

**Combined Workshop 2025 of the WPSA
Working Group 6 (IFRG) and Working Group 12 (Physiology)
from October 22-24, 2025 in Berlin, Germany**

WEDNESDAY, 22 October 2025

10:00 – 11:00	Participant registration/Badge collection
11:00 – 11:30	Welcome and outline of the program
Session 1: Gut health and microbiome Chair persons: Jean de Oliveira & Haoran Zhao	
11:30 – 12:15	<u>Keynote lecture:</u> Strategies stimulating microbiota colonization and gut health in broilers <i>Nadia Everaert, Muhammad Zeeshan Akram, Haoran Zhao, Matthias Corion, KU Leuven, Belgium</i>
12:15 – 13:15	Lunch Buffet
13:15 – 13:35	Sex specific gut microbiota, host response, and intestinal function in broilers: implications for separate rearing strategies <i>Matthias Corion*, Muhammad Zeeshan Akram*, Ester Arévalo Sureda*, Luke Comer*, Jeroen Maertens[†], Natasja Smeets[†], Nadia Everaert*, * KU Leuven, Belgium, [†] Kemin Europa NV, Belgium</i>
13:35 – 13:55	Linking microbiota and performance in commercial turkey flocks <i>Jean E. de Oliveira, Luisa A. Gene, Anne Goderis, Henk Enting, Jennifer Roux-Hardy, Marine Maudoux, Michel Richet, Cargill Animal Nutrition and Health, Belgium</i>
13:55 – 14:25	Coffee/tea break
Session 2: Influence of incubation factors on embryonic and post-hatch development Chair persons: Barbara Tzschentke & Asaf Marco	
14:25 – 14:45	Green monochromatic light during incubation shapes hypothalamic function and metabolic traits via epigenetic mechanisms <i>Asaf Marco, Joanna Bartman, Tali Rosenberg, Hadar Parnas, Ronit Yosofov, Natalie Avital-Cohen, Ron Weiss, Gal Harmatz, Israel Rozenboim, The Hebrew University of Jerusalem, Israel</i>
14:45 – 15:05	Hypoxic manipulation during incubation: effects on muscle vascularization, growth, and woody breast incidence in broilers <i>Amit Haron, Melanie Emambu, Gay Levkovich, Dimitry Shinder, Dror Sagi, Shelly Druyan, Agricultural Research Organization, Volcani Center, Israel</i>
15:05 – 15:25	Effects of thermal manipulations of broiler embryos from 7 to 16 days of incubation on embryo heat production, yolk sac consumption and organogenesis <i>Itallo Conrado Sousa Araújo^{##}, Ilona van den Anker-Hensen*, Bjorge Laurensen*, Monique Ooms*, Henry van den Brand*, * Wageningen University, the Netherlands, [#] Federal University of Minas Gerais, Brazil</i>

15:25 – 15:45	Effects of three genetic strains and thermal manipulation on hatching parameters, chick quality and organs of broiler chickens raised in tropical climate <i>Mivodjo Michée Stéphane Adande, Kondo Koffi, CERSA, Université de Lomé, Togo</i>
15:45 – 16:00	Short break
Session 3: Optimizing incubation temperature profiles and short poster presentations Chair persons: Lotte Hebbink & Mivodjo Michée Stéphane Adande	
16:00 – 16:20	Investigation into the effect of incubation temperature on sex ratios of ostrich embryos <i>Zanell Brand, Bernard Snyman, Western Cape Department of Agriculture, South Africa</i>
16:20 - 16:40	Differences in temperature incubation between conventional and slower-growing broilers <i>Emmanuel Chesnais, Jenna Coton, Roberto Yamawaki, HUBBARD, France</i>
	<u>Poster presentations</u>
16:40 – 16:45	Temperature stimulation of Lohmann Brown laying hen embryos: influence on hatching performance and growth during the first 10 weeks post-hatching <i>Arlette Harder, Barbara Tzschentke, Institute for Agricultural and Urban Ecological Projects (IASP) at Humboldt-Universität zu Berlin, Germany</i>
16:45 – 16:50	Relationship between specific gravity of hatching eggs and chick quality <i>Florian Wehle, Optibrut GmbH, Nordhorn, Germany</i>
16:50 – 16:55	<i>Salmonella</i> Pullorum outbreak investigation using different diagnostic matrices <i>Fiona Schoemaker-van Kaam*, Annet Heuvelink*, Remco Dijkman*, Christiaan ter Veen*, Sible Westendorp#, Anneke Feberwee*, *Royal GD, Deventer, the Netherlands, # DAP Kippendokter, Hoeven, the Netherlands</i>
18:00 – 21:00	Welcome evening (visit to the brewery of the Technical University Berlin)

