. Ru\*<sup>3</sup>, A. Peron<sup>4</sup>, and H. Schulze<sup>4</sup>, <sup>1</sup>*Gansu Agricultural University, Gansu, China,* <sup>2</sup>*Henan University of Science and Technology, Henan, China,* <sup>3</sup>*Danisco Animal Nutrition, Shanghai, China,* <sup>4</sup>*Danisco Animal Nutrition, Marlborough, UK.*
- 4:15 PM 39 **Effects of bacterial protein and acidifer on growth performance, small intestine morphology, and physiology of broiler chickens.**  
Z. Shan<sup>1,2</sup>, Q. Zeng<sup>1,2</sup>, K. Zhang\*<sup>1,2</sup>, and X. Ding<sup>1,2</sup>, <sup>1</sup>*Animal Nutrition Institute of Sichuan Agricultural University, Ya'an, Sichuan, China,* <sup>2</sup>*Key Laboratory for Animal Disease-Resistance Nutrition of Chinese Ministry of Education, Ya'an, Sichuan, China.*

- 4:30 PM 40 **Protective effects of *Forsythia suspensa* extract against diquat-induced oxidative stress in rats.**  
T. Lu\*, Q. Zhang, D. Wang, and X. S. Piao, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.*

## OTHER EVENTS

### Opening Reception Friendship Palace Dining Hall

- 6:00 PM **Opening reception**

## SYMPOSIA AND ORAL SESSIONS

### Opening Ceremony Friendship Palace Ballroom

- 7:00 PM **Welcome.**  
J. Oltjen, ASAS President; H. Chen, CAAV President.
- 7:10 PM **Modern swine genetics in China.**  
Wu Changxin.
- 7:40 PM **Food Safety and Biosecurity.**  
Helen Cao, *Novus International.*
- 8:10 PM 41 **The current and future role of the animal health industry in the production of livestock.**  
D. Snyder\*, *Elanco Animal Health, Greenfield, IN, USA.*
- 8:40 PM **Novus Award Ceremony**

# Monday, November 9

## SYMPOSIA AND ORAL SESSIONS

### Small Ruminant, Forages and Pastures

Chairs: **Meghan Wulster-Radcliffe, ASAS, Champaign, IL;**  
**Dexan Lu, Inner Mongolia Agricultural University**  
**Meeting Hall Building Room 101**

- 8:00 AM      42      **Efficiency of methods applied for goat estrous synchronization in subtropical climate zone.**  
Y. Zhao\*<sup>1</sup>, J. Zhang<sup>1</sup>, H. Wei<sup>2</sup>, X. Sun<sup>3</sup>, M. Yu<sup>1</sup>, L. Wang<sup>1</sup>, B. Mu<sup>1</sup>, and C. Zhao<sup>1</sup>, <sup>1</sup>*College of Animal Science and Technology, Chongqing Key Laboratory of Forage and Herbivore, Southwest University, Beibei, Chongqing, China,* <sup>2</sup>*Faculty of Laboratory Animals, Third Military Medicine University, Shapingba, Chongqing, China,* <sup>3</sup>*Department of Anatomy, Medical College, Jinggangshan University, Jinggangshan, Jiangxi, China.*
- 8:15 AM      43      **Sire and dam breed effects on postweaning performance of pasture-raised meat goat kids.**  
R. Browning Jr.\*<sup>1</sup> and M. L. Leite-Browning<sup>2</sup>, <sup>1</sup>*Tennessee State University, Nashville, TN, USA,* <sup>2</sup>*Alabama A&M University, Huntsville, AL, USA.*
- 8:30 AM      44      **Effects of Chinese herbal medicine compound supplementation to the basal diet on the main protein digestive enzymes in growing beef cattle.**  
H. F. Wang<sup>1</sup>, W. R. Yang\*<sup>1</sup>, Z. B. Yang<sup>1</sup>, Y. H. Cui<sup>1</sup>, and Y. Wang<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Tai-an, Shandong, P. R. China,* <sup>2</sup>*Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Canada.*
- 8:45 AM      45      **The impact of pectinase on the nutritional value of single-cell protein feed from citrus waste.**  
A. Wu\*, K. Zhang, L. Zhang, X. Ding, and S. Bai, *Institute of Animal Nutrition, Feed Engineering Research Centre of Sichuan Province, Sichuan Agricultural University, Yaan, Sichuan, P. R. China.*

**Advances in Digestive Physiology Metabolism and Health**  
Chairs: **Scott Radcliffe, Purdue University, West Lafayette, IN; Daiwen Chen, Sichuan Agricultural University**

*Sponsored by Novus*

**Friendship Palace Ballroom**

- 8:00 AM 46 **Maternal and offspring intestinal responses to gestational nutrition in the ruminant: Growth, vascularity, and angiogenic factor expression.**  
A. M. Meyer\*<sup>1</sup>, D. A. Redmer<sup>1</sup>, J. M. Wallace<sup>2</sup>, K. A. Vonnahme<sup>1</sup>, L. P. Reynolds<sup>1</sup>, B. W. Hess<sup>3</sup>, and J. S. Caton<sup>1</sup>, <sup>1</sup>*Center for Nutrition and Pregnancy, Department of Animal Sciences, North Dakota State University, Fargo, ND, USA*, <sup>2</sup>*Rowett Institute of Nutrition and Health, University of Aberdeen, Bucksburn, Aberdeen, UK*, <sup>3</sup>*Department of Animal Sciences, Laramie, WY, USA.*
- 8:40 AM 47 **Application of new advances in digestive physiology as they apply to swine nutrition.**  
J. S. Radcliffe\*, *Purdue University, West Lafayette, IN, USA.*
- 9:20 AM 48 **In vivo and in vitro immunomodulation by mannan oligosaccharides in pigs.**  
T. M. Che\* and J. E. Pettigrew, *Department of Animal Sciences, University of Illinois, Urbana-Champaign, IL, USA.*
- 10:00 AM **Break**
- 10:15 AM **Disease-resistant nutrition and recent advances in pigs.**  
D. Chen, *Sichuan Agricultural University, China.*
- 10:55 AM 49 **A comparative study of three diagnostic techniques (FIRSTtest, polymerase chain reaction, and enzyme-linked immunosorbent assay) for detecting porcine ileitis on a pig farm.**  
D. J. Yu<sup>2</sup>, C. K. Mah\*<sup>1</sup>, X. H. Li<sup>1</sup>, and B. Yin<sup>2</sup>, <sup>1</sup>*Elanco Animal Health, Shanghai, China*, <sup>2</sup>*College of Animal Science, Fujian Agriculture and Forestry University, Fuzhou, Fujian, China.*
- 11:35 AM 50 **Pig personality, obesity and metabolic programming.**  
R. Zhao\*, X. Yang, D. Xia, L. Li, S. Wei, and Q. Sun, *Nanjing Agricultural University, Nanjing, China.*

- 12:15 PM 51 **Temporal proteomics analysis reveals continuous impairment of intestinal development in neonatal piglets with intrauterine growth restriction.**  
X. Wang\*<sup>1</sup>, W. Wu<sup>1</sup>, G. Lin<sup>1</sup>, D. Li<sup>1</sup>, G. Wu<sup>1,2</sup>, and J. Wang<sup>1</sup>, <sup>1</sup>State Key Laboratory of Animal Nutrition, China Agricultural University, Beijing, China, <sup>2</sup>Department of Animal Science, Texas A&M University, College Station, TX, USA.

## Nonruminant Nutrition II

Chairs: **James Pettigrew, University of Illinois, Urbana;**  
**Yizhen Wang, Zhejiang University**  
**Building 7 Meeting Rooms 1&2**

- 8:00 AM 52 **Effects of L-arginine on growth performance, nutrient digestibility and absorptivity, and blood biochemical parameters in artificially reared neonatal piglets.**  
L. Huang\*<sup>1,2</sup>, Z. Jiang<sup>1</sup>, C. Zheng<sup>1</sup>, S. Jiang<sup>1</sup>, and X. Ma<sup>1</sup>, <sup>1</sup>Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China, <sup>2</sup>College of Animal Science, South China Agricultural University, Guangzhou, Guangdong, P. R. China.
- 8:15 AM 53 **Effects of L-arginine and arginine activator additive on heat shock protein 70 expression in liver of weanling piglets.**  
X. Wu\*<sup>1</sup>, Y. Gao<sup>1</sup>, L. Wang<sup>2</sup>, X. Zhou<sup>1</sup>, and Y. Yin<sup>1,2</sup>, <sup>1</sup>Key Laboratory for Agro-ecological Processes in Subtropical Region, Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China, <sup>2</sup>Hubei Key Laboratory of Animal Nutrition and Feed Science, Wuhan, Hubei, China.
- 8:30 AM 54 **Effects of dietary L-arginine supplementation on endogenous arginine-synthesizing enzymes and intestinal histomorphology in artificially reared neonatal pigs.**  
L. Huang\*<sup>1,2</sup>, Z. Jiang<sup>1</sup>, Y. Lin<sup>1</sup>, C. Zheng<sup>1</sup>, and X. Ma<sup>1</sup>, <sup>1</sup>Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China, <sup>2</sup>College of Animal Science, South China Agricultural University, Guangzhou, Guangdong, P. R. China.



- 8:45 AM 55 **Effects of dietary glutamine on growth performance, serum hormone, and intestinal mucosa enzyme activities in artificially reared neonatal pigs.**  
Z. Jiang<sup>\*1</sup>, W. Zheng<sup>1,2</sup>, Y. Lin<sup>1</sup>, C. Zheng<sup>1</sup>, and L. Huang<sup>1,2</sup>, <sup>1</sup>*Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China,* <sup>2</sup>*College of Animal Science, South China Agricultural University, Guangzhou, Guangdong, P. R. China.*
- 9:00 AM 56 **Estimation of the true ileal digestible threonine:lysine ratio for nursery pigs fed diets containing distillers dried grain with solubles.**  
Z. P. Zhu<sup>\*1,2</sup>, R. B. Hinson<sup>1</sup>, L. Ma<sup>1</sup>, D. F. Li<sup>2</sup>, and G. L. Allee<sup>1</sup>, <sup>1</sup>*University of Missouri, Columbia, MO, USA,* <sup>2</sup>*China Agricultural University, Beijing, P. R. China.*
- 9:15 AM 57 **Effects of lysine and protein intake during two consecutive lactations on subsequent reproductive performance in multiparous sows.**  
F. R. Huang, H. B. Liu, F. Zhang, and J. Peng<sup>\*</sup>, *Huazhong Agricultural University, Wuhan, Hubei, China.*
- 9:30 AM 58 **The difference in distribution of activity and mRNA abundance of oxidation enzymes for conversion of DL-2-hydroxy-4-methylthiobutyrate and D-methionine resulted in similar systemic availability of L-methionine in piglets.**  
Z. Fang<sup>\*1,2</sup>, H. Luo<sup>1</sup>, H. Wei<sup>1</sup>, F. Huang<sup>1</sup>, Z. Qi<sup>1</sup>, S. Jiang<sup>1</sup>, and J. Peng<sup>1</sup>, <sup>1</sup>*College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China,* <sup>2</sup>*Animal Nutrition Institute, Sichuan Agricultural University, Ya'an, Sichuan, China.*
- 9:45 AM 59 **Effects of DL-2-hydroxy-4-methylthiobutyrate on the first-pass intestinal metabolism of dietary methionine and its extraintestinal availability.**  
Z. Fang<sup>\*1,2</sup>, F. Huang<sup>1</sup>, J. Luo<sup>1</sup>, H. Wei<sup>1</sup>, L. Ma<sup>1</sup>, S. Jiang<sup>1</sup>, and J. Peng<sup>1</sup>, <sup>1</sup>*College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China,* <sup>2</sup>*Animal Nutrition Institute, Ya'an, Sichuan, China.*

- 10:00 AM 60 **Study on environmental parameters in the removable pig house and traditional fixed pigsty.**  
A. G. Chen\*, F. Y. Deng, D. H. Lu, C. M. Yang, and Q. H. Hong, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang, China.*
- 10:15 AM 61 **The effects of different pig house types on indoor environmental parameters and growth performance in growing and finishing pigs.**  
A. G. Chen\*, X. P. Wang, G. Q. Liang, Q. H. Hong, and C. M. Yang, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang, China.*
- 10:30 AM 62 **Effects of different chicken house types on growth performance in broilers and excreta quantity and fertility.**  
F. Y. Deng\*, J. Feng, A. G. Chen, C. M. Yang, and Q. H. Hong, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang, China.*
- 10:45 AM 63 **Effects of the removable chicken house on indoor environment parameters and growth performance in broilers.**  
A. G. Chen, X. M. Wang\*, Z. Wang, Q. H. Hong, and C. M. Yang, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang, China.*
- 11:00 AM 64 **A study on the suitable dietary energy and crude protein level for zero- to twenty-eight-day Erlang mountain chickens.**  
M. Lv, X. Ding, K. Zhang\*, and Q. Zhu, *Institute of Animal Nutrition, Animal Nutrition and Feed Engineering Key Laboratory of Sichuan Province, Sichuan Agricultural University, Yaan 625014, Sichuan, China.*
- 11:15 AM 65 **The effects of corn particle size on the laying performance and gastrointestinal characteristics of laying hens.**  
C. Zhang\*, K. Zhang, X. Ding, and S. Bai, *Institute of Animal Nutrition, Feed Engineering Research Centre of Sichuan Province, Sichuan Agricultural University, Yaan, Sichuan 625014, P. R. China.*

## **Producing Muscle that Tastes Good with a High Nutritive Value**

**Chairs: Thomas Powell, American Meat Science Association, Champaign, IL; Jie Wen, Chinese Academy of Agricultural Sciences**

