



WORLD'S POULTRY  
CONGRESS

07-11  
AUGUST

2022

PARIS, FRANCE  
PALAIS DES CONGRÈS

Program

The French branch of WPSA is waiting for you

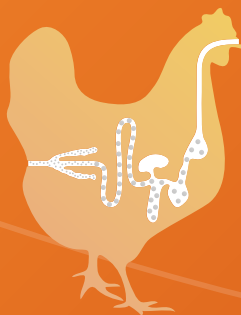
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# PRECISION INTESTINAL NUTRITION



## Dear colleagues, Dear friends,

It is a great honour for the French branch of WPSA to host the 26th World's Poultry Conference in Paris, at the Congress Center of Porte Maillot.

Initially planned in 2020, we had to postpone this major event twice, because of the sanitary crisis due to COVID-19. This gave us the opportunity to celebrate the centenary of the WPC in 2021. We wish here to acknowledge our faithful sponsors who stayed with us since 2020. The 26th WPC actually started in 2021 with a series of monthly webinars featuring some of the abstracts accepted in 2020. In 2022, we are particularly happy to welcome you in Paris from August 7 to 11, for a WPC which will innovate by many aspects.

Since the pandemics has still an impact on traveling, we propose a hybrid event, with a full on-site programme of sessions, combined with live-streaming for a set of sessions, and a systematic recording of all sessions to make them available in replay on the Congress platform. To start with, our diamond sponsor ADISSEO invites you to an opening conference on Sunday 7, dealing with the key issue of water in the sustainability of poultry production.

Then as usual for a WPC, the opening ceremony will give the opportunity to celebrate the awardees of the International Poultry Hall of Fame, of the Paul Siegel scientific award, of the Education award and the Cliff Carpenter awards. A typical Parisian show will rhythm the ceremony. The scientific programme features 5 plenary sessions with 11 invited lecturers, who will address the different components of sustainability of poultry production and present some cutting-edge topics, such as environmental impact, microbiota, One Health-One Welfare, evolution, biotechnologies as well as ethics. Plenary sessions take place on Monday 8 and Thursday 11 and will be live streamed.

Then, 45 parallel sessions will take place on Tuesday 9 and Wednesday 10, eight of them will be live streamed. As compared to previous editions of the WPC, we have added a set of object-oriented topics to trigger pluridisciplinary interactions between specialists of nutrition, genetics, welfare, quality of products, as well as hygiene and pathology, who participate in this congress. Of course, specialized sessions targeting one discipline or one type of product will also take place to provide the must up-to-date knowledge in each field.

As an innovation for a WPC, all posters will be presented as e-posters on TV screens distributed in the exhibition hall, and the congress App will make possible to contact authors directly to set an appointment, in addition to poster viewing. The council meeting of WPSA will take place on Tuesday 9 with the election of the new board and the choice of the city hosting the next WPC. We will also propose for the first time an electronic voting procedure, to facilitate participation of WPSA members who could not travel. Besides the scientific program and the key events for WPSA, the congress also features a Gala dinner in the surprising setting of the Fairground Museum, on Wednesday 10, and technical visits on Friday 12, for participants curious of discovering the French poultry sector. In the meantime, the awardees of the Youth program will visit Chartres and Tours, with poultry farms and cultural sites. We hope you will enjoy this program and are looking forward seeing you all in Paris.



**TIXIER-BOICHARD Michèle**

INRAE  
President of the World's Poultry  
Congress 2022



**DUCLOS Michel**

INRAE  
Chair of the scientific committee  
& secretary of WPSA France



**WPC**  
WORLD'S POULTRY  
CONGRESS

**07-11**  
**AUGUST**

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**PARIS, FRANCE**  
PALAIS DES CONGRÈS

**Gouvernance**

# WPSA France organizing committee



**TIXIER-BOICHARD MICHÈLE**  
*INRAE*  
Chair & relations with the AFRICAN  
POULTRY NETWORK



**DUCLOS MICHEL**  
*INRAE*  
Chair of the scientific committee  
& secretary of WPSA France



**BOSTVIRONNOIS CHRISTOPHE**  
*CHR HANSEN*  
President of the French WPSA branch  
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**HAMELIN CATHERINE**  
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*INRAE*  
Youth program & Relations with  
THE MEDITERRANEAN NETWORK



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*ITAVI*  
Poster sessions



**LESSIRE MICHEL**  
*INRAE*  
Relations with sponsors



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**GUEMENE DANIEL**  
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Poster sessions



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# Working Groups

## EUROPEAN FEDERATION

Name	Country	Working Group	Topic
Peter VAN HORNE	The Netherlands	EF1	Economy
Sanna STEENFELDT	Denmark	EF2	Nutrition
Steffen WEIGEND	Germany	EF3	Genetics
Cristina ALAMPRESE	Italy	EF4	Egg quality
Massimiliano PETRACCI	Italy	EF5	Meat Quality
Ampai NANGSUAY	Thailand	EF6	Reproduction
Virginie MICHEL	France	EF9	Welfare
Hafez HAFEZ	Germany	EF10	Turkeys
Eva SOSSIDOU	Greece	EF11	Education
Barbara TZSCHENTKE	Germany	EF12	Physiology

## ASIA PACIFIC FEDERATION

Name	Country	Working Group	Topic
Nasir MUKHTAR	Pakistan	AP1	Small Scale Family Poultry Farming
Hardi PRASETYO	Indonesia	AP2	Waterfowl
Anel ENGELBRECHT	South Africa	AP3	Ratites

## NETWORKS

Name	Country	Topic
Martino CASSANDRO	Italy	Mediterranean Poultry Network
HARRY SWATSON	South Africa	African Poultry Network

## WVPA PARTNERSHIP

Name	Country	Topic
Nicolas ETERRADOSSI	France	WVPA Hygiene and Pathology



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**Scientific experts**



## Michel DUCLOS: Chairman of the scientific committee, INRAE, France

Name	Employer	Country	Topic
Sammy AGGREY	Univ of Georgia	USA	Genetics
Maureen Bain	University of Glasgow	UK	Egg quality
Marion BERNARDEAU	Dupont	FR	Microbiology
Cécile BERRI	INRAE	FR	Physiology
Werner BESSEI	Univ of Hohenheim	GER	Welfare
Elisabeth BLESBOIS	INRAE	FR	Physiology
Michèle BOICHARD	INRAE	FR	Genetics
Anne BOURDILLON	Mixscience	FR	Nutrition
Isabelle BOUVAREL	ITAVI	FR	Nutrition
Joaquim BRUFAU	IRTA	ES	Nutrition
Mingan CHOCT	Choct Mingan	AU	Nutrition
Olivier DEMEURE	Grimaud	FR	Genetics
Nicolas ETERADOSSI	ANSES	FR	Pathology
Xavier FERNANDEZ	INRAE	FR	Physiology
Pierre-André GERAERT	Adisseo	FR	Nutrition
Daniel GUÉMÉNÉ	SYSAAF	FR	Genetics
E. Fallou GUËYE	FAO	SEN	Systems
Sandrine LAGARRIGUE	Agrocampus Ouest	FR	Genetics
Susan LAMONT	Iowa State University	USA	Physiology
Philippe LESCOAT	AgroParisTech	FR	Breeding
Yves NYS	INRAE	FR	Physiology
Tom PORTER	Univ of Maryland	USA	Physiology
Hervé RÉMIGNON	INP ENSAT	FR	Physiology
Julie ROBERTS	Univ of New England	AUS	Physiology
Markus RODEHUTSCORD	Univ of Hohenheim	GER	Nutrition
Birger SVIHUS	Norwegian University of Life	NO	Nutrition
Zehava UNI	The Hebrew University of Jerusalem	IS	Physiology
Xiquan ZHANG	South China Agricultural University	CN	Genetics

