

The 14th Japan-Korea-China Joint Symposium on Rumen Metabolism and Physiology

October 16-18, 2025

Tokachi Plaza, Obihiro, Japan

Organizers

Japanese Society for Rumen Metabolism and Physiology

Korean Society of Rumen Function Studies

Chinese Society of Animal Nutrition

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PROGRAM

Thursday, 16 October

<i>Time</i>	<i>Events</i>
15:00-21:00	Registration (<i>Assembly Hall, 1st floor</i>)
18:00-20:00	Welcome Mixer (<i>Assembly Hall, 1st floor</i>)

Friday, 17 October

<i>Time</i>	<i>Events</i>	<i>Pages</i>
9:00-	All Conference Venues Open	
9:15-9:45	Opening Ceremony (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Rintaro Yano (<i>Japan</i>) <ul style="list-style-type: none"> - Opening Remarks by Dr. Naoki Fukuma, <i>Conference Chair</i> - Welcome Address by Prof. Hideyuki Nagasawa, <i>President of Obihiro University of Agriculture and Veterinary Medicine</i> - Congratulatory Speeches by Prof. Weiyun Zhu, <i>Nanjing Agricultural University, China</i> Prof. Sangsuk Lee, <i>Sunchon National University, Korea</i> Prof. Hiroki Matsui, <i>Mie University, Japan</i> 	
9:45-10:55	Session I (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Jakyeom Seo (<i>Korea</i>) and Dengke Hua (<i>China</i>)	
9:45-10:25	- Invited Lecture - Novel microbiome solutions to mitigate methane emission in cattle - Leluo Guan, <i>the University of British Columbia, Canada</i>	1
10:25-10:40	Breed-specific rumen microbiome analysis: comparative study of beef cattle breeds and construction of breed-specific taxonomic classifier - Ryukseok Kang, <i>Chung-Ang University, Korea</i>	6
10:40-10:55	Key rumen microbes in sheep facilitate growth by regulating host health homeostasis and rumen fermentation - Ximei Xie, <i>China Agricultural University, China</i>	7

10:55-11:30	Poster Pitch (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Rintaro Yano (<i>Japan</i>)		32-59
11:30-12:50	Lunch Break		
12:50-14:15	Session II (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Jinxin Liu (<i>China</i>) and Jong Nam Kim (<i>Korea</i>)		
		- Invited Lecture -	
12:50-13:30	I-2	An update: Where are we going with enteric methane mitigation strategies? - Roderick I. Mackie, <i>University of Illinois Urbana-Champaign, US</i>	2
13:30-13:45	O-3	Electrochemically active minerals with photocatalytic and microcurrent functions to enhance nitrogen utilization and support hydrogen-sink strategies in ruminants - Yubeen Cho, <i>Konkuk University, Korea</i>	8
13:45-14:00	O-4	Metagenomic and metabolomic insights: Cellulolytic bacteria drive ruminal pH reduction in subacute rumen acidosis via CAZyme-enhanced pyruvate metabolism - Guobin Hou, <i>China Agricultural University, China</i>	9
14:00-14:15	O-5	Transcriptomic Insights into Arabinan Utilization System and Acetate Production in a Ruminal <i>Streptococcus</i> - Makoto Adachi, <i>Obihiro University of Agriculture and Veterinary Medicine, Japan</i>	10
14:15-14:30	Break		
14:30-15:45	Session III (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Hong-Gu Lee (<i>Korea</i>) and Shuhei Takizawa (<i>Japan</i>)		
14:30-14:45	O-6	<i>Prevotella</i> spp. Exploits Host Polysaccharides for Colonization and Immune Evasion in the Rumen - Kai Zhang, <i>Nanjing Agricultural University, China</i>	11
14:45-15:00	O-7	Putative ATP synthesis process in starch-degrading rumen bacterium in Japanese black cattle - Gai Yamaguchi, <i>Hokkaido University, Japan</i>	12