*Sponsored by AMSA*

### **Building 1 Meeting Hall**

- 8:00 AM 66 **Global trends in meat science in the next ten years.**  
T. Powell\*, *American Meat Science Association, Champaign, IL, USA.*
- 8:45 AM 67 **Incorporating pre- and postharvest technologies that reduce the incidence of cooked meat tenderness problems.**  
J. B. Morgan\*, *Oklahoma State University, Stillwater, OK, USA.*
- 9:30 AM 68 **Enhancing nutritiousness of lamb meat and preventing selenium deficiency.**  
J. B. Taylor and G. S. Lewis\*, *USDA, ARS, US Sheep Experiment Station, Dubois, ID, USA.*
- 10:15 AM **Break**
- 10:30 AM 69 **Animal nutrition and meat quality of chicken.**  
J. Wen\*, *Institute of Animal Science of Chinese Academy of Agricultural Sciences, Beijing, China.*
- 11:15 AM 70 **Enhancing beef tenderness: Pre- and postharvest practices and microbiological considerations.**  
C. Shen\*, K. Belk, J. Adler, I. Geornaras, D. Woerner, J. D. Tatum, G. Smith, and J. Sofos, *Center of Meat Safety and Quality, Department of Animal Sciences, Colorado State University, Fort Collins, CO, USA.*

## Lactation Symposium

Chairs: **Steven Ellis, Clemson University, Clemson, SC;**  
**Shengli Li, China Agricultural University**  
**Building 1 Meeting Hall**

- 1:30 PM 71 **Building a foundation: Cells, structures, and processes of prepubertal mammary development.**  
S. Ellis\*<sup>1</sup>, R. M. Akers<sup>2</sup>, and A. V. Capuco<sup>3</sup>, <sup>1</sup>*Clemson University, Clemson, SC, USA*, <sup>2</sup>*Virginia Polytechnic Institute and State University, Blacksburg, VA, USA*, <sup>3</sup>*Beltsville Agricultural Research Center, Beltsville, MD, USA*.
- 2:15 PM 72 **Foundations of milk production: The effect of heifer management and nutrition on future milk production.**  
K. Sejrsen\* and S. Purup, *Aarhus University, Institute of Animal Health and Bioscience, 8830 Tjele, Denmark*.
- 3:00 PM 73 **Differential compositions of proteome in porcine colostrum and milk from anterior and posterior mammary glands.**  
W. Wu\*<sup>1</sup>, X. Wang<sup>1</sup>, G. Wu<sup>2</sup>, S. W. Kim<sup>3</sup>, F. Chen<sup>1</sup>, and J. Wang<sup>1</sup>, <sup>1</sup>*State Key Laboratory of Animal Nutrition, China Agricultural University, Beijing, China*, <sup>2</sup>*Department of Animal Science, Texas A&M University, College Station, TX, USA*, <sup>3</sup>*Department of Animal Science, North Carolina State University, Raleigh, NC, USA*.
- 3:15 PM **Break**
- 3:30 PM **Long-term effects of lipid supplementation on functional milk fatty acid composition in dairy cattle.**  
J.-Q. Wang\*, D. Bu, and K. Erdene, *Chinese Academy of Agricultural Sciences, Beijing, P. R. China*.
- 3:45 PM 74 **The optimal culture conditions in vitro for bovine mammary epithelial cells.**  
X. Y. Li, J. Q. Wang\*, H. Y. Wei, D. P. Bu, H. Hu, and L. Y. Zhou, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China*.

- 4:00 PM 75 **Study on foundation and application of system to preserve milk good flavor in raw cow's milk production.**  
Z. Jun\*<sup>1,2</sup>, L. Dexun<sup>1</sup>, and G. Min<sup>1</sup>, <sup>1</sup>*Animal Nutrition Institute, Inner Mongolia Academy of Agricultural and Animal Sciences, Huhhot, China*, <sup>2</sup>*College of Animal Science and Animal Medicine, Inner Mongolia Agricultural University, Huhhot, China*.
- 4:15 PM 76 **Effects of rumen-protected methionine on dairy performance and amino acid metabolism in lactating cows.**  
W. R. Yang\*, H. Sun, Z. B. Yang, Q. Y. Wang, and F. X. Liu, *Department of Animal Science and Technology, Shandong Agricultural University, Tai-an, Shandong, P. R. China*.
- 4:30 PM 77 **Effects of supplementing rapeseed on milk performance and conjugated linoleic acid of milk in grazing yak (*Bos grunniens*).**  
Z. Xiao-ling<sup>1,5</sup>, H. Li-zhuang<sup>1,2</sup>, H. Jin-suo<sup>1,2</sup>, W. Ke-xuan<sup>1,2</sup>, C. Sha-tuo<sup>1,3</sup>, L. Shu-jie\*<sup>1,2</sup>, W. Jia-qi<sup>4</sup>, and B. Deng-pan<sup>4</sup>, <sup>1</sup>*The Academy of Animal and Veterinary Sciences of Qinghai University, Xining, Qinghai, China*, <sup>2</sup>*Qinghai Plateau Yak Research Center, Xining, Qinghai, China*, <sup>3</sup>*Key Laboratory of Plateau Grazing Animal Nutrition and Feed Science, Xining, Qinghai, China*, <sup>4</sup>*Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, <sup>5</sup>*College of Animal Science of Tarim University, Alaer, Xinjiang, China*.

### Nonruminant Nutrition III

Chairs: **Scott Radcliffe, Purdue University, West Lafayette, IN; Yuming Guo, China Agricultural University Building 7 Meeting Rooms 1&2**

- 1:30 PM 78 **Effect of the level of vitamin A on growth and biochemical indexes of growing layer ducks.**  
Y. D. Zhang\*, J. L. Wu, and A. Wang, *Institute of Animal Nutrition, Northeast Agricultural University, Harbin, China.*
- 1:45 PM 79 **Effect of the level of vitamin E on growth and organism biochemical indexes of growing ducks in cages.**  
J. L. Wu\*, Y. D. Zhang, and A. Wang, *Institute of Animal Nutrition, Northeast Agricultural University, Harbin, China.*
- 2:00 PM 80 **Effects of dietary vitamin level on the productive performance of laying hens.**  
H. Zang\*<sup>1</sup>, K. Zhang<sup>1</sup>, X. Ding<sup>1</sup>, J. M. Hernández<sup>2</sup>, and D. Yao<sup>3</sup>, <sup>1</sup>*Institute of Animal Nutrition, Key Laboratory for Animal Disease-Resistance Nutrition of China Ministry of Education, Sichuan Agricultural University, Yaan, Sichuan 625014, P. R. China,* <sup>2</sup>*DSM Nutritional Products Ltd., R&D Animal Nutrition and Health, Wurmisweg 576, CH-4303 Kaiseraugst, Switzerland,* <sup>3</sup>*DSM (China) Limited, No. 476, LiBing Road, Zhangjiang High-Tech Park, PuDong Area, ShangHai 201203, China.*
- 2:15 PM 81 **Zinc requirement of yellow broilers from one to twenty-one days of age.**  
Z. Jiang\*, X. Liu, G. Zhou, S. Jiang, and X. Ma, *The Key Laboratory of Animal Nutrition and Feed Science (South China) of Ministry of Agriculture, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- 2:30 PM 82 **Dietary zinc glycine chelate on growth performance and hematological and immunological characteristics in weanling piglets.**  
Y. Wang, W. Ma, H. Niu, Y. Zhou, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang Province, China.*

- 2:45 PM 83 **Effects of iron glycine chelate on tissue mineral concentrations, feces mineral exertion, and liver antioxidant enzyme activity in broiler chickens.**  
W. Ma, H. Niu, Y. Wang, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, Zhejiang Province, China.*
- 3:00 PM 84 **Effects of dietary selenomethionine supplementation on growth performance, meat quality, and antioxidant properties in yellow broilers.**  
Z. Jiang\*, L. Luo, Y. Lin, S. Jiang, and G. Zhou, *Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- 3:15 PM 85 **Long-term performance of commercial laying hens fed diets deficient in available phosphorus supplemented with different amounts of inorganic phosphate or an *Escherichia coli*-derived phytase (OptiPhos).**  
C. D. Mateo<sup>1</sup>, S. Y. Shen\*<sup>2</sup>, N. R. Augspurger<sup>2</sup>, and S. D. Frankenbach<sup>3</sup>, <sup>1</sup>*Animal & Dairy Sciences Cluster, University of the Philippines, Los Banos, College, Laguna, Philippines,* <sup>2</sup>*JBS United, Sheridan, IN, USA,* <sup>3</sup>*Enzyvia, LLC, Sheridan, IN, USA.*
- 3:30 PM 86 **Evaluation of phosphorus excretion model in sows.**  
E. Kebreab\*, A. Yitbarek, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada.*
- 87 **Withdrawn**
- 3:45 PM 88 **Effect of Mintrex Cu/Mn/Zn on performance and eggshell quality in laying hens.**  
S. Qiujuan, W. Jinlei, Z. Tianguo, and G. Yuming\*, *College of Animal Science and Technology, China Agricultural University, Haidian, Beijing 100094, China.*
- 4:00 PM 89 **Effects of Mintrex Mn on growth performance in broilers.**  
W. Jinlei, Z. Tianguo, S. Qiujuan, and G. Yuming\*, *College of Animal Science & Technology, China Agricultural University, Beijing 100094, China.*

## Ruminant Nutrition

Chairs: **Zhongtang Yu, The Ohio State University, Columbus, OH; Dengpan Bu, Chinese Academy of Agricultural Sciences**

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**Friendship Palace Ballroom**

- 1:30 PM 90 **Response of cows to a low-protein diet supplemented with ruminally protected methionine, lysine, threonine, and phenylalanine.**  
Z. Yang<sup>\*1,2</sup>, C. Wang<sup>1</sup>, Y. Wang<sup>1</sup>, B. Chen<sup>1</sup>, J. Liu<sup>1</sup>, Y. Wu<sup>1</sup>, and Z. Li<sup>2</sup>, <sup>1</sup>*Institute of Dairy Science, Hangzhou, Zhejiang, China*, <sup>2</sup>*Hangzhou King Techina Feed Co. Ltd., Hangzhou, Zhejiang, China*.
- 1:45 PM 91 **Effects of different dietary rumen-degradable protein and rumen-undegradable protein levels in isonitrogenous diets on nitrogen utilization, ruminal fermentation, and milk production.**  
T. Sun, Z. Cao, and S. Li<sup>\*</sup>, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China, Beijing, China*.
- 2:00 PM 92 **Protein amide I-to-amide II ratio and  $\alpha$ -helix-to- $\beta$ -sheet ratio of new coproducts of bioethanol production in relation to rumen degradability and intestinal availability in dairy cattle.**  
P. Yu<sup>\*</sup>, W. G. Nuez Ortín, and D. Damiran, *Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, Saskatoon, Saskatchewan, Canada*.
- 2:15 PM 93 **Metabolizable protein of some feedstuffs used in ruminant diets.**  
H. Paya<sup>\*</sup> and A. Taghizadeh, *University of Tabriz, Tabriz, East AzarBayjen, Iran*.
- 2:30 PM 94 **Responses of dairy cows to supplemental highly digestible rumen undegradable protein and rumen-protected forms of methionine.**  
T. Sun<sup>\*</sup>, Z. Cao, S. Li, Y. Dong, and H. Zhang, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China, Beijing, China*.



- 2:45 PM 95 **Influence of milk replacer pH on the performance, blood parameters, fecal scores, and counts of rectal microorganisms in Chinese Holstein calves.**  
Y. Tu\*, Q.-Y. Diao, Y. Zhou, and Q. Yun, *Institute of Feed Research, Chinese Academy of Agricultural Sciences, Beijing, P. R. China.*
- 3:00 PM 96 **Feed dry matter intake estimate for grazing Holstein cows by the acid-insoluble ash and fecal crude protein index methods.**  
S. G. Jin\*, X. S. Ma<sup>1</sup>, D. Z. Lei<sup>1</sup>, X. M. Wang<sup>1</sup>, J. H. Cui<sup>1</sup>, D. R. Guo<sup>1</sup>, G. Xu<sup>1</sup>, and T. Wuliji<sup>2</sup>, <sup>1</sup>*Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China,* <sup>2</sup>*University of Nevada, Reno, NV, USA.*
- 3:15 PM 97 **Effects of partial replacement of barley silage with dried distillers grains plus solubles on chewing activity, rumen pH, and milk production of lactating dairy cows.**  
S. Z. Zhang\*, G. B. Penner, and M. Oba, *University of Alberta, Edmonton, Alberta, Canada.*
- 3:30 PM 98 **Effect of different rumen-inert fat supplements containing a dietary antioxidant on the performance and antioxidant status of the cow.**  
Y. Wang\*<sup>1</sup>, J. Wang<sup>1</sup>, C. Wang<sup>1</sup>, B. Chen<sup>1</sup>, J. Liu<sup>1</sup>, F. Guo<sup>2</sup>, and H. Cao<sup>2</sup>, <sup>1</sup>*Institute of Dairy Science, Zhejiang University, Hangzhou, P. R. China,* <sup>2</sup>*Novus International Research Center, Beijing, P. R. China.*
- 3:45 PM 99 **Effects of physically effective fiber on chewing activity, ruminal fermentation, and nutrient digestibility in goats.**  
X. H. Zhao, T. Zhang, Z. P. Yu, M. Xu, and J. H. Yao\*, *College of Animal Science and Technology, Northwest A&F University, Yangling, Shaanxi, China.*
- 4:00 PM 100 **2009 census on microbial diversity in the rumen.**  
M. Kim<sup>1</sup>, M. Morrison<sup>2,1</sup>, and Z. Yu\*<sup>1</sup>, <sup>1</sup>*The Ohio State University, Columbus, OH, USA,* <sup>2</sup>*CSIRO Livestock Industries, St. Lucia, Queensland, Australia.*
- 4:15 PM 101 **Effect of coconut oil supplementation on intake, animal performance, and methane emissions from grazing yak (*Bos grunniens*) in nature winter pasture on the Qinghai-Tibetan plateau.**  
D. Xue-zhi\*, L. Rui-jun, and M. Jian-dui, *International Centre for Tibetan Plateau Ecosystem Management, Lanzhou University.*