# Our partners

## DIAMOND



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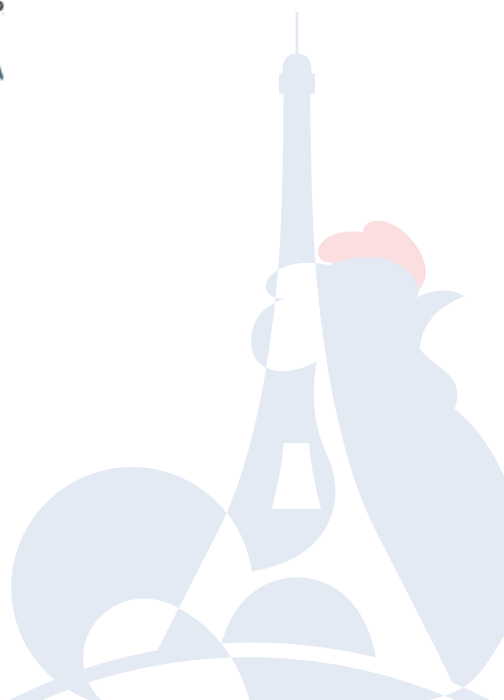
## OTHER PARTNERS



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PALAIS DES CONGRÈS

**General Information**

## Practical information

### **CERTIFICATE OF ATTENDANCE**

You will receive your certificate of attendance after the congress.

### **CHILDREN**

For reminder, children under 16 years old are not allowed on the exhibition.

### **CLOAKROOM**

A cloakroom is located next to Salle Maillot will be open at the following hours:

- August 7th 1 p.m. > 9:30 p.m
- August 8th 7:30 a.m. > 7:30 p.m
- August 9th 7:30 a.m. > 7:30 p.m
- August 10th 7:30 a.m. > 5:30 p.m
- August 11th 7:30 a.m. > 1:30 p.m

### **COFFEE BREAKS**

Coffee breaks for registered participants will take place in the morning from 10:00 to 10:30 in the afternoon from 15:00 to 16:00 each day of the congress in the Exhibition Area.

### **SOCIAL MEDIA**

Each day you can follow the news of the congress on LinkedIn and Twitter!  
Do not hesitate to share them.

### **EPOSTERS**

They will be located near WPSA France & World booth and displayed on 20 screens.  
You can have access to all abstracts.

# Practical information

## EXHIBITION FLOORPLAN

Please see on the app and on page 16.

## CLOSING CEREMONY

During the closing ceremony, it will be the time for the announcement of the name of the city where the World's Poultry Congress 2026 will be held. Which candidate countries will organize the next World's Poultry Congress:  
Cape Town, South Africa or Toronto, Canada.

## TECHNICAL SYMPOSIUM

Please see on the next page.

## INTERACTIVITY

Lots of interactive sessions will be held. Please download the official mobile app to know more and to interact with your peers.

## LOST AND FOUND

Articles found should be taken to the registration desk.

## LUNCHES

Buffets will be served in the exhibition area (included in your registration fees).

## MOBILE APP

A dedicated mobile app is available on your store: WPC 2022.

## NAME CHANGE

Registered participants who are unable to attend the congress cannot nominate a substitute participant. Name changes are not permitted.

## OFFICIAL LANGUAGE

The official language of the World's Poultry Congress is English.



**CANDIDATE CITIES**  
Cape Town / Toronto

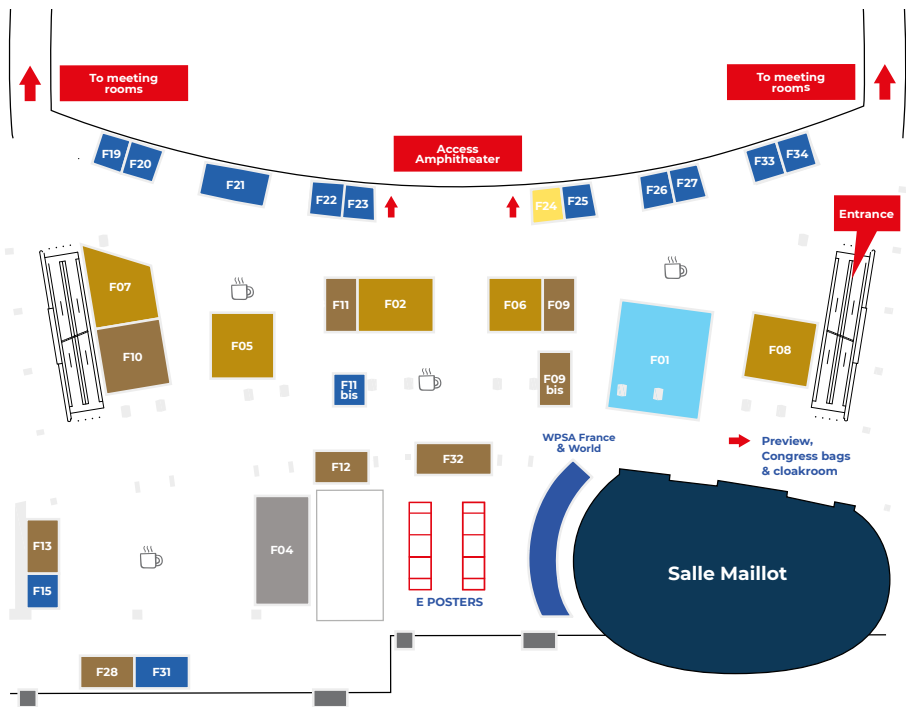
**WORLD'S POULTRY  
CONGRESS**

**2024**

# Exhibitors

Exhibitors	Booth
ADISSEO	F01
NOVUS	F02
Evonik	F04
MSD	F05
Metex Noovistago	F06
DSM	F07
ELANCO	F08
Agrifirm	F09
Innovad	F09bis
Zinpro	F10
Air Liquide Seppic	F11bis
IFF	F12
Kersia	F13
Delacon	F11

Exhibitors	Booth
Natur-add	F15
Phileo	F19
Dominant	F20
JRS	F21
South Africa Candidate	F22
Agrinews	F23
ITAVI	F24
Zoopole	F25
Envol	F26
AeroCollect	F27
Trouw Nutrition	F28
CJ Group	F31
CHR Hansen	F32
North America Candidate	F33
Poultry Science	F34



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# General Information

## PALAIS DES CONGRÈS

The Palais des Congrès, combining bold architecture, an international reputation, a strategic location with easy access and a large accommodation capacity, has all of the advantages of one of the leading congress centres in the world.

## VENUE

The 2022 World Poultry Congress will be held at the Palais des Congrès:

2 Place de la Porte Maillot  
75017 Paris  
France

## WIFI

Unlimited free access in the congress centre.

Network: WPCPARIS22  
Password: WPCPARIS22

## REGISTRATION

FR: +33 (0)1 44 64 14 44  
BE: +32 (0)2 776 06 53  
wpc@clq-group.com

## SPONSORSHIP & EXHIBITION

Julien Mallot:  
+33 (0)1 44 64 15 02  
j.mallot@clq-group.com

## ACCOMMODATION SERVICES

FR: +33 (0) 1 70 36 04 48  
BE: +32 (0) 2 779 39 39  
info@caccommodation.com

## TRANSPORT

### 🚇 Access by metro (Underground)

You can reach the congress center by:

- › Metro line 1 stop at «Porte Maillot» station
- › Line RER C stop at «Neuilly-Porte Maillot» station

### 🚆 Access by train/TGV

The Congress Center is located at 15 minutes by car from Gare de Lyon, Gare de l'Est and Gare du Nord and at 20 minutes from Gare Montparnasse.

You can also reach the Congress Center by public transport from these stations.