THURSDAY, 23 October 2025

Session 4: In-Ovo Sex determination and –identification

Chair persons: Carla van der Pol & Simão Santos

Keynote lecture:

08:30 – 09:15

GOLDA: A genetic solution to end male chick culling in the egg industry

*Yuval Cinnamon**, *Enbal Ben-Tal Cohen**, *Olga Genin***, *Michael Pfann*†*, *Michal Mimon**, *Izel Cohen*†*, *Tatiana Kushnir**, *Amit Haron**, *Dmitry Shinder***, *Shanthi Dharanivasan**, *Eva Lamed#*, *Christina Tepe#*, *Shelly Druyan**, ** Agriculture Research Organization, The Volcani Institute, Israel*, *† The Hebrew University of Jerusalem, Israel*, *# Poultry by Huminn – NRS, Israel*

09:15 – 09:35

Evaluation of *in-ovo* sex determination via PCR analysis of allantoic fluid

Jeroen Snijders, Carla W. van der Pol, HatchTech Research, the Netherlands

09:35 – 09:55

Onset of pain perception in pre-hatch chicks: anatomical and electrophysiological evidence

*Longfei Cheng***, *Anna Papazoglou†*, *Marco Weiergraeber†*, *Damian Krings†*, *Qin Pu#*, *Inga Tiemann**, *Ruijin Huan#*, ** Osnabrueck University of Applied Sciences, Germany*, *# University of Bonn, Germany*, *† Federal Institute for Drugs and Medical Devices (BfArM), Germany*

09:55 – 10:25

Coffee/tea break

Session 5: Perinatal development

Chair persons: Zehava Uni & Anne Pennings

10:25 – 10:45

The chicken hatching muscle: a bioenergetic and transcriptomic view

Jonathan Dayan, Zehava Uni, The Hebrew University of Jerusalem, Israel

10:45 – 11:05

The physiological response of the broiler embryos to different egg storage durations: a transcriptomic study

Anne Pennings†*, *Kristen Diehl#*, *Jan Wijnen†*, *Carla van der Pol†*, *Jeroen Snijders†*, *Henry van den Brand**, ** Wageningen University & Research, The Netherlands*, *† HatchTech Group, the Netherlands*, *# USDA-ARS, Beltsville, U.S.A.*

11:05 – 11:25

Acoustic detection of thermal stress in day-old chicks using conventional recurrent neuronal networks

*Özge Günaydın**, *Mina Mounir**, *Cui Gao**, *Fien Vanlerberghe#*, *Eduardo Romanini#*, *Hilke Willemsen#*, *Tomas Norton**, ** KU Leuven, Belgium*, *# Petersime NV., Belgium*

11:25 – 12:25

Lunch Buffet

Session 6: 50 years of IFRG & several incubation topics

Chair persons: Marleen Boerjan & Fien Vanlerberghe

Keynote lecture:

12:25 – 13:10

Past, present, and future of incubation and fertility research: what have we been talking about at the IFRG over the last 50 years?

Nick French, Wrexham, UK

13:10 – 13:30

Functional properties of a natural incubator – the avian nest (online)