- 4:30 PM 102 **Construction and analysis of a rumen fosmid metagenomic library from Hu sheep.**  
J. K. Wang, P. P. An\*, and J. X. Liu, *College of Animal Sciences, Zhejiang University, Hangzhou, Zhejiang, P. R. China.*

## Monday, November 9

### POSTER PRESENTATIONS

#### Dairy Nutrition Posters Friendship Palace Rooms 1-6

- M129 **Determination of IgG in bovine colostrum and establishment of immunogold half-quantitative technique and application.**  
Z.-Q. Li\*, *Animal Science Research Centre, Heilong Jiang Academy of Agricultural Sciences, Harbin, Heilong Jiang, China.*

#### Nonruminant Nutrition Posters Friendship Palace Rooms 1-6

- M130 **A study on the effectiveness of virginiamycin, enramycin and flavomycin in broiler diet.**  
J. M. Wan and K. Y. Zhang\*, *Institute of Animal Nutrition, Sichuan Agricultural University, Yaan, Sichuan Province, China.*
- M131 **Effects of different levels of heat-resistance multi-enzyme supplementation on energy and nutrient utilization in broilers fed pelleted diet.**  
Z. B. Yang\*<sup>1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, G. G. Zhang<sup>1</sup>, Q. Q. Zhang<sup>1</sup>, and K. C. Siow<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Diasham Resources Pte Ltd., Jurong, Singapore.*
- M132 **Study on the effects of pectinase produced by *Penicillium oxalicum* Currie et Thom on the growth, development and digestive physiology of broilers.**  
X. X. Jiang, B. W. Wang\*, P. Sun, and B. Yue, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China.*

- M133 **Study on the growth performance and meat quality of RRR- $\alpha$ -tocopherol succinate in broilers fed with oxidized oil.**  
W. Gaiqin, Z. Xuhui, and W. Tian\*, *College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, Jiangsu, China.*
- M134 **Effects of iron glycine chelate on growth performance and immunological characteristics in broiler chickens.**  
W. Ma, Y. Wang, H. Niu, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, China.*
- M135 **Effects of zinc glycine chelate on growth, mucosal immunity and pancreas metallothionein in broilers.**  
Y. Wang, W. Ma, H. Niu, J. Xiong, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, China.*
- M136 **Effects of zinc glycine chelate on antioxidation, contents of trace elements and intestinal morphology in broilers.**  
H. Niu, Y. Wang, W. Ma, J. Xiong, and J. Feng\*, *College of Animal Science, Zhejiang University, Hangzhou, China.*
- M137 **Effects of Mintrex Cu on growth performance in broilers.**  
W. Jinlei, Z. Tianguo, S. Qiujuan, and G. Yuming\*, *College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- M138 **Effects of Mintrex Zn on growth performance in broilers.**  
W. Jinlei, Z. Tianguo, S. Qiujuan, and G. Yuming\*, *College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- M139 **Effect of Mintrex Mn on performance and eggshell quality in laying hens.**  
S. Qiujuan, W. Jinlei, Z. Tianguo, and G. Yuming\*, *College of Animal Science and Technology China Agricultural University, Beijing, China.*
- M140 **Effect of Mintrex Zn on performance and eggshell quality in laying hens.**  
S. Qiujuan, W. Jinlei, Z. Tianguo, and G. Yuming\*, *College of Animal Science and Technology China Agricultural University, Beijing, China.*
- M141 **Effect of Mintrex Cu on performance and eggshell quality in laying hens.**  
S. Qiujuan, W. Jinlei, Z. Tianguo, and G. Yuming\*, *College of Animal Science and Technology China Agricultural University, Beijing, China.*

- M142 **Effect of phytase with different dose and dosage-form on the performance and utilization of calcium and phosphorus in laying hens.**  
M. Qiu\*<sup>1</sup>, X. Zhang<sup>1</sup>, L. Wang<sup>1</sup>, B. Guo<sup>2</sup>, J. Su<sup>2</sup>, and T. Wang<sup>1</sup>, <sup>1</sup>*College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, Jiangsu, P. R. China*, <sup>2</sup>*Beijing Smile Feed Science and Technology Company Limited, Beijing, P. R. China*.
- M143 **The comparative analysis on egg quality, nutrients and relative gene with gene expression profile of embryo by cDNA microarray from Lingshan Local breed and White Plymouth Rock breed.**  
Y. Feng, X. Wang\*, C. Zhang, P. Zeng, G. Shu, Q. Luo, and D. Zhang, *College of Animal Science, South China Agricultural University, Guangzhou, Guangdong Province, China*.
- M144 **The mechanisms of lipid deposition in dexamethasone exposed broiler chickens (*Gallus gallus domesticus*) in the late growing stage.**  
Y. L. Cai\*<sup>1,2</sup>, Z. G. Song<sup>2</sup>, X. H. Zhang<sup>2</sup>, X. J. Wang<sup>2</sup>, H. C. Jiao<sup>2</sup>, and H. Lin<sup>2</sup>, <sup>1</sup>*College of Biological Science, Jinan, Shandong, China*, <sup>2</sup>*College of Animal Science, Taian, Shandong, China*.
- M145 **Effect of RRR- $\alpha$ -tocopherol succinate on immunity and meat quality in broilers.**  
Z. Xuhui\*, Z. Xiang, Z. Yanmin, and W. Tian, *Nanjing Agricultural University, Nanjing, Jiangsu, China*.
- M146 **Effect of different selenium sources on anti-oxidation function in geese.**  
B. W. Wang\*, N. Wang, X. X. Jiang, P. Sun, and B. Yue, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China*.
- M147 **Effect of different selenium yeast addition level on anti-oxidation function and fatty-liver production of liver-breeding geese.**  
P. Sun, B. W. Wang\*, Z. G. Liu, B. Yue, X. X. Jiang, and N. Wang, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China*.
- M148 **Effect of the hydrolyzed wheat gluten on growth performance, digestive enzyme activity, and intestinal morphology of weaning piglets.**  
Y. Feng<sup>1</sup>, X. Wang\*<sup>1</sup>, G. Shu<sup>1</sup>, Q. Jiang<sup>1</sup>, J. Yang<sup>1</sup>, and Z. Zhang<sup>2</sup>, <sup>1</sup>*College of Animal Science, South China Agricultural University, Guangzhou, Guangdong Province, P. R. China*, <sup>2</sup>*Zhengzhou Newwill Nutrition Technology Co., Ltd., Zhengzhou, Henan Province, P. R. China*.
- M149 **Effect of iron on the antioxidant system and blood biochemical indexes of piglet.**  
D. Xiaowei\*, W. Pengpeng, W. Ping, Z. Ruiyu, C. Juan, and Y. Qingqiang, *College of Animal Science and Veterinary Medicine, Henan Agricultural University, Zhengzhou, Ahenau, China*.

- M150 **Effects of different antioxidants on retention rate of vitamin A and vitamin E in piglet premix.**  
Z. B. Yang<sup>\*1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, L. Li<sup>1</sup>, and H. Cao<sup>2</sup>, <sup>1</sup>Shandong Agricultural University, Taian, Shandong, P. R. China, <sup>2</sup>Novus International, Inc., St. Louis, MO, USA.
- M151 **Effect of different levels of xylo-oligosaccharides supplementation on growth performance and nutrients utilization of piglets.**  
H. S. Huang<sup>1</sup>, S. Zhou<sup>\*1</sup>, Z. B. Yang<sup>2</sup>, W. R. Yang<sup>2</sup>, L. Xiao<sup>3</sup>, and X. A. Zhang<sup>3</sup>, <sup>1</sup>Qinghai University, Xining, P. R. China, <sup>2</sup>Shandong Agricultural University, Taian, Shandong, P. R. China, <sup>3</sup>Shandong Longlive Bio-technology Co., Ltd, Qingdao, Shandong, P. R. China.
- M152 **The study on lysine requirement of neonatal piglets.**  
Z. Jiang<sup>\*</sup>, K. Huang, C. Zheng, Y. Lin, and S. Jiang, *The Key Laboratory of Animal Nutrition and Feed Science (South China) of Ministry of Agriculture, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- M153 **Effect of hydrolyzed wheat gluten on growth performance, cell immunity and serum biochemical indexes of weanling piglets.**  
X. Wang<sup>\*1</sup>, Y. Feng<sup>1</sup>, G. Shu<sup>1</sup>, Q. Jiang<sup>1</sup>, J. Yang<sup>1</sup>, and Z. Zhang<sup>2</sup>, <sup>1</sup>College of Animal Science, South China Agricultural University, Guangzhou, Guangdong Province, P. R. China, <sup>2</sup>Zhengzhou Newwill Nutrition Technology Co., Ltd., Zhengzhou, Henan Province, P. R. China.
- M154 **Effects of copper loaded chitosan nanoparticles on growth, immunity and antioxidant activity in weaned pigs.**  
M. Wang<sup>\*1,2</sup> and X. Xie<sup>1,2</sup>, <sup>1</sup>Animal Science College of Zhejiang University, Hangzhou, China, <sup>2</sup>The Key Laboratory of Molecular Animal Nutrition, Ministry of Education, Hangzhou, China.
- M155 **Effects of different dietary lysine levels on apparent nutrient digestibility and serum amino acid concentration and serum biochemical indexes in growing pigs.**  
P. Zeng, C. Zhang, X. Wang<sup>\*</sup>, Y. Feng, and C. Zhu, *College of Animal Science, South China Agricultural University, Guangzhou, Guangdong Province, P. R. China.*

- M156 **The regulation of L-arginine on fat metabolism in growing-finishing pigs.**  
 B. E. Tan<sup>1,2</sup>, Y. L. Yin<sup>\*1</sup>, Z. Q. Liu<sup>1,2</sup>, X. G. Li<sup>3</sup>, H. J. Xu<sup>1,2</sup>, X. F. Kong<sup>1</sup>, R. L. Huang<sup>1</sup>, W. J. Tang<sup>1,2</sup>, and G. Y. Wu<sup>4</sup>, <sup>1</sup>*Laboratory of Animal Nutrition and Human Health and Key Laboratory of Agro-ecology, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* <sup>2</sup>*The Graduate School of the Chinese Academy of Sciences, Beijing, China,* <sup>3</sup>*Hunan Institute of Animal Husbandry and Veterinary Medicine, Changsha, Hunan, China,* <sup>4</sup>*Department of Animal Science, Texas A&M University, College Station, TX, USA.*
- M157 **Effects of corn distillers dried grains with solubles and Allzyme SSF supplementation on growth performance and fat quality in growing-finishing pigs.**  
 G. Li<sup>\*</sup>, X. Wang, and W. Yao, *Laboratory of Gastrointestinal Microbiology, Nanjing Agricultural University, Nanjing, China.*
- M158 **Effects of different dietary lysine levels on growth performance, apparent nutrient digestibility, serum amino acid concentration and serum biochemical indexes of finishing pigs.**  
 X. Wang<sup>\*</sup>, P. Zeng, Y. Feng, C. Zhang, J. Yang, G. Shu, and Q. Jiang, *College of Animal Science, South China Agricultural University, Guangzhou, Guangdong Province, P. R. China.*
- M159 **Effects of  $\gamma$ -aminobutyric acid on the production performance and blood serum indexes of lactating sows.**  
 Z. Fan<sup>\*1</sup>, D. Zhou<sup>2</sup>, X. Wu<sup>1</sup>, J. He<sup>1</sup>, and S. Pan<sup>1</sup>, <sup>1</sup>*The Animal Science And Technology College in Hunan Agricultural University, Changsha, Hunan Province, China,* <sup>2</sup>*Institute of Animal Nutrition in Sichuan Agricultural University, Yaan, Sichuan Province, China.*
- M160 **Effects of phytogetic products on in vitro rumen fermentation and methane emission in goats.**  
 G. Z. Dong<sup>\*</sup>, X. J. Wang, Z. B. Liu, and F. Wang, *College of Animal Science and Technology, Southwest University; Key Laboratory of Grass and Herbivores of Chongqing, Beibei, Chongqing, China.*
- M161 **Energy is released in swine diets containing corn distillers dried grains with solubles with phytase and xylanase.**  
 M. D. Lindemann<sup>\*1</sup>, J. H. Cho<sup>1</sup>, G. L. Cromwell<sup>1</sup>, P. H. Simmins<sup>2</sup>, and A. Owusu-Asiedu<sup>2</sup>, <sup>1</sup>*University of Kentucky, Lexington, KY, USA,* <sup>2</sup>*Danisco Animal Nutrition, Marlborough, UK.*
- M162 **Cloning and expression of  $\beta$ -mannanase from *Bacillus subtilis* MA139 in *Pichia pastoris*.**  
 Y. Cao<sup>\*</sup>, J. Qiao, and W. Ma, *National Key Laboratory of Animal Nutrition, China Agricultural University, Beijing, China.*

- M163 **The main fatty acid contents in three varieties of canola seed.**  
E. Assadi Soumeh\*, H. Janmohammadi, and A. Taghizadeh, *University of Tabriz, Tabriz, East Azarbayjan, Iran.*
- M164 **Distinct statistical sensitivity across methods for analysis of nutriogenomics time course Affymetrix data.**  
H. Wei<sup>1</sup>, H. Luo<sup>1</sup>, F. Huang<sup>1</sup>, J. Luo<sup>1</sup>, J. Peng\*<sup>1</sup>, and S. Jiang<sup>2</sup>,  
<sup>1</sup>*Department of Animal Nutrition and Feed Science, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China,* <sup>2</sup>*Key Laboratory of Swine Breeding and Genetics of Agricultural Ministry, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China.*
- M165 **Dietary n-3 polyunsaturated fatty acids affect piglet growth by modulating the expression of pro-inflammatory cytokines and anabolic growth factors.**  
J. Luo<sup>1</sup>, Z. Fang<sup>1,3</sup>, F. Huang<sup>1</sup>, H. Wei<sup>1</sup>, H. Luo<sup>1</sup>, J. Peng\*<sup>1</sup>, and S. Jiang<sup>2</sup>,  
<sup>1</sup>*Department of Animal Nutrition and Feed Science, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, P. R. China,* <sup>2</sup>*Key Laboratory of Swine Breeding and Genetics of Agricultural Ministry, College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, P. R. China,* <sup>3</sup>*Animal Nutrition Institute, Ya'an, Sichuan, P. R. China.*