### 🚌 Access by bus

Bus station "Porte Maillot"

- › Line 43 from Gare Saint-Lazare to Gare du Nord
- › Line 73 from Place de la Concorde to the Champs Élysées,
- › Line 82, line 244, line PC1, line PC3





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**Scientific program**

Grand Amphithéâtre

13:00-20:30  
Registration

Afternoon

PROGRAM

**2:00 pm**

Welcome to the water conference

*Dr Pierre-André GERAERT (Adisseo)***2:10 pm**

The water-footprint concept: the challenges of animal protein production

*Dr Thierry CAQUET (INRAe, France)***2:40 pm**

Water quality: essential for feed intake and performance

*Prof Andrew OLKOWSKI (Univ Saskatchewan, Canada)***3:20 pm**

Water and proteins: the view of the breeding company

*Dr Alex CORZO (Aviagen, USA)***COFFEE BREAK | 3:45 pm****4:15 pm**

Water and litter quality: key for a safe environment

*Dr Maria PENZ (Cargill, Brazil)***4:45 pm**

Water: the vector of animal resilience

*Prof Walter BOTTJE & Prof Sami DRIDI (Univ Arkansas, USA)***5:15 pm**

Take Home Messages: water and sustainability

*Dr Frank CHIMITELIN (VP, Adisseo)*18:00-19:30  
Welcome Ceremony19:30-21:30  
Exhibition Visit and Cocktail

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# Welcome Ceremony

🕒 18:00>19:30

📍 Grand Amphithéâtre

## **Welcome message**

by WPSA President Ning Yang

## **Welcome address**

from the President of the French WPSA branch, Christophe Bostvironnois

## **Welcome message**

from INRAE CEO, Philippe Mauguin

## **Musical event**

### **Presentation of the International Poultry Hall of Fame 2020 Inductees**

Chair: Bob Buresh, Senior Vice-President of WPSA

#### **Acknowledgements to the five inductees:**

- Prof. Achille Franchini (Italy),
- Prof. Rob Gous (South Africa),
- Prof. Hafez M. Hafez (Germany),
- Prof. Gerald B Havenstein (United States)
- Dr. Robert A.E. Pym (Australia)

## **Musical event**

### **Presentation of Awards:**

- Chair: Roel Mulder, Secretary of WPSA
- Paul Siegel Award: Prof Samuel E. Aggrey (United States)
- Education Award: Prof Kokou Tona (Togo)
- Intervention of Mr Aseye Kofi AFETO, diplomatic representative of his Excellency the Ambassador of the Togo Republic

### **2020 Cliff D. Carpenter International Essay Competition:**

- Mr M.A.N. Filho (Marcos Antonio Nascimento)
- Mrs V. Madhupriya (Velusamy)
- Mrs B.C. Jasek (Brooke)
- Mrs A. Rubio (Andrea)
- Mrs M. Sinclair-Black (Micaela)






Opening speech by the Chair of WPC 2022, Michèle Tixier-Boichard

## **Musical event**

## **Welcome Cocktail**

# Notes

A series of horizontal dotted lines for writing notes, spanning the width of the page.

	Grand Amphithéâtre	Salle 251	Salle 241
Morning	07:30 <b>Registration</b> 		
	08:30>10:00 <b>Plenary session 1</b> <b>Economy and sustainability of the Poultry Production Chain</b> Peter VAN HORNE (NL) & Ermias KEBREAB (US)		
Lunch	10:00>10:30 <b>Coffee Break &amp; ePoster</b> 		
	10:30>12:00 <b>Plenary session 2</b> <b>One health - One welfare</b> David Swayne (US), Karen SCHWEAN-LARDNER (CA) & Anne-Marie NEETESON (NL)		
	12:00>13:30 <b>Lunch &amp; ePoster</b> 	12:00>13:30 <b>Sponsored Technical Symposia</b> <b>NOVUS</b>	12:00>13:30 <b>Sponsored Technical Symposia</b> <b>DSM</b>
Afternoon	13:30>15:00 <b>Plenary session 3</b> <b>The bird and its microbiota</b> Bernd KASPERS (DE) & Alexandra DE CAESARE (IT)		
	15:00>16:00 <b>Coffee Break &amp; ePoster</b> 		
	16:00>17:30 <b>Plenary session 4</b> <b>Breeding and nutritional strategies for sustainable poultry production schemes</b> Jack DEKKERS (US) & Ilias KYRIAZAKIS (UK)		
		17:30>19:00 <b>Sponsored Technical Symposia</b> <b>PHILEO</b> 	17:30>19:00 <b>Sponsored Technical Symposia</b> <b>ELANCO</b>



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	Amphi Bleu	Salle 241	Salle 242AB
Morning	08:30>10:00 <b>Parallel session</b> <b>Object-oriented</b>		08:30>10:00 <b>Parallel session Specialized</b>
	<b>Innovative strategies to answer new expectations</b> Cesare CASTELLINI (IT)		<b>Metabolism</b> Johan BUYSE (BE)
	10:00>10:30 <b>Coffee Break &amp; ePoster</b>		
	10:30>12:00 <b>Parallel session Specialized</b>	10:30>12:00 <b>Parallel session</b> <b>Object-oriented</b>	10:30>12:00 <b>Parallel session Specialized</b>
	<b>Food safety</b>	<b>Diversity of production systems and services for the agroecological transition</b> Bertrand MEDA (FR) & Hardi PRASETYO (ID)	<b>Ingestion and digestion</b> Amy MOSS (AU)
Lunch		12:00>13:30 <b>Sponsored Technical Symposium</b> IFF	
	13:30>15:00 <b>Parallel session Specialized</b> <b>Physiology of nutrition</b> Alfons JANSMAN (NL)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Poultry welfare in low-input outdoor production systems: the PPILOW project</b>	13:30>15:00 <b>Parallel session Specialized</b> <b>Construction of egg quality</b> Joël GAUTRON (FR)
Afternoon	15:00>16:00 <b>Coffee Break &amp; ePoster</b>		
	16:00>17:30 <b>Parallel session Specialized</b>		16:00>17:30 <b>Parallel session Specialized</b>
	<b>Reducing the environmental impacts of poultry production</b>		<b>Quality of egg products</b> Cristina ALAMPRESE (IT)
		17:30>19:30 <b>Sponsored Technical Symposium</b> CHR HANSEN	





Salle 251

Salle 252AB

Salle Maillot

08:30>10:00

**Parallel session Specialized**

**Education**

Servet YALCIN (TR)

08:30>10:00

**Parallel session Specialized**

**Turkeys**

Mohamed HAFEZ (DE)

08:30>10:00

**Object-oriented sessions**

**Food security**

Robyn ALDERS (AU)

10:00>10:30

**Coffee Break & ePoster**

10:30>12:00

**Parallel session Specialized**

**Ratites**

Schalk CLOETE (NL)

10:30>12:00

**Object-oriented sessions**

**Keel bone damage in layers**

Mike TOSCANO (CH)

10:30>12:00

**Object-oriented sessions**

**Adapting poultry production to climate change**

Anne COLLIN (FR)

13:30>15:00

**Parallel session Specialized**

**Marketing and economy**

Aymeric LE LAY (FR)

13:30>15:00

**Parallel session Specialized**

**Construction of meat quality**

Massimiliano PETRACCI (IT)

13:30>15:00

**Parallel session Object-oriented**

**Pluridisciplinary approaches to reach the One health objectives**

Susan LAMONT (US)

15:00>16:00

**Coffee Break & ePoster**

16:00>17:30

**Parallel session Specialized**

**Molecular genetics**

Guojie ZHANG (DK)

16:00>17:30

**Parallel session Specialized**

**Waterfowls**

Layi ADEOLA (US)

16:00>17:30

**Parallel session Object-oriented**

**Understanding the microbiome for an improved management of Health and Welfare**

Richard DUCATELLE (BE)