15:00-15:15	O-8	Subacute Ruminal Acidosis Promotes Virulent LPS Synthesis and Causes Systemic Inflammation in Dairy Cows - Wen Jiang, <i>Xinjiang Agricultural University, China</i>	13
15:15-15:30	O-9	Characterization of a potential probiotic for young ruminants isolated from the goat rumen and its in vitro ruminal fermentation properties - Yushu Zhang, <i>Shinshu University, Japan</i>	14
15:30-15:45	O-10	The circadian clock of ruminal polyamine metabolism and its regulation on the aging injury of mammary gland - Yongkang Zhen, <i>Yangzhou University, China</i>	15
15:45-16:45	Poster Session 1 (<i>Assembly Hall, 1st floor</i>) *Core time for odd-numbered posters		
16:45-18:00	Session IV (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Junhua Liu (<i>China</i>) and Hiroto Miura (<i>Japan</i>)		
16:45-17:00	O-11	Impact of Rumen-Protected Soybean Meal on Growth, Rumen Fermentation, and Nitrogen Utilization in Growing Hanwoo Heifers - Daekyum Yoo, <i>Pusan National University, Korea</i>	16
17:00-17:15	O-12	Utilization of Spent Mushroom Substrate as a Sustainable Roughage Source for Goats - Jane Camille Crisostomo, <i>Mie University, Japan</i>	17
17:15-17:30	O-13	The Effects of Guanidinoacetic Acid Supplementation in Hanwoo Cows and Bovine Skeletal Muscle-derived Cells Under Heat Stress - Xue-Cheng Jin, <i>Konkuk University, Korea</i>	18
17:30-17:45	O-14	Maternal beta-hydroxybutyrate during dry period in reprogramming adipose tissue development and metabolic health in offspring-calves - Rui Wang, <i>Nanjing Agricultural University, China</i>	19
17:45-18:00	O-15	A comparative study on the effects of stimulation strategies for rumen development in lambs - Tianrong Chen, <i>Zhejiang University, China</i>	20
18:30	All Conference Venues Close		
19:00-21:00	Gala Dinner (<i>Hotel Nikko Northland Obihiro</i>)		

Saturday, 18 October

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9:00-	All Conference Venues Open	
9:20-10:45	Session V (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Tansol Park (<i>Korea</i>) and Qian Wang (<i>China</i>)	
9:20-10:00	I-3 - Invited Lecture - Delivering on sustainable ruminant production for the benefit of environmental and human health - Sharon Huws, <i>Queen's University Belfast, UK</i>	4
10:00-10:15	O-16 Effects of <i>Asparagopsis</i>-based feed additive on rumen fermentation, growth performance, and methane production in Hanwoo - AM Mozart Aprilliza, <i>Sunchon National University, Korea</i>	21
10:15-10:30	O-17 Potential tropical seaweed to decrease ruminant methane emissions (in vitro study) - Nur Hidayah, <i>Universitas Gadjah Mada, Indonesia</i>	22
10:30-10:45	O-18 The methane-reducing effects of a seaweed supplement in the diet of Hanwoo cattle - Sang Yoon Kim, <i>Hankyong National University, Korea</i>	23
10:45-11:00	Break	
11:00-12:00	Session VI (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Taketo Obitsu (<i>Japan</i>) and Sangsuk Lee (<i>Korea</i>)	
11:00-11:15	O-19 Methane Mitigation Potential of Alternative Feed Replacements: <i>In Vitro</i> Evaluation of <i>Euglena gracilis</i>, <i>Aurantiochytrium</i>, Grape Marc, and Seaweed in Ruminant Diets - Ana Maria Da Costa Goncalves Noronha, <i>Obihiro University of Agriculture and Veterinary Medicine, Japan</i>	24
11:15-11:30	O-20 Development of Enteric and Manure Methane Emission Factors for Hanwoo Cattle under Total Mixed Ration and Separate Feeding Systems in Korea - Nirmal Athauda, <i>Seoul National University, Korea</i>	25