## Poultry Metabolism and Nutrition Posters Friendship Palace Rooms 1-6

- M166 **Effect of different concentrations of yucca extract on growth performance and serum parameters of broilers chickens.**  
Z. B. Yang\*<sup>1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, G. F. Zhang<sup>1</sup>, Y. M. Ding<sup>1</sup>, and L. R. Xu<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Shanghai Hera International Trading Co. Ltd., Shanghai, P. R. China.*
- M167 **Effects of exogenous multi-emulsifiers on nutrient digestibility in broilers.**  
Q. Q. Zhang\*<sup>1</sup>, Z. B. Yang<sup>1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, G. G. Zhang<sup>1</sup>, and Y. L. Liu<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Perfect Bio-Tach Co. Ltd., Changsha, Hunan, P. R. China.*
- M168 **Effects of medicinal plant, prebiotic, probiotic, and antibiotic on performance, immunity response, and ileal digestibility of broilers.**  
M. Alizadeh Sadr Daneshpour\*, F. Shariatmadari, and M. Karimi, *Tarbiat Modares University, Tehran, Iran.*

- M169 **The effect of graded levels of dietary methionine on the hematology and serum biochemistry of broilers.**  
G. O. Adeyemo\*, A. D. Ologhobo, and O. A. Adebisi, *University of Ibadan, Ibadan, Oyo, Nigeria.*
- M170 **Zinc requirements of yellow broilers from twenty-two to forty-two days of age.**  
X. Liu, Z. Jiang\*, S. Jiang, G. Zhou, and F. Chen, *The Key Laboratory of Animal Nutrition and Feed Science (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- M171 **Zinc requirements of yellow broilers from forty-three to sixty-three days of age.**  
Z. Jiang\*, X. Liu, S. Jiang, Y. Lin, and X. Ma, *The Key Laboratory of Animal Nutrition and Feed Science (South China) of Ministry of Agriculture, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- M172 **Effects of feeding solid-state fermented rapeseed meal on performance, nutrient digestibility, intestinal ecology, and intestinal morphology of broilers.**  
G. Chiang\*, W. Lu, X. Piao, L. Gong, and P. A. Thacker, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- M173 **Digestibility of broiler feeds containing different levels of powder and coated sodium butyrate.**  
Y. Zou<sup>1</sup>, Z. B. Yang\*<sup>1</sup>, W. R. Yang<sup>1</sup>, S. Z. Jiang<sup>1</sup>, X. Zhao<sup>1</sup>, and R. Yu<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Kangdequan Feed Co., Ltd., Hangzhou, Zhejiang, P. R. China.*
- M174 **Effects of aflatoxin-detoxifzyme on growth performance and liver biochemical indices of broilers.**  
Y. Wang\*<sup>1</sup>, B. Chen<sup>1</sup>, and H. Yu<sup>2</sup>, <sup>1</sup>*Agricultural University of Hebei, Baoding, Hebei, China,* <sup>2</sup>*Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China.*
- M175 **Influence of in ovo injecting Ala-Gln and disaccharides on pectoral muscle growth in duck embryos and neonates.**  
W. Chen, L. Xiong, R. Wang, J. Xu, and J. Peng\*, *Department of Animal Nutrition and Feed Science, Huazhong Agricultural University, Wuhan, Hubei, China.*



- M176 **Prediction of true amino acid availability of lysine and methionine by chemical composition in soybean meal and rapeseed meal for ducks.**  
Z. Zhou, H. F. Wan, W. Chen, Z. L. Qi, and J. Peng\*, *Huazhong Agricultural University, Wuhan, Hubei, China.*
- M177 **Effect of amylopectin/amylose ratio in corn on true metabolizable energy values for ducks.**  
Z. Zhou, H. F. Wan, W. Chen, Y. Li, and J. Peng\*, *Huazhong Agricultural University, Wuhan, Hubei, China.*
- M178 **Influences of dietary riboflavin and low temperature on the antioxidant capacity and lipid peroxidation in young laying ducks.**  
Y. Lu and A. Wang\*, *Institute of Animal Nutrition, Harbin, China.*
- M179 **Effects of dietary energy and protein contents on the pH and electrolyte ion concentrations of jejunal fluid in Pekin ducks.**  
F. Zhao\*, H. F. Zhang, and Z. Y. Zhang, *Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*
- M180 **Relative effectiveness of methionine sources in diets for starter Pekin ducklings.**  
M. Xie\*<sup>1,2</sup>, S. Hou<sup>1,2</sup>, W. Huang<sup>1,2</sup>, and J. Yu<sup>1,2</sup>, <sup>1</sup>*Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China,* <sup>2</sup>*State Key Laboratory of Animal Nutrition, Beijing, China.*
- M181 **Study on stress resistance and probiotic characteristics of *Bacillus licheniformis* in vitro.**  
F. B. Li\*, B. J. Chen, and C. C. Liang, *College of Animal Science and Technology, Agriculture University of Hebei, Baoding, China.*

## Ruminant Nutrition Posters Friendship Palace Rooms 1-6

- M182 **Quantification of the protein structure amide I-to-amide II ratio and the  $\alpha$ -helix-to- $\beta$ -sheet ratio of new coproducts of bioethanol production: Effect of bioethanol processing.**  
P. Yu\* and D. Damiran, *Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.*
- M183 **Determining the best model for computing mean and median particle sizes of coarsely dry-rolled barley—A comparison study.**  
L. Du, N. Liu, and P. Yu\*, *Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.*

- M184 **The relationships between milk calories and milk composition for dairy water buffalos in Guangxi, China.**  
C. X. Zou\*<sup>1</sup>, S. J. Wei<sup>1</sup>, B. Z. Yang<sup>1</sup>, X. W. Liang<sup>1</sup>, Z. S. Xia<sup>2</sup>, K. Liang<sup>1</sup>, L. Li<sup>1</sup>, and S. L. Li<sup>1</sup>, <sup>1</sup>*Buffalo Research Institute, Chinese Academy of Agricultural Sciences, Nanning, Guangxi, China*, <sup>2</sup>*Guangxi University, Nanning, Guangxi, China*.
- M185 **Application of an advanced synchrotron-based bioanalytical technique to structural research in CDC oats within the cellular and subcellular dimensions for ruminants.**  
D. Damiran and P. Yu\*, *Department of Animal and Poultry Science, College of Agriculture and Bioresources, The University of Saskatchewan, Saskatchewan, Saskatchewan, Canada*.
- M186 **Intestinal digestibility of protein and dry matter of ruminant feeds as determined using the mobile nylon bag technique.**  
R. Zhou, J. Q. Wang\*, F. M. Pan, Y. D. Zhang, D. P. Bu, H. Y. Wei, and L. Y. Zhou, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China*.
- M187 **Screening for and bioinformatic analysis of genes encoding acetyl-coenzyme A carboxylase from a metagenomic library of dairy cow rumen microbiota.**  
S. G. Zhao<sup>1</sup>, J. Q. Wang\*<sup>1</sup>, K. L. Liu<sup>1</sup>, Y. X. Zhu<sup>2</sup>, D. Li<sup>1</sup>, P. Yu<sup>1</sup>, and D. P. Bu<sup>1</sup>, <sup>1</sup>*State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, P. R. China*, <sup>2</sup>*State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese Academy of Sciences, Beijing, P. R. China*.
- M188 **Effects of yeast  $\beta$ -glucan on growth performance and gastrointestinal characteristics in Holstein calves.**  
Z. Yi\*, D. Qiyu, T. Yan, and Y. Qiang, *Feed Research Institute, Chinese Academy of Agriculture Science, Beijing, China*.
- M189 **Influence of milk replacer pH on the development of the gastrointestinal tract of Chinese Holstein calves.**  
Y. Tu\*, Q.-Y. Diao, Y. Zhou, and Q. Yun, *Institute of Feed Research, Chinese Academy of Agricultural Sciences, Beijing, P. R. China*.
- M190 **Effect of dietary supplementation with methionine hydroxy copper on the performance of Holstein dairy cows.**  
F. Wang, X. Jin, and S. Li\*, *State Key Laboratory for Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Haidiani, Beijing, China*.

- M191 **Impact of dietary cation-anion difference on performance and acid-base status of early lactating dairy cows: A meta-analysis.**  
B. Chen and J. Liu\*, *Institute of Dairy Science, Zhejiang University, Hangzhou, China.*
- M192 **Studies on the optimal supplementation dosage of mixed fruit flavor meal and the effects on cow performance and milk flavor.**  
M. Yanfen\*, L. Dexun, Z. Jun, and G. Min, *Animal Nutrition Institute, Inner Mongolia Academy of Animal Science, Inner Mongolia, Huhhot, China.*
- M193 **Studies on the effects of oregano oil and thymol on rumen microbial fermentation using a rumen simulation continuous culture (RSCC) system.**  
B. Wurihan\*<sup>1</sup>, S. Hai-zhou<sup>2</sup>, Z. Cun-fa<sup>2</sup>, Z. Chun-hua<sup>2</sup>, L. Sheng-li<sup>2</sup>, S. Yan<sup>2</sup>, S. Dan<sup>2</sup>, and B. Saina<sup>2</sup>, <sup>1</sup>*College of Animal and Veterinary Sciences, Inner Mongolia Agricultural University, Huhhot, Huhhot, China,* <sup>2</sup>*Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China.*
- M194 **Effects of different levels of vitamin A supplementation on growth and vitamin A utilization of growing steers fed poor-quality corn straw silage.**  
Z. B. Yang\*<sup>1</sup>, W. R. Yang<sup>1</sup>, F. C. Wan<sup>2</sup>, X. M. Ma<sup>1</sup>, and G. F. Zhang<sup>1</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Shandong Academy of Agricultural Science, Jinan, Shandong, P. R. China.*
- M195 **Relationship between in situ dry matter disappearance and gas production of some feedstuffs.**  
H. Paya\* and A. Taghizadeh, *University of Tabriz, Tabriz, East Azarbayjan, Iran.*
- M196 **Metabolizable energy of some feedstuffs used in ruminant diets.**  
H. Paya\* and A. Taghizadeh, *University of Tabriz, Tabriz, East Azar Bayjen, Iran.*
- M197 **Effect of different combination ratios of high-quality and poor-quality roughage on fibrolytic enzyme activities in vitro.**  
P. Dianyi\*, W. Zhisheng, X. Bai, W. Lizhi, and L. Anqiang, *Animal Nutrition Institute, Sichuan, China.*
- M198 **Approach on the lipid based dietary manipulation for increasing conjugated linoleic acid (CLA) content in ruminant products.**  
J. Wang\*, *Dalian Polytechnic University, Dalian, China.*

- M199 **The effect of supplementation of lysine on the digestion and metabolism in lambs 60 to 145 days of age.**  
J. Ouyang, Q. Luo\*, Q. Fu, W. Zhu, and R. Pan, *Xinjiang Agricultural University, Urumqi, Xinjiang, China.*
- M200 **In situ crude protein degradability of some by-products.**  
M. Besharati<sup>1,2</sup> and A. Taghizadeh\*<sup>1</sup>, <sup>1</sup>*University of Tabriz, Tabriz, East Azarbaijan, Iran,* <sup>2</sup>*Payame Noor University of Benis, Shabestar, East Azarbaijan, Iran.*
- M201 **Effects of clinoptilolite on the hematology, performance, and health of newborn lambs.**  
M. A. Norouzian\*<sup>1</sup>, R. Valizadeh<sup>1</sup>, A. A. Khadem<sup>2</sup>, and A. Nabipour<sup>1</sup>, <sup>1</sup>*Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran,* <sup>2</sup>*University of Tehran, Tehran, Iran.*
- M202 **Plasma leucine turnover rate, whole-body protein synthesis, and rumen degradability in sheep during cold exposure.**  
M. Al-Mamun\*<sup>1,2</sup>, Y. Sako<sup>1</sup>, and H. Sano<sup>1</sup>, <sup>1</sup>*Department of Animal Science, Faculty of Agriculture, Iwate University, Morioka, Iwate, Japan,* <sup>2</sup>*Department of Animal Nutrition, Bangladesh Agricultural University, Mymensingh, Bangladesh.*
- M203 **Effects of replacing soybean meal with xylose-treated soybean meal on the performance of nursing Awassi ewes and fattening lambs.**  
B. S. Obeidat\*, I. A. Alawneh, and M. S. Mofleh, *Jordan University of Science and Technology, Irbid, Jordan.*
- M204 **Effects of feeding pistachio by-products on hematology and performance of Balouchi lambs.**  
R. Valizadeh\*, M. A. Norouzian, M. Salemi, and E. Ghiasi, *Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.*
- M205 **Effect of garlic essential oil on in vitro fermentation of different forage to concentrate ratios by microorganism from goat rumen.**  
Z. Zhu\*, S. Y. Mao, H. L. Zhu, and W. Y. Zhu, *Nanjing Agricultural University, Nanjing, Jiangsu, China.*
- M206 **Effect of a new urea-mineral slow-release compound on fermentation characteristics with rumen-fistulated yaks.**  
H. P. Jiao\*<sup>1</sup>, X. Q. Zhao<sup>2</sup>, B. Xue<sup>1,2</sup>, S. X. Xu<sup>2</sup>, and R. J. Wang<sup>1</sup>, <sup>1</sup>*Animal Nutrition Institute, Sichuan Agricultural University, Sichuan Province, China,* <sup>2</sup>*Northwest Institute of Plateau Biology, Chinese Academy of Sciences, Qinghai Province, China.*