17:30>19:30

**Sponsored Technical Symposium**

ZINPRO ANIMAL NUTRITION

Morning

Lunch

Afternoon



	Amphi Bleu	Salle 241	Salle 242AB
Morning	08:30>10:00 <b>Parallel session Specialized</b>  <b>Mineral nutrition</b> Roselina ANGEL (US)	08:30>10:00 <b>Parallel session Specialized</b>  <b>Welfare of layers</b> Bas RODENBURG (NL)	08:30>10:00 <b>Parallel session Specialized</b>  <b>General physiology</b> Ian DUNN (UK)
	10:00>10:30 <b>Coffee Break &amp; ePoster</b>		
	10:30>12:00 <b>Parallel session Specialized</b>  <b>Infectious diseases</b>	10:30>12:00 <b>Parallel session Specialized</b>  <b>Welfare of broilers</b>	10:30>12:00 <b>Parallel session Specialized</b>  <b>Physiology of perinatal development</b> Tom PORTER (US)
Lunch			
Afternoon	13:30>15:00 <b>Parallel session Specialized</b> <b>Feedstuffs</b> Edouard COUDERT (FR)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Genetics by environment interactions and epigenetics</b> Frédérique PITEL (FR)	13:30>15:00 <b>Parallel session Specialized</b> <b>Reproductive biotechnologies</b> Mike McGREW (UK)
	15:00>16:00 <b>Coffee Break &amp; ePoster</b>		
	16:00>17:30 <b>Parallel session Specialized</b>  <b>Feedstuffs &amp; Feed technology</b>	16:00>17:30 <b>Parallel session Specialized</b>  <b>Genetics : new traits</b> Teun VAN DE BRAAK (NL)	16:00>17:30 <b>Parallel session Specialized</b>  <b>Reproductive physiology</b> Atushi ASANO (JN)



Salle 251	Salle 252AB	Salle Maillot	
08:30>10:00 <b>Parallel session Object-oriented African Poultry Network</b> Ayaho MISSOHOU (SE)	08:30>10:00 <b>Parallel session Specialized</b> <b>Alternative to antibiotics</b>	08:30>10:00 <b>Parallel session Object-oriented</b> <b>Genetics by nutrition interaction to optimize gut function</b> Sandrine GRASTEAU (FR) & Amelia CAMARINHA-SILVA (DE)	Morning
10:00>10:30 <b>Coffee Break &amp; ePoster</b>			
10:30>12:00 <b>Parallel session Specialized</b> <b>Small scale family poultry farming</b> Fallou GUEYE (SN)	10:30>12:00 <b>Parallel session Object-oriented</b> <b>Management of broiler breeders</b> Martin ZUIDHOF (CA)	10:30>12:00 <b>Parallel session Specialized</b> <b>Protein nutrition</b> Marta GARIGLIO (IT)	Lunch
	13:30>15:00 <b>Object-oriented sessions</b> <b>Early management of broilers: from embryo to the end of the starter phase</b> Zehava UNI (IL)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Robotics and big data for precision farming</b> Thomas NORTON (BE)	
15:00>16:00 <b>Coffee Break &amp; ePoster</b>			Afternoon
	16:00>17:30 <b>Parallel session Specialized</b> <b>Hygiene</b>	16:00>17:30 <b>Parallel session Specialized</b> <b>Meat quality - slaughter and processing</b> Shai BARBUT (CA)	



Amphi Bleu	
Morning	07:30 <b>Registration</b>
	08:30>10:00 <b>Plenary session 5</b> <b>New frontiers in poultry science</b> Dominic WRIGHT (SE) & Jae Yong HAN (KR)
	10:00>10:30 <b>Coffee Break &amp; ePoster</b>
	10:30>11:00 <b>Plenary session 5</b> <b>New frontiers in poultry science</b> Thomas HEAMS (FR)
Lunch	11:15>12:00 <b>Closing Ceremony</b>
	12:00>12:30 <b>Lunch &amp; ePoster</b>
Afternoon	





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## Sponsored technical symposium



LIVE &  
REPLAY

🕒 14:00>17:30

📍 Grand Amphithéâtre



# ADISSEO OPENING CONFERENCE : WATER: FROM NUTRIENT TO SUSTAINABILITY

🕒 14:00

### Welcome to the water conference

Pierre-André GERAERT (Adisseo)

🕒 14:10

### The water-footprint concept: the challenges of animal protein production

Thierry CAQUET (INRAe, France)

🕒 14:40

### Water quality: essential for feed intake and performance

Andrew OLKOWSKI (Univ Saskatchewan, Canada)

🕒 15:20

### Water and proteins: the view of the breeding company

Alex CORZO (Aviagen, USA)

🕒 16:15

### Water and litter quality: key for a safe environment

Mario PENZ (Cargill, Brazil)

🕒 16:45

### Water: the vector of animal resilience

Walter BOTTJE & Sami DRIDI (Univ Arkansas, USA)

🕒 17:15

### Take Home Messages: water and sustainability

Franck CHMITELIN (VP Adisseo)

	Grand Amphithéâtre	Salle 251	Salle 241
Morning	<p>07:30 <b>Registration</b></p> <p>08:30&gt;10:00 <b>Plenary session 1</b> <b>Economy and sustainability of the Poultry Production Chain</b> Peter VAN HORNE (NL) &amp; Ermias KEBREAB (US)</p>		
	<p>10:00&gt;10:30 <b>Coffee Break &amp; ePoster</b></p> <p>10:30&gt;12:00 <b>Plenary session 2</b> <b>One health - One welfare</b> David Swayne (US), Karen SCHWEAN-LARDNER (CA) &amp; Anne-Marie NEETESON (NL)</p>		
	<p>12:00&gt;13:30 <b>Lunch &amp; ePoster</b></p>	<p>12:00&gt;13:30 <b>Sponsored Technical Symposia</b> <b>NOVUS</b></p>	<p>12:00&gt;13:30 <b>Sponsored Technical Symposia</b> <b>DSM</b></p>
Afternoon	<p>13:30&gt;15:00 <b>Plenary session 3</b> <b>The bird and its microbiota</b> Bernd KASPERS (DE) &amp; Alexandra DE CAESARE (IT)</p>		
	<p>15:00&gt;16:00 <b>Coffee Break &amp; ePoster</b></p> <p>16:00&gt;17:30 <b>Plenary session 4</b> <b>Breeding and nutritional strategies for sustainable poultry production schemes</b> Jack DEKKERS (US) &amp; Ilias KYRIAZAKIS (UK)</p>	<p>17:30&gt;19:00 <b>Sponsored Technical Symposia</b> <b>PHILEO</b></p>	<p>17:30&gt;19:00 <b>Sponsored Technical Symposia</b> <b>ELANCO</b></p>



**LIVE &  
REPLAY**

## Plenary

🕒 08:30>10:00

📍 Grand Amphithéâtre

# ECONOMY AND SUSTAINABILITY OF THE POULTRY PRODUCTION CHAIN

Chairs: Thierry CAQUET (France) and Simon FOURDIN (France)

🕒 08:30

### Plenary lecture

**Global challenges for the economy of the poultry sector**

Peter VAN HORNE (Netherlands)

🕒 09:30

### Plenary lecture

**Mitigating the environmental impacts of poultry production**

Ermias KEBREAB (United States)



**LIVE &  
REPLAY**

## Plenary

🕒 10:30>12:00

📍 Grand Amphithéâtre

# ONE HEALTH - ONE WELFARE

Chairs: Nicolas ETERRADOSSI (France) and Werner BESSEI (Germany)

🕒 10:30

### Plenary lecture

**Avian Influenza in a One Health Framework**

David SWAYNE (United States)

🕒 11:00

### Plenary lecture

**Assessing and Improving Poultry Welfare beyond Compliance, a Multistakeholder Initiative**

Karen SCHWEAN-LARDNER (Canada)

& Anne-Marie NEETESON (Netherlands)

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🕒 12:00>13:30

📅 241

## DSM : MICROBIOME MANAGED PRECISELY

🕒 12:00

### Introduction

Shelby RAMIREZ

🕒 12:30

### The Interactions Between Diet-Microbiome-Host Axis, Gut Health and Poultry Performance

Michael KOGUT

🕒 13:00

### A precision biotic approach to targeting beneficial microbe-host interactions associated with improved microbial protein metabolism by the poultry gut microbiome