Charles Deeming, University of Lincoln, UK

13:30 – 13:50	Differences in eggshell conductance within a batch of eggs and the effect on hatchability and chick quality <i>Lotte Hebbink, Royal Pas Reform, the Netherlands</i>
13:50 – 14:10	Early transfer of eggs after <i>in-ovo</i> sex identification – a practical study <i>Anke Förster, Josefine Stuff, Jörg Hurlin, Agri Advanced Technologies, Germany</i>
14:10 – 14:40	Coffee/tea break with ‘50 years of IFRG’ treat
Session 7: Students Competition for Nick French Price Chair persons: Zanell Brand & Arlette Harder	
14:40 – 15:00	Impact of 2% CO₂ during storage on hatching eggs quality and embryonic development <i>Pauline Javaloyes, Nelly Bernardet, Frédéric Elleboudt, Hans Adriaensen, Anne Collin, Sophie Réhault-Godbert, INRAE, Université de Tours, France</i>
15:00 – 15:20	Red and green light increase non-visual, extra-retinal photoreceptor mRNA expression in the chick brain at hatch <i>Louisa Kosin, Zuzanna Gardocka, Alex R. Johnston, Simone L. Meddle, The University of Edinburgh, UK</i>
15:20 – 15:40	Male chick detection and culling prevention with a duplex recombinase polymerase amplification in a SIMPLE microfluidic platform <i>Simão Santos*, Dries Vloemans*, Vasso Skouridou#, Ciara K. O’Sullivan#, Jeroen Lammertyn*, Dragana Spasic*, * KU Leuven, Belgium, # INTERFIBIO, Universitat Rovira I Virgili, Avinguda Països Catalans, Spain</i>
15:40 – 16:00	Feed and water consumption and body weight development in layer chickens during the first 3 days post-hatch <i>Zhanyue Wu, Henry van den Brand, B.F.A. Laurensen, M. Ooms, I. van den Anker, T.E.M. Johansson, I.C. de Jong, Roos Molenaar, Wageningen University and Research, the Netherlands</i>
16:00 – 16:20	Effect of early thyroid hormone manipulation on broiler embryo development and metabolism <i>Melanie Emambu*[†], Amit Haron*, Dima Shinder*, Shelly Druyan*, * Agricultural Research Organization, Volcani Center, Israel, [†] The Hebrew University, Israel</i>
16:20 – 16:40	Early life fecal microbiota transplantation from different donors modulates cecal microbiota, short-chain fatty acid profiles, and fermentation capacity in broiler chickens <i>Haoran Zhao, Muhammad Zeeshan Akram, Luke Comer, Elena Fako, Matthias Corion, Nadia Everaert, KU Leuven, Belgium</i>
16:40 – 17:00	Effective disinfection of hatching eggs with accelerated electrons <i>Josefine Stuff, Christian Große-Brinkhaus, Jörg Hurlin, Agri Advanced Technologies, Germany</i>
17:00 – 17:20	Meeting of the evaluation committee for the Nick French Prize
19:00 – 23:00	Gala dinner – celebration of the 50th Anniversary of WG6 IFRG; Winner of the Nick French Award competition, cultural event

FRIDAY, 24 October 2025

Session 8: Fertility and Reproduction

Chair persons: Matthias Corion & Roberto Yamawaki

09:00 – 09:20

Fertility and hatchability of ostrich eggs following artificial insemination

Pfunzo Muvhali^{†#}, Maud Bonato^{}, Irek Malecki^{#§}, Schalk Cloete[#], [†] Directorate Animal Sciences, Western Cape, South Africa, [#] University of Stellenbosch, South Africa, ^{*} University of Venda, South Africa, [§] The University of Western Australia, Australia*

09:20 – 09:40

Effect of egg storage time on fertility, hatchability, and chick quality in Shuborno strain

Raziul Islam, Kamrun Nahar Monira, Shabiha Sultana, Yousuf Ali, Shakila Faruque, Sazedul Karim Sarker, Bangladesh Livestock Research Institute, Bangladesh

09:40 – 10:00

Semen characteristics and artificial insemination of Cabot's Tragopan (*Tragopan caboti*)

Marcel Bawej, Marta Michalak, Artur Kowalczyk, Wroclaw University of Environmental and Life Sciences, Poland

10:00 – 10:20

Reproductive traits in traditional Italian light turkeys (*Meleagris gallopavo*) breeds reared for biodiversity conservation: a preliminary study

Stefano Paolo Marelli^{}, Luisa Zaniboni^{*}, Nicolaia Iaffaldano[§], Vera Perricone^{*}, Silvia Cerolini^{*}, ^{*} University of Milan, Italy, [§] University of Molise, Italy*

10:20 – 10:50

Coffee/tea break

Session 9: Cracking the hatchability crisis?

Chair persons: Ampai Nangsuay & Rui Santos

10:50 – 11:35

Keynote lecture

Fertility of chickens: Understanding and modelling the 'minefield' for balanced genetic improvement

Victor Olori, Aviagen Limited, Scotland, UK

11:35 – 11:55

Fertility concerns in the United States: Is there a failure to incorporate changes to breeder management?

Mike Wineland, Hatchery Consult LLC, North Carolina, U.S.A

11:55 – 12:15

Fertility (and hatchability), what about the female?

Ron Meijerhof, Poultry Performance Plus, the Netherlands

Wrap up of Combined Workshop and business meetings

12:15 – 12:30

Wrap up

12:30 – 12:45

Business meeting WG 6 (IFRG) (open for all members and guests)

12:45 – 13:00

Business meeting WG 12 (open for all members and guests)

13:00 – 14:00

Lunch buffet and Goodbye