# Tuesday, November 10

## SYMPOSIA AND ORAL SESSIONS

### Meat Safety Symposium

Chairs: **Thomas Powell, American Meat Science Association, Champaign, IL; Guanghong Zhou, Nanjing Agricultural University**  
*Sponsored by AMSA*  
**Building 1 Meeting Hall**

- 8:00 AM **Food safety: A perspective on the path traveled and the road ahead.**  
J. Luchansky, *USDA-ARS.*
- 8:45 AM 103 **Use of natural antimicrobials to improve the control of bacterial pathogens in cured processed meats manufactured without direct addition of nitrite.**  
Y. Xi\*<sup>1,2</sup>, J. G. Sebranek<sup>2</sup>, G. H. Zhou<sup>1</sup>, G. A. Sullivan<sup>2</sup>, A. L. Jackson<sup>2</sup>, and K. D. Schrader<sup>2</sup>, <sup>1</sup>*Nanjing Agricultural University, Nanjing, Jiangsu, China,* <sup>2</sup>*Iowa State University, Ames, IA, USA.*
- 9:30 AM **Meat safety in China: Challenges and Opportunities.**  
W. Fang, *Zhejiang University, China.*
- 10:15 AM **A brief introduction of food safety activities under the USDA-MOST protocol on agricultural science and technology.**  
G. Zhou, *Nanjing Agricultural University, China.*
- 11:00 AM **Meat Science and Muscle Biology**
- 11:00 AM 104 **The effects of dietary conjugated linoleic acid on the growth performance and muscular nutrient of three duck breeds.**  
Z. S. Xia\*<sup>1</sup>, L. Chen<sup>1</sup>, R. C. He<sup>2</sup>, Y. Y. Liao<sup>2</sup>, and Y. F. Lu<sup>2</sup>, <sup>1</sup>*College of Animal Science and Technology, Guangxi University, Nanning, Guangxi, P. R. China,* <sup>2</sup>*Animal Husbandry Institute of Guangxi, Nanning, Guangxi, P. R. China.*

- 11:15 AM 105 **Leucine promotes leptin receptor expression in mouse C2C12 myotubes through the mammalian target of rapamycin pathway.**  
X. Mao\*, X. Zeng, and S. Qiao, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- 11:30 AM 106 **n-3 polyunsaturated fatty acid enrichment in skeletal muscle influences intramuscular fat content and adipogenesis-related genes in pigs.**  
H. F. Luo, H. K. Wei, F. R. Huang, Z. Zhou, S. W. Jiang, and J. Peng\*, *Huazhong Agricultural University, Wuhan, Hubei, China.*
- 11:45 AM 107 **S-adenosylmethionine stimulates fatty acid metabolism-linked gene expression in porcine muscle satellite cells.**  
T. Yue\*, J. Yin, Q. Fang, and D. Li, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, No. 2 Yuanmingyuan West Road, Haidian District, Beijing, China.*
- 12:00 PM 108 **Qualitative evaluation of Red Sokoto buck goats differently processed.**  
A. B. Omojola\*<sup>1</sup>, E. S. Apata<sup>2</sup>, and O. O. Olusola<sup>1</sup>, *<sup>1</sup>University of Ibadan, Ibadan, Oyo-State, Nigeria, <sup>2</sup>Olabisi Onabanjo University, Ago-Iwoye, Ogun-State, Nigeria.*
- 12:15 PM 109 **Effect of included folic acid in summer sausage on pH decline at two storage temperatures.**  
R. Cox\*, R. LaBerge, J. Popowski, and P. Nelson, *University of Minnesota, St. Paul, MN, USA.*
- 12:30 PM 110 **Cell growth, apoptosis, and the expression of heat shock proteins: Effects of heat stress on bovine mammary epithelial cells.**  
R. L. Cui<sup>1</sup>, J. Q. Wang\*<sup>1</sup>, H. Y. Wei<sup>1</sup>, D. P. Bu<sup>1</sup>, H. Hu<sup>1,2</sup>, and L. Y. Zhou<sup>1</sup>, *<sup>1</sup>State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, <sup>2</sup>Faculty of Animal Science & Technology, Gansu Agriculture University, Lanzhou, China.*

**Ruminant Nutrition, Growth, and Development**  
Chairs: **Zhongtang Yu, The Ohio State University, Columbus, OH; Weiyun Zhu, Nanjing Agricultural University**  
*Sponsored by Novus*  
**Meeting Hall Building Room 101**

- 8:00 AM 111 **The somatotropic axis in growth and lactation.**  
S. A. Zinn\*, *Department of Animal Science, University of Connecticut, Storrs, CT, USA.*
- 8:45 AM **2009 Survey of rumen microflora.**  
Z. Yu, *The Ohio State University.*
- 9:30 AM Mercedes Vázquez-Añón.
- 10:15 AM **Effects of feeding extruded soybean, ground canola seed and whole cottonseed on ruminal fermentation, performance, and milk fatty acid profile in early lactation dairy cows.**  
S. Li.
- 11:00 AM **Study on ideal absorbable amino acid pattern in small intestine of Inner Mongolian White Cashmere goats.**  
D. Lu, *Inner Mongolia Agricultural University, China.*
- 11:45 AM **CAAV Sponsored Speaker.**  
Y. Zhen.

**Swine Production**  
Chairs: **James Pettigrew, University of Illinois, Urbana; Weili Zhang, Anhui Agricultural University**  
*Sponsored by Alltech*  
**Building 7 Meeting Rooms 1&2**

- 8:00 AM 112 **Nutritional strategies for gilt development.**  
M. D. Lindemann\*, Y. Ma, and I. Hung, *University of Kentucky, Lexington, KY USA.*
- 8:45 AM 113 **Fundamentals of sow nutrition.**  
J. E. Pettigrew\*, *University of Illinois, Urbana, IL USA.*

- 9:30 AM 114 **Efficacy evaluation of Avilamycin premix (Surmax) for controlling postweaning diarrhea associated with *Escherichia coli* infection in pigs.**  
H. Y. Yuan<sup>2</sup>, C. K. Mah<sup>\*1</sup>, and H. Zou<sup>1</sup>, <sup>1</sup>*Elanco Animal Health, Shanghai, China*, <sup>2</sup>*Huazhong Agricultural University, Wuhan, China*.
- 10:15 AM **Break**
- 10:30 AM 115 **High-quality meat of Chinese native pig breeds.**  
W. Zhang\*, *Anhui Agricultural University, Hefei, China*.
- 11:15 AM 116 **Effects of replacing fishmeal with full-fat soybean meal on performance of weaning piglets.**  
Z. Cheng\*, *American Soybean Association-International Marketing, Beijing, P. R. China*.
- 11:30 AM 117 **Comparison of litter size and birth weight in different farrowing types and crossbreeds in an outdoor system.**  
S.-H. Oh\*, A. Singletary, T. Daniels, T. Barrios, and N. N. Whitely, *North Carolina A&T State University, Greensboro, NC, USA*.
- 11:45 AM 118 **Effect of replacing imported fish meal with dehulled expanded soybean meal on the performance of weaning piglets.**  
Z. Cheng\*, *American Soybean Association-International Marketing, Beijing, P. R. China*.
- 12:00 PM 119 **The influence of a phytogetic feed additive on the reproductive performance of sows during a heat-stress period.**  
L. Z. Jin\* and T. Tan, *Meriden Biotech Co. Ltd., Guangzhou, China*.

## **Environmental Impacts of Cattle, Swine and Poultry Production**

**Chairs: James Oltjen, University of California, Davis;  
Hai Lin, Shandong Agricultural University  
Building 1 Meeting Hall**

- 1:30 PM 120 **Environmental impacts of large scale commercial dairies and swine operations.**  
J. W. Oltjen\* and F. M. Mitloehner, *University of California, Davis, CA, USA*.



- 2:15 PM 121 **Large scale dairy and swine production strategies for environmental stewardship: Current trends and future perspectives.**  
A. L. Sutton\* and T. D. Nennich, *Purdue University, West Lafayette, IN, USA.*
- 3:00 PM 122 **Ruminant methane production and its control.**  
W.-Y. Zhu\*, *Nanjing Agricultural University, Nanjing, China.*
- 3:45 PM **Break**
- 4:00 PM 123 **Meat safety in China: Challenges and opportunities.**  
W. Fang\*, *Zhejiang University, Zhejiang, China.*
- 4:45 PM 124 **Low carbon farming's sustainability indicators from the Dairy Stewardship Alliance.**  
A. G. Matthews\*, *University of Vermont, Burlington, VT, USA.*

### Writing Symposia: Publishing in JAS

Chairs: **Greg Lewis and Steven Zinn, USDA-ARS, Dubois, ID; University of Connecticut, Storrs; Shaorong Gao, National Institute of Biological Sciences**  
*Sponsored by Journal of Animal Science*  
**Meeting Hall Building Room 101**

- 1:30 PM 125 **Publishing in the *Journal of Animal Science*.**  
G. S. Lewis\*<sup>1</sup> and S. A. Zinn<sup>2</sup>, <sup>1</sup>*USDA, ARS, US Sheep Experiment Station, Dubois, ID, USA,* <sup>2</sup>*Department of Animal Science, University of Connecticut, Storrs, CT, USA.*

### International Partnerships and Student Exchanges

Chairs: **Bud Harmon, Purdue University, West Lafayette, IN; Defa Li, China Agricultural University**  
**Friendship Palace Dining Hall**

- 5:00 PM 126 **International opportunities fostered by working with United States-based professional organizations.**  
M. C. Wulster-Radcliffe\*, *American Society of Animal Science, Champaign, IL, USA.*

- 5:45 PM **International opportunities fostered by working with European-based professional organizations.**  
Andrea Rosati, *EAAP, Rome, Italy.*
- 6:30 PM 127 **International opportunities for students.**  
J. S. Radcliffe\*, *Purdue University, West Lafayette, IN, USA.*
- 7:15 PM 128 **Opportunities for international partnership and student exchange.**  
C. Zhang\*, *University of Florida, Tallahassee, FL, USA.*

## Tuesday, November 10

### POSTER PRESENTATIONS

#### Animal Behavior and Well-Being Posters Friendship Palace Rooms 1-6

- T207 **Effect of the number of feeding buckets per pen on performance and behavior indicators in newborn lambs.**  
M. A. Norouzian\*, R. Valizadeh, A. Nabipour, A. A. Naserian, and A. M. Tahmasbi, *Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.*
- T208 **Effect of different cage systems on laying hen welfare.**  
Z. G. Song\*, Y. Y. Guo, H. C. Jiao, and H. Lin, *College of Animal Science and Technology, Shandong Agricultural University, Taian, Shandong, China.*
- T209 **Altered expression profiles of circadian rhythm-related genes in rat jejunum after heat stress.**  
J. Yu\*<sup>1,3</sup>, P. Yin<sup>2</sup>, F. Liu<sup>1,3</sup>, X. Zhu<sup>2,3</sup>, J. Xu<sup>2,3</sup>, and K. Guo<sup>1</sup>, <sup>1</sup>*Beijing University of Agriculture, Beijing, China,* <sup>2</sup>*China Agricultural University, Beijing, China,* <sup>3</sup>*Key Laboratory of Development and Evaluation of the Chemical and Herbal Drugs for Animal Use, Ministry of Agriculture, Beijing, China.*
- T210 **Behavior observations of free-range chickens in a mountain environment.**  
T. Zhang and Y.-J. Lou\*, *College of Animal Science and Technology, Jilin Agricultural University, Changchun, China.*

## Animal Health Posters

### Friendship Palace Rooms 1-6

- T211 **Locoweed and animal health.**  
D. Nengtai\*<sup>1</sup>, Z. Baoyu<sup>2</sup>, C. Minhui<sup>3</sup>, W. Lanqiqige<sup>3</sup>, L. Guozhong<sup>3</sup>, F. Dengsheng<sup>3</sup>, Z. Wenjun<sup>3</sup>, G. Qingnian<sup>3</sup>, D. Nengtai<sup>3</sup>, L. Desheng<sup>3</sup>, S. Buerbatu<sup>3</sup>, M. Qingcheng<sup>3</sup>, A. Latengwula<sup>3</sup>, Y. Yonggang<sup>3</sup>, X. Xiangjun<sup>3</sup>,  
<sup>1</sup>*Animal Toxicopathy Prevention and Cure Institution of Alashan in Inner Mongolia, Alashan County, Inner Mongolia, China*, <sup>2</sup>*College of Veterinary Medicine of Northwest A&F University, Yangling, Shannxi, China*, <sup>3</sup>*Veterinary Workstation of Alashan in Inner Mongolia, Alashan County, Inner Mongolia, China*.
- T212 **Gene cloning and expression of porcine haptoglobin and preparation of haptoglobin monoclonal antibodies.**  
Y. Cuicui, M. Xianrong, L. Shaowen\*, M. Shilin, Z. Wang, Z. Leilei, C. Hui, and B. Dingren, *College of Veterinary Medicine, Huazhong Agricultural University, Wuhan, Hubei, P. R. China*.
- T213 **The development of denaturing gradient gel electrophoresis analysis based on 16S rDNA of small fecal microflora of piglets.**  
X. Tao, Z.-W. Xu\*, B. Deng, Y.-M. Li, and M.-H. Liu, *Institute of Animal Husbandry and Veterinary Science, Zhejiang Academy of Agricultural Sciences, China*.
- T214 **Effects of short-term heat stress on the intestinal mucosal immunity in miniature pigs.**  
Y. Hu<sup>1</sup>, C. Xiao<sup>2</sup>, D. Luo<sup>1</sup>, H. Tian<sup>1</sup>, D. Han<sup>1</sup>, D. Wang<sup>1</sup>, J. Xu<sup>1</sup>, F. Liu\*<sup>3</sup>, and R. She<sup>1</sup>, <sup>1</sup>*College of Veterinary Medicine, China Agricultural University, Beijing, China*, <sup>2</sup>*Institute of Laboratory Animal Science, Chinese Academy of Medical Science, Faculty of Laboratory Animal Science, Peking Union Medical College, Beijing, China*, <sup>3</sup>*Department of Animal Science and Technology, Beijing University of Agriculture, Beijing, China*.
- T215 **Induction of systemic immune responses of mice by subcutaneous route with *Lactococcus lactis* expressing FaeG.**  
L. Shu-jie, L. Yong-ming, X. Zi-wei\*, and W. Yi-cheng, *Institution of Husbandry and Veterinary, Zhejiang Academy of Agricultural Science, Hangzhou, Zhejiang Province, China*.
- T216 **Alleviating effect of *Coptis chinensis* and berberine on intestinal injury in rats challenged with lipopolysaccharides.**  
Q. Zhang\*, T. Lu, D. Wang, and X. Piao, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China*.