Jack GEREMIA

**Sponsored technical symposium**

🕒 12:00&gt;13:30

📍 251

**NOVUS: BOOK LAUNCH: BREEDER MANAGEMENT AND NUTRITION: MOVING THE INDUSTRY FORWARDS****Chairs: Johan BUYSE and Silvia PERIS**

🕒 12:00

**Effects of breeder feed restriction on behaviour, welfare, reproduction, and health**  
Rick Van EMOUS

🕒 12:20

**Management and Nutrition of the Male Breeder**  
Edgar O. OVIEDO

🕒 12:35

**Opportunities for multi- and transgenerational feeding strategies for sustainable broiler breeder management**  
Johan BUYSE

🕒 12:50

**Harnessing Epigenetics to Improve Chick Quality with Trace Mineral Zinc**  
Mercedes VAZQUEZ, Novus

🕒 13:00

**Poultry Breeding for Sustainability**  
Anne-marie NEETESON, Aviagen

🕒 13:15

**Conclusion**  
Hugo ROMERO-SANCHEZ & Sandrine DUROX

**LIVE &  
REPLAY**

## Plenary

🕒 13:30>15:00

📍 Grand Amphithéâtre

# THE BIRD AND ITS MICROBIOTA

Chairs: Claire ROGEL-GAILLARD (France) and Richard DUCATELLE (Belgium)

🕒 13:30

### Plenary lecture

**The intestinal microbiota, a central actor in the development of the immune response**

Bernd KASPERS (Germany)

🕒 14:30

### Plenary lecture

**Highlights from studies on poultry microbiome: what is missing to turn research into innovation**

Alessandra DE CESARE (Italy)



## Plenary

🕒 16:00>17:30

📍 Grand Amphithéâtre

# BREEDING AND NUTRITIONAL STRATEGIES FOR SUSTAINABLE POULTRY PRODUCTION SCHEMES

Chairs: Birger SVIHUS (Norway) and Jean-Pierre BIDANEL (France)

🕒 16:00

### Plenary lecture

Opportunities offered by genomic selection to breed for diverse production systems

Jack DEKKERS (United States)

🕒 16:30

### Plenary lecture

How far can we go with enhancing the environmental sustainability of poultry systems?

Ilias KYRIAZAKIS (United Kingdom)

## Sponsored technical symposium

🕒 17:30>19:00

📅 241



## ELANCO: HEALTHIER BIRDS, PROTECTING YOUR PROFITS

🕒 17:30

**Feed ingredient solutions from raw material costs**

Rick KLEYN

🕒 17:50

**NEW Hemicell 2022 value update**

Urszula SERWA

🕒 18:10

**The benefits of coccidiosis control on sustainability of poultry production and food safety**

Daniel PARKER

🕒 18:30

**Malindo R&D experience - Alternative AGP journey in poultry**

HUAN Chee Seng

🕒 18:50

**Narasin – A solution to deliver ROI for poultry producers**

Tom HEPBURN



REPLAY

## Sponsored technical symposium

🕒 17:30>19:00

📺 251



# PHILEO: MASTERING IMMUNITY BEYOND VACCINATION: PROTECTION AGAINST VILLAIN ATTACKS

Chair: Alain RIGGI (FR)

🕒 17:30

**Improving gut barrier and microbiota to enhance birds' immunity and resilience**  
Filip VAN IMMERSEEL (Belgium)

🕒 18:10

**Boosting innate immunity to prevent diseases in poultry**  
Julie SCHULTHESS (France)

🕒 18:30

**Reduction of adverse effects of DON in poultry by selected yeast fractions**  
Virginie MARQUIS (France)



# Notes

A series of horizontal dotted lines for writing notes, spanning the width of the page.

	Amphi Bleu	Salle 241	Salle 242AB
Morning	08:30>10:00 <b>Parallel session</b> <b>Object-oriented</b>		08:30>10:00 <b>Parallel session Specialized</b>
	<b>Innovative strategies to answer new expectations</b> Cesare CASTELLINI (IT)		<b>Metabolism</b> Johan BUYSE (BE)
	10:00>10:30 <b>Coffee Break &amp; ePoster</b>		
	10:30>12:00 <b>Parallel session Specialized</b>	10:30>12:00 <b>Parallel session</b> <b>Object-oriented</b>	10:30>12:00 <b>Parallel session Specialized</b>
	<b>Food safety</b>	<b>Diversity of production systems and services for the agroecological transition</b> Bertrand MEDA (FR) & Hardi PRASETYO (ID)	<b>Ingestion and digestion</b> Amy MOSS (AU)
Lunch		12:00>13:30 <b>Sponsored Technical Symposium</b> IFF	
	13:30>15:00 <b>Parallel session Specialized</b> <b>Physiology of nutrition</b> Alfons JANSMAN (NL)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Poultry welfare in low-input outdoor production systems: the PPILOW project</b>	13:30>15:00 <b>Parallel session Specialized</b> <b>Construction of egg quality</b> Joël GAUTRON (FR)
Afternoon	15:00>16:00 <b>Coffee Break &amp; ePoster</b>		
	16:00>17:30 <b>Parallel session Specialized</b>		16:00>17:30 <b>Parallel session Specialized</b>
	<b>Reducing the environmental impacts of poultry production</b>		<b>Quality of egg products</b> Cristina ALAMPRESE (IT)
		17:30>19:30 <b>Sponsored Technical Symposium</b> CHR HANSEN	



Salle 251	Salle 252AB	Salle Maillot	
08:30>10:00 <b>Parallel session Specialized</b> <b>Education</b> Servet YALCIN (TR)	08:30>10:00 <b>Parallel session Specialized</b> <b>Turkeys</b> Mohamed HAFEZ (DE)	08:30>10:00 <b>Object-oriented sessions</b> <b>Food security</b> Robyn ALDERS (AU)	
10:00>10:30 <b>Coffee Break &amp; ePoster</b>			Morning
10:30>12:00 <b>Parallel session Specialized</b> <b>Ratites</b> Schalk CLOETE (NL)	10:30>12:00 <b>Object-oriented sessions</b> <b>Keel bone damage in layers</b> Mike TOSCANO (CH)	10:30>12:00 <b>Object-oriented sessions</b> <b>Adapting poultry production to climate change</b> Anne COLLIN (FR)	
12:00>13:30 <b>Sponsored Technical Symposium</b> METEX NOOVISTAGO			Lunch
12:00>13:30 <b>Sponsored Technical Symposium</b> CEVA			
13:30>15:00 <b>Parallel session Specialized</b> <b>Marketing and economy</b> Aymeric LE LAY (FR)	13:30>15:00 <b>Parallel session Specialized</b> <b>Construction of meat quality</b> Massimiliano PETRACCI (IT)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Pluridisciplinary approaches to reach the One health objectives</b> Susan LAMONT (US)	
15:00>16:00 <b>Coffee Break &amp; ePoster</b>			Afternoon
16:00>17:30 <b>Parallel session Specialized</b> <b>Molecular genetics</b> Guojie ZHANG (DK)	16:00>17:30 <b>Parallel session Specialized</b> <b>Waterfowls</b> Layi ADEOLA (US)	16:00>17:30 <b>Parallel session Object-oriented</b> <b>Understanding the microbiome for an improved management of Health and Welfare</b>  Richard DUCATELLE (BE)	
17:30>19:30 <b>Sponsored Technical Symposium</b> ZINPRO ANIMAL NUTRITION			





REPLAY

## Specialized session

🕒 08:30>10:00

📄 251

## EDUCATION

**Chairs: Evangelina SOSSIDOU (Greece) and Caroline MOLETTE (France)**

🕒 08:30

### **Keynote lecture**

**Poultry science education: Issues and perspectives**

Servet YALCIN (Turkey)

🕒 09:00

### **Vicky the virtual chicken**

Tamsyn CROWLEY (Australia)

🕒 09:15

### **The value of virtual education in influencing practice change**

Brenda REIMER (Canada)