11:30-11:45	O-21	Study on the effects of urea addition on the fermentation quality, nitrogen metabolism, microbial community, and metabolic characteristics of cotton strawlage - Shuaibin Zhou, <i>Shihezi University, China</i>	26
11:45-12:00	O-22	In Vitro Evaluation for the Enhanced Effect of Methane Suppression by 3-Nitrooxypropanol Caused by Changes in Rumen Microbiota of Dry Cows Fed a Low Protein Diet with Rumen-Protected Amino Acids - Alimari Endo, <i>Shinshu University, Japan</i>	27
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14:00-15:00	Session VII (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Yangchun Cao (<i>China</i>) and Won Seob Kim (<i>Korea</i>)		
14:00-14:15	O-23	Influence of rearing duration on methane emissions in Hanwoo cattle - Khanza Syahira Dhia, <i>Sunchon National University, Korea</i>	28
14:15-14:30	O-24	Exploration of archaeal community in the rumen of Japanese Black cattle - Saki Owaki, <i>Hokkaido University, Japan</i>	29
14:30-14:45	O-25	Reduction of enteric methane emission using methanotroph-based probiotics in Hanwoo steers - Michelle Miguel, <i>Sunchon National University, Korea</i>	30
14:45-15:00	O-26	The effects of glycerol fatty acid esters on the growth performance, methane emissions, and rumen microbiota of beef cattle - Gaoqing Xu, <i>Anhui Science and Technology University, China</i>	31
15:00-15:20	Break		

15:20-17:30	Special Session for Methane Mitigation (<i>Rainbow Hall, 2nd floor</i>) Chairperson: Satoshi Koike (<i>Japan</i>) and Mengzhi Wang (<i>China</i>)		
15:20-15:30		Introduction of the Special Session - Satoshi Koike, <i>Hokkaido University, Japan</i>	
15:30-16:10	S-1	Cashew Nut Shell Liquid as a Feed Additive Solution for Reducing Methane Emissions - Masayuki Kishimoto, <i>SDS Biotech K.K., Japan</i>	60
16:10-16:50	S-2	The novel methane mitigating feed additive Bovaer® (3-nitrooxypropanol, 3-NOP) and its use in achieving sustainable ruminant production - Nicola Walker, <i>dsm-firmenich, Switzerland</i>	61
16:50-17:30	S-3	Development of Steam-Treated Wood-Derived Feed for Sustainable Livestock Production - Kazuaki Ito, <i>Obihiro University of Agriculture and Veterinary Medicine, Japan</i>	62
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19:00-21:00	Farewell Party (<i>Obihiro University of Agriculture and Veterinary Medicine</i>)		

Poster Presentation List

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P-2	Preliminary study on the relationship between <i>Prevotella ruminicola</i> and <i>Selenomonas ruminantium</i> under different carbon source conditions - Eriko Abe, <i>Hokkaido University, Japan</i>	33
P-3	Genome-resolved identification of spore-forming Lachnospiraceae and exploration of their probiotic potential in the bovine gastrointestinal tract - Jong Min Kim, <i>Pusan National University, Korea</i>	34
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P-5	Comprehensive Cultivation of the Rumen Microbiome Reveals High Bacterial Diversity and Guides Lactate-Utilizing Strain Isolation for Alleviating Rumen Acidosis - Jiakun Wang, <i>Zhejiang University, China</i>	36
P-6	Effects of <i>Ruminococcus albus</i>-derived Endolysin, RalLys8, on Rumen Microbiota: An in vitro Study - Joonbeom Moon, <i>Pusan National University, Korea</i>	37
P-7	Isolation of fiber-adherent rumen bacteria by gel-microdroplet method - Shuhei Takizawa, <i>National Agriculture and Food Research Organization, Japan</i>	38
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P-11	Effects of Polyethylene glycol glycerol castor oil ester on Rumen Fermentation and Lactation Performance of Dairy Cows - Huichao Zheng, <i>Zhejiang Academy of Agricultural Sciences, China</i>	42
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