- T217 **The effects of a Chinese traditional medicine prescription on the levels of interleukin-4 and interferon- $\gamma$  in vivo and in vitro under heat stress in mice.**  
X. Zhu\*<sup>1</sup>, F. Liu<sup>2</sup>, J. Yu<sup>2</sup>, and J. Xu<sup>1</sup>, <sup>1</sup>China Agricultural University, Beijing, China, <sup>2</sup>Beijing University of Agriculture, Beijing, China.
- T218 **Expression of FaeG of the major F4 fimbrial subunit in *Lactococcus lactis* for oral vaccination.**  
L. Shujie, L. Yongming, X. Ziwei\*, and W. Yicheng, Institute of Animal Husbandry and Veterinary Science, Zhejiang Academy of Agricultural Sciences, Hangzhou, Zhejiang Province, China.
- T219 **Stabilization of roxarsone and arsanilic acid in feed storage.**  
J. Wang\*, H. Ren, P. Lou, Z. Fu, and J. Wang, College of Bio-Engineering, Henan University of Technology, Zhengzhou, P. R. China.
- T220 **Involvement of ERK1/2 signaling pathway in heat stress-induced damage and expression change of growth factors in rat jejunum and IEC-6 cells.**  
J. Yu\*<sup>1,3</sup>, P. Yin<sup>2</sup>, J. Yin<sup>2</sup>, F. Liu<sup>1,3</sup>, X. Zhu<sup>2,3</sup>, and J. Xu<sup>2,3</sup>, <sup>1</sup>Beijing University of Agriculture, Beijing, P. R. China, <sup>2</sup>China Agricultural University, Beijing, P. R. China, <sup>3</sup>Key Laboratory of Development and Evaluation of Chemical and Herbal Drugs for Animal Use, Beijing, P. R. China.
- T221 **The study of volatile oil of garlic on the effect of tumor necrosis factor- $\alpha$  and immunoglobulin A changes in mice infected by *Escherichia coli*.**  
G. Cheng\*<sup>1,3</sup>, F. Liu<sup>1,3</sup>, and J. Xiu<sup>2</sup>, <sup>1</sup>Beijing Key Laboratory of TCVM, Beijing, China, <sup>2</sup>Beijing University of Agriculture, Beijing, China, <sup>3</sup>China Agricultural University, Beijing, China.
- T222 **Use of *Caenorhabditis elegans* as an animal model to evaluate *Lactobacillus* isolates for use as probiotics to control *Salmonella Typhimurium*.**  
W. Chunyang<sup>1,2</sup>, G. Joshua\*<sup>2</sup>, N. Zhongxiang<sup>1</sup>, Y. Hai<sup>2</sup>, and A. Hawke<sup>2</sup>, <sup>1</sup>Shandong Agriculture University, Tan'an, Shandong, China, <sup>2</sup>Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, Ontario, Canada.
- T223 **Digestive enzyme activities and gastrointestinal hormones gastrin and somatostatin expression in reserpine-induced functional gastrointestinal disorder rats.**  
F. Cheng\*<sup>3</sup>, F. Liu<sup>2</sup>, X. Zhu<sup>1</sup>, J. Gan<sup>1</sup>, X. Song<sup>3</sup>, and J. Xu<sup>1</sup>, <sup>1</sup>China Agricultural University, Beijing, China, <sup>2</sup>Beijing University of Agriculture, Beijing, China, <sup>3</sup>Northwest A&F University, Yangling, China.

T224 **Racing horse stachybotryotoxicosis report.**  
K. Peng\*<sup>1</sup>, H. Liu<sup>1</sup>, H. Song<sup>1</sup>, Y. Feng<sup>1</sup>, and D. Cheng<sup>2</sup>, <sup>1</sup>College of Veterinary Medicine, Huazhong Agricultural University, Wuhan, P. R. China, <sup>2</sup>Oriental Horse Racing Group, Wuhan, P. R. China.

T225 **Inducing subacute ruminal acidosis in dairy goats.**  
H. Honglian\*<sup>1</sup>, L. Dexun<sup>1</sup>, L. Dacheng<sup>2</sup>, L. Shengli<sup>1</sup>, S. Dan<sup>1</sup>, Z. Chunhua<sup>1</sup>, and S. Yan<sup>1</sup>, <sup>1</sup>Inner Mongolia Academy of Agricultural and Animal Sciences, Huhhot, China, <sup>2</sup>Inner Mongolia Agricultural University, Huhhot, China.

## **Beef Species Posters Friendship Palace Rooms 1-6**

T226 **Urinary purine derivative excretion as an index for estimating rumen microbial nitrogen yield of yak in the Qinghai-Tibetan.**  
H. Wang<sup>1,2</sup>, R. Long\*<sup>1</sup>, and X. Guo<sup>1</sup>, <sup>1</sup>International Centre for Tibetan Plateau Ecosystem Management, Lanzhou University, P. R. China, <sup>2</sup>Tibetan Rangeland and Yak Research Institute, College of Pastoral Agriculture Science and Technology, Lanzhou University, P. R. China.

T227 **Effects of different hormone combinations on superovulation in river buffaloes.**  
G. Qin<sup>1,2</sup>, M. Chen<sup>1</sup>, X. Liang<sup>1</sup>, X. Zhang<sup>1</sup>, C. Pang<sup>1</sup>, S. Wei<sup>1</sup>, F. Huang<sup>1</sup>, and H. Jiang\*<sup>2</sup>, <sup>1</sup>Guangxi Buffalo Research Institute, Nanning, China, <sup>2</sup>College of Animal Science & Technology, Guangxi University, Nanning, China.

T228 **Preliminary study on the use of inhibin to improve the water buffalo superovulation.**  
G.-S. Qin<sup>1,2</sup>, D.-R. Li<sup>4</sup>, Y.-M. Wei<sup>1,3</sup>, Q.-Y. Jiang<sup>1,4</sup>, Y.-C. Qin<sup>1,3</sup>, K. A. Al<sup>1</sup>, B. Pan<sup>1</sup>, B.-J. Chen<sup>1</sup>, X.-B. Mao<sup>1</sup>, Z.-D. Shi<sup>4</sup>, and H.-S. Jiang\*<sup>1,3</sup>, <sup>1</sup>College of Animal Science & Technology, Guangxi University, Nanning, China, <sup>2</sup>Guangxi Buffalo Research Institute, Nanning, <sup>3</sup>Nanning Ovogene Biotechnology Co., Ltd., Nanning, China, <sup>4</sup>Departments of Animal Science, South China Agricultural University, Guangzhou, China.

## Breeding and Genetics Posters

### Friendship Palace Rooms 1-6

- T229 **Analysis on genetic construction of Guizhou White Xiang pig.**  
R.-Y. Liu\*, Z.-L. Wang, B. Yu, and J.-R. Li, *Guizhou University, Guiyang Guizhou, China.*
- T230 **Genetic parameter estimation of reproductive and productive traits in a swine herd population.**  
J. H. Lee\*, J. K. Ahn, C. I. Cho, W. J. Yun, and D. H. Lee, *Hankyong National University, Ansong, Kyonggi, Korea.*
- T231 **Sp1 mediates the transcription of porcine caveolin-1 in C2C12 cells.**  
D. Mo\*, W. Chen, and Y. Chen, *State Key Laboratory of Biocontrol, School of Life Science, Sun Yat-sen University, Guangzhou, Guangdong, China.*
- T232 **Estimation of genetic parameters for direct and maternal effect on litter size and teat numbers in Korean swine population.**  
C. I. Cho\*, K. B. Song, J. H. Lee, W. J. Yun, and D. H. Lee, *Hankyong National University, Ansong, Gyeonggi-do, Korea.*
- T233 **The effects of sire and breed on cleavage rates of oocytes fertilized in vitro with sex-sorted semen.**  
B. R. Sessions\*<sup>1</sup>, J. Collier<sup>1</sup>, K. Perry<sup>1</sup>, B. A. Hicks<sup>2</sup>, and K. L. White<sup>1</sup>, *<sup>1</sup>Department of Animal, Dairy, and Veterinary Sciences and Center for Integrated Biosystems, Utah State University, Logan, UT, USA, <sup>2</sup>J.R. Simplot Company Cattle Reproduction Facility, Boise, ID, USA.*
- T234 **Season of feed intake testing affects genetic parameter estimation in residual feed intake evaluations.**  
F. D. N. Mujibi and S. S. Moore\*, *Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada.*
- T235 **Identification of candidate markers on *BTA14* under milk production trait quantitative trait loci in Holstein.**  
E. Marques, J. Grant, Z. Wang, P. Stothard, G. Plastow, and S. S. Moore\*, *Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada.*
- T236 **Insulin-like growth factor-I receptor gene polymorphism of Iranian holstein cows in Isfahan Province.**  
A. Bakhtari\*<sup>1</sup>, H. R. Rahmani<sup>1</sup>, M. A. Edriss<sup>1</sup>, and B. E. Sayed Tabatabaei<sup>2</sup>, *<sup>1</sup>Department of Animal Science, College of Agriculture, Isfahan University of Technology, Isfahan, Iran, <sup>2</sup>Department of Biotechnology, College of Agriculture, Isfahan University of Technology, Isfahan, Iran.*

- T237 **Prediction of genomic relationship matrices using single nucleotide polymorphism markers in Korean cattle.**  
D. H. Lee\*<sup>1</sup>, D. Vasco<sup>2</sup>, J. H. Lee<sup>1</sup>, C. I. Cho<sup>1</sup>, N. S. Kim<sup>3</sup>, Y. S. Won<sup>4</sup>, and J. J. Kim<sup>5</sup>, <sup>1</sup>*Hankyong National University, Ansong, Kyonggi, Korea*, <sup>2</sup>*University of Missouri, Columbia, MO, USA*, <sup>3</sup>*Chungbuk National University, Cheongju, Chungbuk, Korea*, <sup>4</sup>*National Agriculture Cooperative Federation, Seosan, Chungnam, Korea*, <sup>5</sup>*Yongnam National University, Gyeongsan, Gyeongsangbuk, Korea*.
- T238 **The genetic effects of a rare male immigrant to small populations: A laboratory study using *Tribolium castaneum*.**  
J. M. Liu, Z. Li\*, and J. H. Sun, *Qingdao Agricultural University, Qingdao, Shandong Province, China*.
- T239 **Genetic variation of three prime untranslated region of *Mx* genes in Langya chicken breeds by polymerase chain reaction-restriction fragment length polymorphism.**  
Z. G. Liu, Z. Li\*, B. W. Wang, B. Yue, and W. H. Ge, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China*.
- T240 **The expression characteristic of the *MTP* gene and the effect of overfeeding on the expression of *MTP* in the various tissues and different developmental stages in Landes geese.**  
Y. Jian-qiang<sup>1,2</sup> and W. Ji-wen\*<sup>1</sup>, <sup>1</sup>*Key Lab of Animal Genetic Resources, Sichuan, China*, <sup>2</sup>*Sichuan Animal Science Academy, Sichuan, China*.
- T241 **Study on the molecular evolution and phylogeny of mitochondrial d-loop sequence polymorphic in three domestic donkey breeds of Henan.**  
T. Liu\*<sup>1</sup>, L. Zheng<sup>1</sup>, Y. Liu<sup>2</sup>, and S. Zhao<sup>1</sup>, <sup>1</sup>*Zhengzhou College of Animal Husbandry Engineering, China*, <sup>2</sup>*Nanjing Agricultural University, China*.
- T242 **Ultrastructure of oocyte and early embryo on yak.**  
P. Yan\*, X. Guo, F. Zeng, C. Liang, and J. Pei, *Lanzhou Institute of Animal Science & Veterinary Pharmaceuticals, Chinese Academy of Agricultural Sciences, Lanzhou City, P. R. China*.
- T243 **Effects of oxygen tension, medium and WOW on in vitro development of mouse embryo.**  
C. Zubing\*, W. Wei, L. Wenhao, Z. Shixian, L. Yunsheng, T. Yong, Z. Xiaorong, and Z. Yunhai, *College of Animal Science and Technology, Anhui Agricultural University, Hefei, P. R. China*.