🕒 09:30

### **A new global postgraduate course in Poultry Health Sciences: e-learning supported with onsite practical training**

Gunther ANTONISSEN (Belgium)

🕒 09:45

### **Qualification and continuing education for people working in the poultry sector**

Falko KAUFMANN (Germany)



REPLAY

## Specialized session

🕒 08:30>10:00

📍 242AB

# METABOLISM

Chairs: Zehava UNI (Israel) and Anne COLLIN (France)

🕒 08:30

### Keynote lecture

**Multi- and transgenerational effects of feeding strategies in poultry**

Johan BUYSE (Belgium)

🕒 09:00

**Encapsulated crystalline Lysine and DL-methionine have higher efficiency than the crystalline form in chickens**

Hai LIN (Christmas Island)

🕒 09:15

**Effects of varying levels of DL-methionine on amino acid metabolism**

Jordan WEIL (United States)

🕒 09:30

**Effect of two microencapsulated blends of organic acids and essential oils on broiler performance under a *Salmonella typhimurium* challenge from 0 to 21 d of age**

Julio Francisco BERROCOSO (Spain)

🕒 09:45

**Caecal metabolomic fingerprint and performance of broilers fed plant sensory molecules as alternative growth promoters**

Angel René ALFONSO-AVILA (Canada)



## Specialized session

🕒 08:30>10:00

📍 252AB

## TURKEYS

**Chairs: Ruveyde AKBAY (Turkey) and Mohamed HAFEZ (Germany)**

🕒 08:30

### **Keynote lecture**

**Turkey Production and Health: Current challenges**

Mohamed HAFEZ (Germany)

🕒 09:00

**Residual feed intake – A better tool to assess feed efficiency in turkey**

Subrat Kumar BHANJA (India)

🕒 09:15

**Effect of dietary supplementation of organic, inorganic and nano particles of chromium on growth, carcass quality traits, development of digestive and immune organs of turkey poults**

Abhishek DESHMUCK (India)

🕒 09:30

**The protein profile of breast muscle exudate in response to different dietary ratios of limiting amino acids in turkeys subjected to Clostridium perfringens challenge**

Pawel KONIECZKA (Poland)

🕒 09:45

**Lateral Transmission of Histomonas meleagridis in Turkey Poults Raised on Floor Pens**

Nima EMAMI (United States)



REPLAY

## Object-oriented session

🕒 08:30>10:00

📍 Amphi Bleu

# INNOVATIVE STRATEGIES TO ANSWER NEW EXPECTATIONS

Chairs: Ilias KYRIAZAKIS (United Kingdom) and Olivier DEMEURE (France)

🕒 08:30

### Keynote lecture

**New insights in alternative and organic poultry production systems**

Cesare CASTELLINI (Italy)

🕒 09:00

**Microbiota study at the farm level for quick decision-making**

Laura LORENZO-REBENAQUE (Spain)

🕒 09:15

**Development of automated measurements of sound indicators for the early detection of health disorders in poultry: the case of Infectious Bronchitis**

Pauline CREACH (France)

🕒 09:30

**Learning from the duck: new possibilities for immune fitness in transgenic chickens**

Hicham SID (Germany)

🕒 09:45

**Precision farming: a new tool and database to monitor recombinant turkey herpesvirus vaccine applications in commercial birds**

Fernando VARGAS (United States)



## Object-oriented session

🕒 08:30>10:00

📄 Maillot

## FOOD SECURITY

**Chairs:** Grégoire LEROY (France) and Ayao MISSOHOU (Senegal)

🕒 08:30

### **Keynote lecture**

**Efficiently and sustainably nourishing people and poultry in the 21st Century: challenges and opportunities**

Robyn ALDERS (United Kingdom)

🕒 09:00

**Improving the livelihoods of family poultry producers through Poultry Farmer Field Schools**

Giacomo DE' BESI (Italy)

🕒 09:15

**Feed the Future Innovation Lab for Genomics to Improve Poultry: Increasing food security in Africa by enhancing resistance to Newcastle disease and heat stress in chickens**

Huaijun ZHOU (United States)

🕒 09:30

**Heat tolerance features of Sasso colored broiler breeders in open sided cage houses exposed to extreme summer conditions in tropical south India and suggestions for further improvement in performance in view of future climate changes**

Louis PERRAULT (France)

🕒 09:45

**Breeding program to establish the crossbred slow – growing Korat chicken for sustainable occupation of smallholder farmers**

Amonrat MOLEE (Thailand)





REPLAY

## Object-oriented session

🕒 10:30>12:00

👤 241

# DIVERSITY OF PRODUCTION SYSTEMS AND SERVICES FOR THE AGROECOLOGICAL TRANSITION

Chairs: Giacomo DE' BESI (Italy) and Michèle TIXIER-BOICHARD (France)

🕒 10:30

### Keynote lecture

**Poultry production: A diversity of farming systems providing various services to farmers, consumers and citizens**

Bertrand MEDA (France)

🕒 11:00

### Keynote lecture

**Impact of duck farming system on the environment and conservation of local genetic resources**

Hardi PRASETYO (Indonesia)

🕒 11:30

**Growth Performance of Six Local German Chicken Breeds towards Sustainable Use of Regional Animal Genetic Resources**

Claudia DIERKS (Germany)

🕒 11:45

**Effects of reducing dietary crude protein under two different rearing conditions on performance, foot pad dermatitis, meat yields & environmental impacts of broiler chickens**

Pierre MOQUET (France)



## Specialized session

🕒 10:30>12:00

📊 251

## RATITES

**Chairs: Anel ENGELBRECHT (South Africa) and Nadine GERARD (France)**

🕒 10:30

### **Keynote lecture**

**Recent advances in the breeding of farmed ostriches**

Schalk CLOETE (South Africa)

🕒 11:00

**Artificial insemination in ostriches: progress and future directions**

Pfunzo Tonny MUVHALI (South Africa)

🕒 11:15

**Environmental and genetic effects for reproduction in two-year-old ostrich breeder females**

Anel ENGELBRECHT (South Africa)

🕒 11:30

**Bristle hairs, filoplumes and pinholes in ostriches**

Anel ENGELBRECHT (South Africa)



REPLAY

## Specialized session

🕒 10:30>12:00

📍 242AB

# INGESTION AND DIGESTION

Chairs: Dieter FEUERSTEIN (Germany) and Yves MERCIER (France)

🕒 10:30

### **Keynote lecture**

**Fibres: challenges and opportunities for the poultry industry**

Amy MOSS (Australia)

🕒 11:00

**Effect of microalgae on the gut development, function and morphology of broilers**

Marta LOURENÇO (Belgium)

🕒 11:15

**Is selection for improved performance limiting the gastrointestinal capacity of modern broilers?**

James TAYLOR (United Kingdom)

🕒 11:30

**Sex as a covariate increases the statistical test power when mixed-sex broilers are used in nutritional experiments**

Ashley ENGLAND (Australia)

🕒 11:45

**Effects on broiler carcass pigmentation associated with a dietary three-strain probiotic and varying levels of ingredient pigment inclusion**

Steve Lerner (United States)



## Object-oriented session

🕒 10:30>12:00

📍 252AB

# KEEL BONE DAMAGE IN LAYERS

Chairs: Ian DUNN (United Kingdom) and Yves NYS (France)

🕒 10:30

### Keynote lecture

**Review of keel bone damage problems and solutions**

Mike TOSCANO (Switzerland)

🕒 11:00

**Prevalence of Keel Bone Damage in Red Jungle Fowls (*Gallus gallus*)—A Pilot Study**

Käthe KITTELSEN (Norway)

🕒 11:15

**The impact of light intensity on keel bone quality and tibia bone strength of pullets housed in perchery systems from 0 to 16 weeks of age**

Jo Ann CHEW (Canada)

🕒 11:30

**Keel bone damage evaluation in laying hens fed diets supplemented with different levels of dried olive pulp**

Evangelina SOSSIDOU (Greece)

🕒 11:45

**Rearing Environment Affects Pectoralis Major and Keel Bone Development in Laying Hen Pullets**

Tina WIDOWSKI (Canada)



REPLAY

## Specialized session

🕒 10:30>12:00

📍 Amphi Bleu

## FOOD SAFETY

**Chairs: Marianne CHEMALY (France)**

🕒 10:30

**Longitudinal study reveals persistence of multidrug resistant *Escherichia coli* and horizontal transfer of antimicrobial resistance genes in the antibiotic free poultry production pyramid**

Sylvie BAUCHERON (France)

🕒 10:45

***Campylobacter* spp. in chicken livers in Spain**

Alicia MANZANARES PEDROSA (Spain)

🕒 11:00

**Laboratory model to simulate survival of *salmonella* spp. in fat and feed residues found in poultry houses**

Dmytro RADKO (Germany)

🕒 11:15

***Salmonella* prevalence and persistence in industrialized poultry slaughterhouses**

Koen DE REU (Belgium)

🕒 11:30

**Vaccination of Day-Old Broilers with a *S. Typhimurium* live vaccine to Control *Salmonella* in Europe: a case report based on Integrated Risk Management**

Philippe GELAUDE (Belgium)

🕒 11:45

**Prevalence and antibiotic resistance patterns of *staphylococcus aureus* isolated from industrial eggs in ardabil city**

Aidin AZIZPOUR (Iran)



## Object-oriented session

🕒 10:30>12:00

📄 Maillot

# ADAPTING POULTRY PRODUCTION TO CLIMATE CHANGE

Chairs: Susan LAMONT (United States) and Servet YALCIN (Turkey)

🕒 10:30

### Keynote lecture

**Combined strategies for adapting poultry production to climate change**

Anne COLLIN (France)

🕒 11:00

**Quantification of the effect of feeding strategies on the carbon emissions of a Brazilian broiler production system**

Virginie BLANVILLAIN RIVERA (United States)

🕒 11:15

**Evaluation of water intake, feed intake and processing traits of four commercial broiler lines using a low flow water monitoring system**

Travis TABLER (United States)

🕒 11:30

**Growth performance reduction and behavioural adaptations in heat stressed conventional and Thai native broilers**

Andreas PAPANIKOLAOU (Netherlands)

🕒 11:45

**Supplementation of postbiotic lactobacillus ingluviei C37 improves growth performance and expression of gene-related antioxidant enzymes and gut barriers in broilers subjected to heat stress**

Sutika KHEMPAKA (Thailand)

## Sponsored technical symposium

🕒 12:00>13:30

📅 241



# IFF: RAISING POULTRY TODAY FOR TOMORROW - INNOVATIVE SOLUTIONS FOR SUSTAINABLE PRODUCTION

🕒 12:00

**Reduce feed costs and environmental impacts: factors to be considered when optimizing your phytase doses**

Yueming DERSJANT-LI

🕒 12:30

**Address specific dietary challenges: applying substrate-based matrix values for enzyme combinations**

Bart HILLEN

🕒 13:00

**Probiotics and enzyme technologies: improving performance, health and welfare**

Kirsty GIBBS

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## Sponsored technical symposium



🕒 12:00>13:30

📍 252AB

# METEX NOOVISTAGO : GUT HEALTH OF BROILERS : HOW FUNCTIONAL AMINO ACIDS CAN SUPPORT ANIMALS FACING A CHALLENGE

🕒 12:00

**Introductory speech**

William LAMBERT

🕒 12:30

**Quantifying the impacts of coccidiosis on performance, gut health indicators and nutrient digestibility**

Ines ANDRETTA

🕒 12:45

**Functional amino acids and polyphenols at low dose can restore performance and amino acid digestibility in broilers challenged with coccidiosis**

Tristan CHALVON-DEMERSAY

🕒 13:00

**Intestinal Barrier Function and Performance of Broiler Chickens Fed an Amino Acid-Based Solution**

Reza BAREKATAIN



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## Sponsored technical symposium

🕒 12:00>13:30

📅 Maillot



# CEVA: WELCOME TO THE IDEAL IN OVO VACCINATION PROCESS

🕒 12:00

Welcome to the Ideal In Ovo Vaccination Process

Carlos GONZALEZ



## Object-oriented session

🕒 13:30>15:00

👤 241

# POULTRY WELFARE IN LOW-INPUT OUTDOOR PRODUCTION SYSTEMS: THE PPILOW PROJECT

Chairman: Anne COLLIN (France)

🕒 13:30

**Perceptions and expectations of practitioners and citizens towards welfare in poultry low input outdoor and organic production systems**

Katriina HEINOLA (Finland)

🕒 13:45

**Opinions of organic and free-range broiler farmers on animal welfare and the EBENE® app for animal welfare self-assessments**

Evelien GRAAT (Belgium)

🕒 14:00

**Conversion efficiency of the main bioactive compounds (PUFA, tocopherols, carotenoids) in different commercial slow growing chicken genotypes extensively reared**

Simona MATTIOLI (Italy)

🕒 14:15

**Motivation for foraging behavior and feed place preference in free-range broiler chickens**

Vanessa GUESDON (France)

🕒 14:30

**Reducing the risk of feather pecking through light during incubation and live insect feeding during the rearing period of organic laying hens**

Bas RODENBURG (Netherlands)

🕒 14:45

**On the road to dual purpose chickens for Europe - experiences from pullet rearing in Denmark and Germany**

Helen Mara PLUSCHKE (Germany)



REPLAY

## Specialized session

🕒 13:30>15:00

📄 251

# MARKETING AND ECONOMY

**Chairs: Peter VAN HORNE (Netherlands) and Simon FOURDIN (France)**

🕒 13:30

### **Keynote lecture**

**Economical consequences of welfare on poultry production in France & Europe**  
Aymeric LE LAY (France)

🕒 14:00

### **Cost-Benefit Analysis for Eggs Producers**

Hagit ARAZI (Israel)

🕒 14:15

### **Laying hens - Husbandry systems on different welfare levels – An economic comparison**

Petra THOBE (Germany)

🕒 14:30

### **The knowledge and attitude of people on alleged role of poultry products in spread of covid-19, its economic repercussions on indian poultry industry and road ahead**

Aschwini CHAPLE (India)



## Specialized session

🕒 13:30>15:00

📍 242AB

# CONSTRUCTION OF EGG QUALITY

Chairs: Cristina ALAMPRESE (Italy) and V erane GIGAUD (France)

🕒 13:30

### Keynote lecture

**Recent advances on the involvement of extracellular vesicles during avian eggshell formation**

Jo el GAUTRON (France)

🕒 14:00

**Effect of calcium particle size on performance, eggshell quality, bone mineralisation, and in vitro/in vivo solubility in laying hens: a meta-analysis approach**

Fabien HERVO (Canada)

🕒 14:15

**The relationship between metabolic profiles, bone status and eggshell quality in ageing laying hens**

Eva PAMPOUILLE (France)

🕒 14:30

**Evaluation of essential oil of oregano (*Lippia organoides*) as an alternative to the use of antibiotic growth promoters in Isa Brown laying hens**

Swanny RAMIREZ (Colombia)

🕒 14:45

**Estimation of genetic parameters of egg number and egg quality traits in long production cycle**

Yiyuan YAN (China)



REPLAY

## Specialized session

🕒 13:30>15:00

📍 252AB

# CONSTRUCTION OF MEAT QUALITY

Chairs: Shai BARBUT (Canada) and Cécile BERRI (France)

🕒 13:30

### **Keynote lecture**

**Fast muscle growth and meat quality issues**

Massimiliano PETRACCI (Italy)

🕒 14:00

**Effect of vitamin D status on chicken growth and breast meat quality**

Cécile BERRI (France)

🕒 14:15

**Effect of feeding an olive pomace extract from *Olea europaea* to broilers on growth performance and carcass quality under challenging conditions**