- T244 **Live offspring produced from ovarian heterosexual grafts in castrated male mice with estradiol follow-up.**  
F. Li\*, Y. Tao, Y. Zhang, Y. Li, F. Fang, Y. Liu, H. Cao, X. Zhang, and S. Zhou, *College of Animal Science and Technology, Anhui Agricultural University, Hefei, China.*

## **Companion Animal Posters Friendship Palace Rooms 1-6**

- T245 **Zoonotic parasites of dogs and cats: The veterinarian's role.**  
D. Snyder\*, *Elanco Animal Health, Greenfield, IN, USA.*
- T246 **Hypoxia factors, cytokines, and transporters messenger RNA expression in adipose tissue: Effects of weight loss and fenofibrate treatment in obese insulin-resistant dogs.**  
V. Leray<sup>1,2</sup>, J. Le Bloc'h<sup>1,2</sup>, S. Serisier<sup>1,2</sup>, L. Martin<sup>1,2</sup>, H. Dumon<sup>1,2</sup>, and P. Nguyen<sup>\*1,2</sup>, <sup>1</sup>*Nutrition and Endocrinology Unit, National Veterinary School of Nantes, Nantes, France*, <sup>2</sup>*CRNH, Nantes, France.*

## **Food Safety Posters Friendship Palace Rooms 1-6**

- T247 **The impact of food-borne parasites on animal production.**  
D. Snyder\*, *Elanco Animal Health, Greenfield, IN, USA.*
- T248 **Use of *Caenorhabditis elegans* as an animal model to evaluate *Lactobacillus* isolates for the use as probiotics to control *Salmonella* Typhimurium.**  
W. Chunyang<sup>\*1,2</sup>, G. Joshua<sup>2</sup>, N. Zhongxiang<sup>1</sup>, Y. Hai<sup>2</sup>, and A. Hawke<sup>2</sup>, <sup>1</sup>*Shandong Agriculture University, Tan'an, Shandong, China*, <sup>2</sup>*Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada.*
- T249 **Effect of different combinations of essential oils and fumarate on in vitro rumen fermentation.**  
B. Lin<sup>\*1</sup>, Y. Lu<sup>2,1</sup>, and J. X. Liu<sup>1</sup>, <sup>1</sup>*Institute of Dairy Science, Zhejiang University, Hangzhou, Zhejiang, China*, <sup>2</sup>*College of Animal Science, Nanking Agriculture University, Nanking, Jiangsu, China.*



- T250 **Effects of fumarate and fish oil on conjugated linoleic acid and methane production by rumen microbes when incubated with safflower oil.**  
X. Z. Li\*<sup>1</sup>, R. J. Long<sup>2</sup>, C. G. Yan<sup>1</sup>, H. G. Lee<sup>3</sup>, Y. J. Kim<sup>4</sup>, and M. K. Song<sup>5</sup>, <sup>1</sup>*Yanbian University, Yanbian, Yangi, China*, <sup>2</sup>*Lanzhou University, Lanzhou, Gansu, China*, <sup>3</sup>*Pusan National University, Kyung Nam, Korea*, <sup>4</sup>*Korea University, Chochiwon, Chungnam, Korea*, <sup>5</sup>*Chungbuk National University, Cheongju, Chungbuk, Korea*.
- T251 **Evaluation of nutritive values of some grain by in vitro gas production technique.**  
H. Paya, A. Taghizadeh\*, and F. Parnian Khaje Dizaj, *Faculty of Animal Science, University of Tabriz, Tabriz, East Azerbaijan, Iran*.
- T252 **Conjugated linoleic acid in plasma and milk fat, and messenger RNA expression of fat synthesizing enzymes in the mammary tissues as influenced by plant oils in lactating goats.**  
X. Z. Li\*<sup>1</sup>, C. K. Kim<sup>2</sup>, R. J. Long<sup>3</sup>, C. G. Yan<sup>1</sup>, H. G. Lee<sup>4</sup>, and M. K. Song<sup>2</sup>, <sup>1</sup>*Yanbian University, Yanbian, Yangi, China*, <sup>2</sup>*Chungbuk National University, Cheongju, Chungbuk, Korea*, <sup>3</sup>*Lanzhou University, Lanzhou, Gansu, China*, <sup>4</sup>*Pusan National University, Kyung Nam, Korea*.
- T253 **Effects of microwave irradiation on in vitro gas production kinetics parameters of barley grain.**  
F. Parnian Khajeh Dizaj, A. Taghizadeh\*, and H. Paya, *Faculty of Animal Science, University of Tabriz, Tabriz, East Azerbaijan, Iran*.
- T254 **Simultaneous determination of melamine and cyromazine in feeds by gas chromatography–mass spectrometry.**  
B. Shang\*, Y. Chen, Z. Wang, W. Yang, and L. Zhang, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China*.

## Forages and Pastures Posters Friendship Palace Rooms 1-6

- T255 **In vitro gas production of new crossed and winter-hardy anthocyanidin-accumulating alfalfa populations transformed with the maize bHLH (Lc) regulatory gene in ruminants: Comparison with nontransgenic alfalfa.**  
A. Jonker<sup>1</sup>, Y. Wang<sup>2</sup>, M. Gruber<sup>3</sup>, and P. Yu\*<sup>1</sup>, <sup>1</sup>*Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Saskatchewan, Canada*, <sup>2</sup>*Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada*, <sup>3</sup>*Saskatoon Research Centre, Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan, Canada*.

- T256 **Study on aflatoxin of whole plant corn silage.**  
H. Liying and Y. Zhu\*, *Institute of Grassland Science China Agricultural University, Beijing, China.*
- T257 **Performance of growing cattle fed rice straw supplemented with different levels of alfalfa hay.**  
Z. Ji-Kun\*, X. Li-Gen, and Z. Qing-Hua, *Animal Husbandry and Veterinary Institute, Jiangxi Academy of Agricultural Science, Jiangxi, China.*
- T258 **Determination and correlation analysis of total phosphorus and phytate phosphorus in common feedstuffs for ducks.**  
S. Xu, Z. Qi\*, J. Peng, and W. Chen, *College of Animal Science and Technology, Huazhong Agricultural University, Wuhan, Hubei, China.*
- T259 **Study on solid-state fermentation of animal and plant protein resources by *Aspergillus oryzae*.**  
P.-P. Wang\*, P. Wang, R.-Y. Zuo, X.-W. Dang, J. Chang, and Q.-Q. Yin, *College of Animal Science and Veterinary Medicine, Henan Agricultural University, Zhengzhou, Henan, China.*
- T260 **Evaluation of the nutritional value of rapeseed for geese.**  
B. W. Wang\*, L. L. Zhang, X. X. Jiang, W. W. Wang, N. Wang, P. Sun, and B. Yue, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China.*
- T261 **The effects of *Compositae* Ordos Wormwood extract on ruminal fermentation and lipid metabolism in vitro.**  
L. Wang\*<sup>1</sup> and D. Lu<sup>2</sup>, <sup>1</sup>*College of Animal Science and Animal Medicine, Inner Mongolia Agricultural University, Huhhot, Inner Mongolia. P. R. China,* <sup>2</sup>*Animal Nutrition Institute, Inner Mongolia Academy of Animal Science, Huhhot, Inner Mongolia. P. R. China.*
- T262 **Interspecies competitiveness affects the production performance of an intercropping system.**  
G. G. Zhang\*<sup>1</sup>, Z. B. Yang<sup>1</sup>, S. T. Dong<sup>1</sup>, and C. Sang<sup>2</sup>, <sup>1</sup>*Shandong Agricultural University, Taian, Shandong, P. R. China,* <sup>2</sup>*Grasslands Research Center, AgResearch, Palmerston North, New Zealand.*
- T263 **Effects of leaf meal of *Broussonetia papyrifera* used in the diet on performance, carcass quality, serum biochemical parameters, and digestibility of dietary nutrients in growing-finishing pigs.**  
Z. S. Xia\*, L. Tang, J. H. Huang, L. Chen, and J. P. Wu, *College of Animal Science and Technology, Guangxi University, Nanning, Guangxi, P. R. China.*

- T264 **Effect of temperature on nutrient values of corn straw treated by *Pleurotus ostreatus*.**  
M. Liu<sup>1</sup> and J. Li<sup>\*1</sup>, <sup>1</sup>*Northeast Agricultural University, Haerbin, Heilongjiang, China*, <sup>2</sup>*Northeast Agricultural University, Haerbin, Heilongjiang, China*.
- T265 **The effects of inoculant and molasses on fermentation quality and nutritive value of alfalfa silage.**  
F. Hashemzadeh Cigari<sup>1</sup>, G. R. Ghorbani<sup>\*1</sup>, M. Khorvash<sup>1</sup>, A. Taghizadeh<sup>2</sup>, and A. Nikkhah<sup>3</sup>, <sup>1</sup>*Department of Animal Science, College of Agriculture, Isfahan University of Technology, Isfahan, Isfahan, Iran*, <sup>2</sup>*Department of Animal Science, College of Agriculture, University of Tabriz, Tabriz, East Azarbaijan, Iran*, <sup>3</sup>*Department of Animal Science, College of Agriculture, University of Zanjan, Zanjan, Zanjan, Iran*.
- T266 **Effects of exogenous proteolytic enzyme for improving in vitro degradation of dried distillers grains with solubles for ruminants.**  
J. M. Vera, J.-S. Eun, A. J. Young, and D. R. ZoBell<sup>\*</sup>, *Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, UT, USA*.

## Growth and Development Posters

### Friendship Palace Rooms 1-6

- T267 **Effect of dietary selenium levels on growth performance antioxidant capacity and liver glutathione peroxidase 1 messenger ribonucleic acid expression of weaned to two-month-old meat rabbits.**  
Z. Yanyan<sup>\*</sup> and L. Fuchang, *Shandong Agricultural University, Taian Shandong, China*.
- T268 **Effect of dietary arginine supplement levels on growth performance, immunity indexes, and blood metabolites of two- to three-month-old meat rabbits.**  
M. Mingwen<sup>\*</sup> and L. Fuchang, *Shandong Agricultural University, Taian Shandong, China*.
- T269 **Phenotypic correlation of linear measurement and body composition, growth in beef cattle.**  
Y. Huang<sup>\*</sup> and J. P. Cassady, *Department of Animal Science, North Carolina State University, Raleigh, NC, USA*.
- T270 **Culture and characterization of bovine trophoblast stem cells on a gelatin layer.**  
K. A. Elwood<sup>\*</sup>, J. Collier, B. R. Sessions, A. Wilhelm, C. J. Davies, L. Rickords, and K. L. White, *Department of Animal, Dairy and Veterinary Sciences and Center for Integrated Biosystems, Utah State University, Logan, UT, USA*.

T271 **The effects of feeding expanding blood meal for puppies.**  
L. Dezhang\*, F. Honggang, Y. Shiming, and W. Hongbin, *Northeast Agricultural University, Haerbin, Heilongjiang, China.*

T272 **Generation of induced pluripotent stem cells from porcine fibroblasts.**  
H. Yin\*, H. Cao, X. Sun, Y. Zhang, Y. Liu, Y. Tao, and X. Zhang, *College of Animal Science and Technology, Anhui Agricultural University, Heifei, Anhui, China.*

## **International Animal Agriculture Posters Friendship Palace Rooms 1-6**

T273 **Fatty acid composition of intramuscular fat from pastoral yak and Tibetan sheep.**  
J. P. Wu\*<sup>1</sup>, Y. S. Peng<sup>1</sup>, and M. A. Brown<sup>2</sup>, <sup>1</sup>*Gansu Agricultural University, Lanzhou, Gansu, P. R. China,* <sup>2</sup>*USDA-ARS, Grazinglands Research Laboratory, El Reno, OK, USA.*

T274 **Differences in fatty acid composition of milk fat from ruminants of different species and breeds.**  
Y. S. Peng\*<sup>1</sup>, M. A. Brown<sup>2</sup>, and J. P. Wu<sup>1</sup>, <sup>1</sup>*Gansu Agricultural University, Lanzhou, Gansu, P. R. China,* <sup>2</sup>*USDA-ARS, Grazinglands Research Laboratory, El Reno, OK, USA.*

T275 **Effects of barley genotypes (collected at three consecutive years) and genotypes and environment interaction on predicted nutrient supply and nutrient availability using the Dutch DVE Feed Evaluation System.**  
K. Hart and P. Yu\*, *Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, Saskatchewan, SK, Canada.*

T276 **Simple least-cost ration formulation for small beef cattle operations in China.**  
M. A. Brown\*<sup>1</sup>, J. P. Wu<sup>2</sup>, J. W. Holloway<sup>3</sup>, and Y. S. Peng<sup>2</sup>, <sup>1</sup>*USDA-ARS, Grazinglands Research Laboratory, El Reno, OK, USA,* <sup>2</sup>*Gansu Agricultural University, Lanzhou, Gansu, P. R. China,* <sup>3</sup>*Texas Agrilife, Uvalde, TX, USA.*

T277 **Bilingual teaching in animal science.**  
Z. Li\* and Q. J. Pan, *Qingdao Agricultural University, Qingdao, Shandong Province, China.*

## Lactation Biology Posters

### Friendship Palace Rooms 1-6

- T278 **Effect of increasing amounts of free linolenic acid emulsion infused into the duodenum of lactating dairy cows on the oxidative stability of milk fat.**  
Q. S. Liu, J. Q. Wang\*, D. P. Bu, E. Khas, H. Y. Wei, L. Y. Zhou, and K. L. Liu, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*
- T279 **Milk composition variation during the early, mid, and late lactation phase of dairy cows in Inner Mongolia.**  
S. G. Jin\*<sup>1</sup>, F. Liu<sup>1</sup>, T. Wuliji<sup>2</sup>, and S. Jin<sup>1</sup>, *<sup>1</sup>Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China, <sup>2</sup>University of Nevada, Reno, NV, USA.*
- T280 **Developmental changes of the milk protein from colostrum to milk in the transition dairy cow.**  
S. S. Li, J. Q. Wang\*, H. Y. Wei, Y. X. Yang, L. Y. Zhang, C. L. Zhang, and D. P. Bu, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*
- T281 **Effect of daidzein and genistein on proliferation and antioxidation of mammary epithelial cell of dairy cow in vitro.**  
C. Liu<sup>1</sup>, Z. Li<sup>2</sup>, and A. Shan\*<sup>3</sup>, *<sup>1</sup>Heilongjiang Key Laboratory of Blacksoil Ecology, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Harbin Heilongjiang Province, P. R. China, <sup>2</sup>Animal Science Research Centre, Hei Long Jiang Academy of Agricultural Research, Harbin Harbin Heilongjiang Province, P. R. China, <sup>3</sup>Animal Nutrition Institute, Northeast Agricultural University, Harbin Heilongjiang Province, P. R. China.*

## Physiology and Endocrinology Posters

### Friendship Palace Rooms 1-6

- T282 **The effect of melatonin on chicken immune function under different illuminations.**  
S.-Y. Liu\*, D.-Y. Chen, and J.-W. Qi, *Inner Mongolian Agricultural University, Huhhot, Inner Mongolia Region, China.*
- T283 **Anatomical research on the brain of African ostriches.**  
K. Peng\*, Y. Feng, G. Zhang, H. Liu, and H. Song, *College of Animal Science and Veterinary Medicine, Huazhong Agricultural University, Wuhan, P. R. China.*
- T284 **Maternal protein restriction throughout gestation and lactation affects offspring skeletal muscle characteristics in weaning and finishing Meishan pigs.**  
J. Wang\*, X. Li, and R. Zhao, *Key Laboratory of Animal Physiology & Biochemistry, Nanjing Agricultural University, Nanjing, Jiangsu, China.*
- T285 **Effect of in ovo leptin administration on posthatch muscle growth, myofiber characteristics and gene expression in the chicken.**  
P. Liu\*, Y. Hu, and R. Zhao, *Key Laboratory of Animal Physiology & Biochemistry, Nanjing Agricultural University, Nanjing, Jiangsu, China.*
- T286 **Effect of dexamethasone on lipid deposition and perilipin expression in primary cultured adipocytes of pigs.**  
X. Zhang, J. Liang, and X. Yang\*, *Nanjing Agricultural University, Nanjing, Jiangsu, China.*
- T287 **The novel estrogen receptor, G protein-coupled receptor 30, mediates the proliferative effect induced by 17 $\beta$ -estradiol on chicken primordial germ cells.**  
C. Ge\*, M. Yu, W. Zeng, and C. Zhang, *College of Animal Sciences, Zhejiang University, Hangzhou 310029, China.*

## **Poultry Environment and Management Posters**

### **Friendship Palace Rooms 1-6**

- T288 **Effect of *Aspergillus* meal prebiotic (Fermacto) on performance of broiler chicks fed a low-protein grower diet.**  
S. Amirdahri, H. Janmohammadi\*, A. Taghizadeh, and A. Rafat, *Tabriz University, Faculty of Agriculture, Tabriz, Iran.*
- T289 **Effects of different feeding manners on meat quality and antioxidative property in Chinese yellow male broilers.**  
S. Jiang\*, Y. Lin, G. Zhou, F. Chen, and Z. Jiang, *Key Laboratory of Animal Nutrition and Feed (South China), Ministry of Agriculture of P. R. China, Guangdong Public Laboratory of Animal Breeding and Nutrition, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, Guangzhou, Guangdong, P. R. China.*
- T290 **Impacts of goose stocking density in a water fowl-fish production system on water bacterial pollution, breeding, and growing goose production performance.**  
D. Jiang\*, X. Zhang, Y. Pan, A. Shun, and Z. Shi, *South China Agricultural University, Guangzhou, Guangdong, China.*

## **Poultry Genetics Posters**

### **Friendship Palace Rooms 1-6**

- T291 **CBHI gene cloning and sequence analysis of *Penicillium oxalicum* Currie et Thom.**  
B. W. Wang\*, Q. Zhang, B. Yue, W. H. Ge, and M. A. Zhang, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China.*

## **Poultry Immunology Posters**

### **Friendship Palace Rooms 1-6**

- T292 **Effect of vitamin D<sub>3</sub> by injection on the  $\beta$  defensins in Taihe Silky fowl.**  
S. Li\*<sup>1</sup>, L. Ouyang<sup>1</sup>, D. Zhou<sup>2</sup>, J. Xie<sup>1</sup>, and Q. Wei<sup>1</sup>, <sup>1</sup>*Institute of Animal Husbandry and Veterinary, Jiangxi Academy of Agricultural Science, Nanchang City, Jiangxi, China.* <sup>2</sup>*College of Animal Science and Technology, Sichuan Agricultural University, Yaan City, Sichuan, China.*

## **Poultry Physiology, Endocrinology, and Reproduction Posters Friendship Palace Rooms 1-6**

- T293 **Estrogen reduces serum enzymes activities and heart rate in broiler chicken.**  
Z. Wang, W. Haoan, L. Shaowen\*, M. Xianrong, Z. Jinlong, Z. Weimin, and D. Mingxing, *College of Veterinary Medicine, Huazhong Agricultural University, Wuhan, Hubei, P. R. China.*
- T294 **Effects of *Astragalus membranaceus* processed to different particle sizes on growth performance, antioxidant status, and serum metabolites of broiler chickens.**  
W. R. Yang\*, H. J. Zhou, Z. B. Yang, and T. T. Zhang, *Shandong Agricultural University, Tai-an, Shandong, P. R. China.*
- T295 **Effect of prostaglandin on LH-stimulated proliferation of theca externa cells from chicken prehierarchal follicles.**  
Y. Jia, J. Lin, W. Zeng, and C. Zhang\*, *College of Animal Sciences, Zhejiang University, Hangzhou, China.*
- T296 **Effect of epidermal growth factor on proliferation of granulosa cells from domestic hen follicles.**  
J. Lin, Y. Jia, W. Zeng, and C. Zhang\*, *College of Animal Sciences, Zhejiang University, Hangzhou, China.*

## **Production, Management and the Environment Posters Friendship Palace Rooms 1-6**

- T297 **Study of a reverse-season reproduction technique in liver breeding geese.**  
B. W. Wang\*<sup>1</sup>, W. H. Ge<sup>1</sup>, M. A. Zhang<sup>1</sup>, H. Y. Guo<sup>2</sup>, and B. Yue<sup>1</sup>, <sup>1</sup>*High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China,* <sup>2</sup>*Yinhe-Runyan Co. Ltd., Gaomi, Shandong Province, China.*
- T298 **Effect of different fats on fatty liver quality and antioxidative function of liver breeding geese.**  
B. W. Wang\*, Y. C. Fan, B. Yue, W. H. Ge, and M. A. Zhang, *High Quality Waterfowl Research Institute, Qingdao Agricultural University, Qingdao, Shandong Province, China.*



- T299 **Effect of lighting schedule on growth performance, carcass traits, and meat quality in broiler chickens.**  
W. Li\*, Y. Guo, R. Wang, Y. He, and D. Su, *Faculty of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China.*
- T300 **Effect of different enzyme preparations on the performance, egg quality and serum biochemical parameters during the late laying period in hens.**  
C. Wen\*<sup>1</sup>, D. Wu<sup>1</sup>, Z. F. Zhou<sup>2</sup>, G. F. Hou<sup>2</sup>, and Y. M. Zhou<sup>1</sup>, <sup>1</sup>*Nanjing Agricultural University, Nanjing, Jiangsu, China,* <sup>2</sup>*Guangdong VTR Bio-Tech Co., Ltd., Zhuhai, Guangdong, China.*
- T301 **Observation of the feeding management of super cows with an automatic feeding system in Hokkaido, Japan.**  
H. Terui\*, T. Ueno, A. Aimaiti, and K. Ataku, *Rakuno Gakuen University, Ebetsu, Hokkaido, Japan.*
- T302 **Growth performance and meat quality in biological and conventional Piemontese cattle farms in Italy.**  
K. Guo\*<sup>1</sup>, F. Liu<sup>1</sup>, G. Destefanis<sup>2</sup>, and I. Zoccarato<sup>2</sup>, <sup>1</sup>*Beijing University of Agriculture, Changping District, Beijing, China,* <sup>2</sup>*Turin University, Grugliasco (TO), Italy.*

## Small Ruminant Posters Friendship Palace Rooms 1-6

- T303 **Effect of rearing system on rumen development in lambs.**  
M. A. Norouzian\*, R. Valizadeh, A. Nabipour, A. A. Naserian, and A. M. Tahmasbi, *Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.*
- T304 **Effects of chrysanthemum stem-leaf feeding on the growth performance and antioxidant ability of growing Hu lambs.**  
H. L. Mao\*, J. K. Wang, P. P. An, J. Lin, and J. X. Liu, *College of Animal Sciences, Zhejiang University, Hangzhou 310029, Zhejiang, P. R. China.*
- T305 **Study of the effects of leucine on protein synthesis in sheep.**  
S. Dan\*, S. Hai-Zhou, Z. Cun-Fa, Z. Chun-Hua, L. Sheng-Li, S. Yan, R. Xiao-Pin, and Z. Hai-Ying, *Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China.*

- T306 **Study of the ideal pattern of absorbable amino acids in the small intestine of Aohan fine wool sheep.**  
L. Zhi-You\*<sup>1,3</sup>, S. Hai-Zhou<sup>2</sup>, Z. Cun-Fa<sup>2</sup>, L. Zhi-Ming<sup>3</sup>, Z. Ze-Jun<sup>3</sup>, L. Sheng-Li<sup>2</sup>, S. Yan<sup>2</sup>, Z. Chun-Hua<sup>2</sup>, and L. Shu-Li<sup>2</sup>, <sup>1</sup>College of Animal Science and Animal Medicine, Huhhot, China, <sup>2</sup>Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China, <sup>3</sup>Chifeng Institute of Animal Science, Chifeng, China.
- T307 **Effect of levels of *Yucca schidigera* extract on ruminal fermentation parameters, digestibility of nutrients, and growth performance in Chinese native sheep.**  
C. Liu<sup>1</sup> and Z. Li\*<sup>2</sup>, <sup>1</sup>Heilongjiang Key Laboratory of Blacksoil Ecology, Northeast Institute of Geography and Agroecology Chinese Academy of Sciences, Harbin, Heilongjiang, P. R. China, <sup>2</sup>Department of Animal Science Research of Heilongjiang Provincial Agricultural Scientific Academy, Harbin, Heilongjiang, P. R. China.
- T308 **Study of the effects of rumen-protected leucine on immune function and protein synthesis in skeletal muscle of Inner Mongolian White cashmere goats.**  
G. Jun-Qing\*<sup>1</sup>, S. Hai-Zhou<sup>2</sup>, Z. Cun-Fa<sup>2</sup>, L. Sheng-Li<sup>2</sup>, S. Yan<sup>2</sup>, Z. Chun-Hua<sup>2</sup>, Z. Xiu-Ying<sup>2</sup>, and N. Ren<sup>2</sup>, <sup>1</sup>College of Animal and Veterinary Sciences, Inner Mongolia Agricultural University, Huhhot, China, <sup>2</sup>Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China.
- T309 **Study of the effects of malate on rumen fermentation and performance in Inner Mongolian White cashmere goats.**  
S. Lingling\*<sup>1</sup>, S. Haizhou<sup>2</sup>, Z. Cun-Fa<sup>2</sup>, S. Yan<sup>2</sup>, L. Sheng-Li<sup>2</sup>, and Z. Chun-Hua<sup>2</sup>, <sup>1</sup>WeiFang ZhongJi Animal Feed Company Ltd., WeiFang, China, <sup>2</sup>Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China.
- T310 **Influence of age on some cashmere characteristics of introduced Liaoning cashmere goats grazed on high-latitude hilly areas of Shanxi Province in China.**  
Z. Li\*, J. M. Liu, and T. R. Zhang, Qingdao Agricultural University, Qingdao, Shandong Province, China.
- T311 **The effect of different forage-to-concentrate ratios on rumen fermentant and microflora of Inner Mongolian cashmere goats.**  
M. Hui-Zhong\*<sup>1</sup>, S. Hai-Zhou<sup>2</sup>, Z. Cun-Fa<sup>2</sup>, L. Sheng-Li<sup>2</sup>, and Z. Chun-Hua<sup>2</sup>, <sup>1</sup>College of Animal and Veterinary Sciences, Inner Mongolia Agricultural University, Huhhot, China, <sup>2</sup>Inner Mongolia Academy of Agriculture and Animal Husbandry, Huhhot, China.

- T312 **Study of the protein and energy requirements of Guangxi Black growing goats.**  
H. Renchun\*, W. Zhuyue, L. Yufa, Y. Jiahuang, Z. Heng, and J. Xiaogang, *Guangxi Insitute of Animal Sciences, Nanning, Guangxi, China.*

## **Swine Species Posters Friendship Palace Rooms 1-6**

- T313 **Study of lysine requirement of weaning piglets fed low-protein diets.**  
L. Yue\*, M. Ren, and S. Qiao, *National Key Laboratory of Animal Nutrition, Beijing, China.*
- T314 **Effects of dietary cysteamine and chromium yeast on performance and on serum physiobiochemical parameters in growing-finishing pigs.**  
Z. S. Xia\*<sup>1</sup>, W. X. Feng<sup>2</sup>, S. H. Huang<sup>1</sup>, Z. C. Liao<sup>1</sup>, and J. H. Xie<sup>2</sup>,  
<sup>1</sup>*College of Animal Science and Technology, Guangxi University, Nanning Guangxi, P. R. China,* <sup>2</sup>*Guangxi Peter Hand Premix Feed Company Ltd., Nanning Guangxi, P. R. China.*
- T315 **The development of T lymphocytes in piglets with intrauterine growth retardation from birth to weaning.**  
Y. Lin\*, J. Wang, X. Wang, W. Wu, and C. Lai, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.*
- T316 **Gonadotropin regulation of porcine NR4A1 expression during ovarian follicle development in vitro.**  
L. Q. Liu\*<sup>1,2</sup>, C. Y. Deng<sup>1</sup>, L. Tao<sup>2</sup>, F. E. Li<sup>1</sup>, and Y. Z. Xiong<sup>1</sup>, <sup>1</sup>*Key Laboratory of Pig Genetics and Breeding, Ministry of Agriculture, Hubei, China,* <sup>2</sup>*Institute of Husbandry and Veterinary Medicine, Anhui, China.*

## NOTES



## **ASAS Annual Meeting Dates and Locations**

<b>2010</b>	<b>Denver, Colorado</b> (with ADSA, WSASAS, PSA, AMPA, and CSAS)	<b>July 11–15</b>
<b>2011</b>	<b>New Orleans, Louisiana</b> (with ADSA)	<b>July 10–14</b>
<b>2012</b>	<b>Phoenix, Arizona</b> (with ADSA, CSAS, and AMPA)	<b>July 15–19</b>
<b>2013</b>	<b>Indianapolis, Indiana</b> (with ADSA)	<b>July 8–12</b>