Marta BLANCH (Spain)

🕒 14:30

**Dietary supplementation of a vasodilator or amino acid/antioxidant blend improve broiler feed efficiency and reduce woody breast severity at harvest**

Meaghan MEYER (United States)

🕒 14:45

**Regeneration processes in the Pectoralis major muscles of broiler chickens selected for different growth-rates: the importance of vimentin and desmin**

Francesca SOGLIA (Italy)



## Specialized session

🕒 13:30>15:00

📍 Amphi Bleu

# PHYSIOLOGY OF NUTRITION

Chairs: Laure BIGNON (France) and Agnès NARCY (France)

🕒 13:30

### Keynote lecture

**Influence of digestive kinetics on broiler performance**

Alfons JANSMAN (Netherlands)

🕒 14:00

**Combined supplementation of functional amino acids and polyphenols supports gut homeostasis in broilers subjected to a corticosterone challenge**

Charlotte PAËS (France)

🕒 14:15

**Effect of phytase on performance and intestinal mucosa physiology in young broiler chickens**

Beatriz MARTÍNEZ VALLESPÍN (Germany)

🕒 14:30

**Differentiated short and medium term impacts of early xylanase-xos upplementation on caecal metabolome and microbiome moy in broiler**

Vincent JONCHERE (France)

🕒 14:45

**Effect of wheat-arabinoxylan treated with different NSP-enzymes on the bacterial fermentation in chicken caecum in an ex vivo fermentation model**

Guilherme PASQUALI (Germany)



REPLAY

## Object-oriented session

🕒 13:30>15:00

📄 Maillot

# PLURIDISCIPLINARY APPROACHES TO REACH THE ONE HEALTH OBJECTIVES

Chairs: Bernd KASPERS (Germany) and Jean-François GABARROU (France)

🕒 13:30

### **Keynote lecture**

#### **Poultry and One Health**

Susan LAMONT (United States)

🕒 14:00

#### **Whole Genome Sequencing as a Tool to Understand the Epidemiology of Salmonella in Integrated Poultry Companies**

Christian VINUEZA (Ecuador)

🕒 14:15

#### **Sulfur amino acid requirements of growing turkeys fed with hydroxy methionine or DL-Methionine**

Yves MERCIER (France)

🕒 14:30

#### **How monitoring systems are used by farmers and advisors for a better control of animal health management ?**

Anne-Christine LEFORT (France)

🕒 14:45

#### **The effect of dietary and lighting sources of vitamin D3 on flock uniformity, feather score and gastrointestinal organ weights**

Amarachi OGBONNA (United Kingdom)

## Specialized session

🕒 16:00>17:30

📍 242AB

## QUALITY OF EGG PRODUCTS

Chairs: Koen DE REU (Belgium) and Joël GAUTRON (France)

🕒 16:00

### **Keynote lecture**

**Promotion of local hen breeds: the quality of eggs**

Cristina ALAMPRESE (Italy)

🕒 16:30

**Relevance of non-invasive and non-destructive imaging tools to assess internal quality of table eggs**

Nicolas GUYOT( France)

🕒 16:45

**Ozone treatment enhanced physicochemical quality of eggs**

Alessandra NARDINA TRICIA RIGO RIBEIRO (Brazil)

🕒 17:00

**The study of the physical and chemical properties on the gloss of chicken eggshells**

Quan-Lin LI (China)



# Notes

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## Specialized session

🕒 16:00>17:30

📄 251

# MOLECULAR GENETICS

**Chairs:** Steffen WEIGEND (Germany) and Frédérique PITEL (France)

🕒 16:00

### **Keynote lecture**

**Towards sequencing the genomes for all extant bird species, the progress of B10K project**

Guojie ZHANG (Denmark)

🕒 16:30

**RNA-seq data for reliable SNP detection and genotype calling in livestock species: interest for coding variant characterization and cis-regulation analysis by allele-specific expression.**

Sandrine LAGARRIGUE (France)

🕒 16:45

**Efficient and accurate identification of CRISPR-induced mutations by amplicon sequencing**

Chengxiao HAN (China)

🕒 17:00

**Selective sweep mapping in the R+ R- chicken lines divergently selected for RFI (residual feed intake).**

Tatiana ZERJAL (France)

🕒 17:15

**A transcriptomic analysis unravel chicken genes potentially involved in resistance to highly pathogenic avian influenza virus infection**

Albert PERLAS PUENTE (Spain)



REPLAY

## Specialized session

🕒 16:00>17:30

📍 252AB

## WATERFOWLS

Chairs: Elisabeth BAEZA-CAMPONE (France) and Hervé REMIGNON (France)

🕒 16:00

### **Keynote lecture**

**Recent Advances in Duck Nutrition**

Layi ADEOLA (United States)

🕒 16:30

**Study of biomarkers of foie gras in duck: Identification by Metabolomics**

Cécile Md BONNEFONT (France)

🕒 16:45

**Biotic stressor, AflatoxinB1 emerge as the most significant factor beyond abiotic stressors: fluctuating Climate and meteorological factors in influencing egg Production in Ducks**

Surya Kanta MISHRA (India)

🕒 17:00

**Feeding behavior during growth of three breeding duck genetic types**

Emilie COBO (France)

🕒 17:15

**Live insect larvae as environmental enrichment in muscovy duck: effects on welfare and blood traits**

Marta GARIGLIO (Italy)



## Parallel session Specialized

🕒 16:00>17:30

📍 Amphi Bleu

# REDUCING THE ENVIRONMENTAL IMPACTS OF POULTRY PRODUCTION

**Chairs: Ermias KEBREAB (United States) and Bertrand MEDA (France)**

🕒 16:00

**Controlling dietary amino acids content at the level of requirement reduces the negative influence of low protein diets on growth performance of broiler chickens**

Théophane DE RAUGLAUDRE (Canada)

🕒 16:15

**Prediction of the influence of low protein diet strategies on litter characteristics and nitrogen volatilization in broiler chickens**

William LAMBERT (France)

🕒 16:30

**Influence of different litter types on harmful gases emission in broiler production**

Slobodan KNEZEVIC (Serbia)

🕒 16:45

**Optimization of production of black soldier fly larvae on broiler chicken manure**

Gunther ANTONISSEN (Belgium)

🕒 17:00

**Divergent selection for water conversion ratio in commercial broilers**

Sara ORLOWSKI (United States)

🕒 17:15

**Persistence of sulfadiazine and trimethoprim in broiler chicken feathers**

Estelle DRÉANO (France)



## Object-oriented session

🕒 16:00>17:30

📄 Maillot

# UNDERSTANDING THE MICROBIOME FOR AN IMPROVED MANAGEMENT OF HEALTH AND WELFARE

Chairs: Amelia CAMARINHA-SILVA (Germany) and Alessandra DE CESARE (Italy)

🕒 16:00

### Keynote lecture

**Nutritional control of the microbiome for improved health and welfare**

Richard DUCATELLE (Belgium)

🕒 16:30

**Limited microbiota overlap between heavy breeders and their specific progeny**

Erez MILLS (Israel)

🕒 16:45

**Lack of consistent microbial taxa associated with productive performance in commercial broiler flockse**

Priscilla GERBER (Australia)

🕒 17:00

**The association between early rearing environment, gut microbiota composition, immune development and welfare in broiler chickens**

Ingrid DE JONG (Netherlands)

🕒 17:15

**Yeast-based prebiotic improves intestinal microbiota and serotonin production of broiler chickens exposed to Eimeria challenge**

Marcos Antonio NASCIMENTO FILHO (Brazil)



REPLAY

## Sponsored technical symposium

CHR HANSEN

*Improving food & health*

🕒 17:30&gt;19:00

📺 241

# CHR HANSEN: THE POWER OF A ROBUST MICROBIOME

🕒 17:30

### Welcome, Opening

Mickaël ROUAULT

🕒 17:45

### Healthy Gut Microbiome Reduces Pathogens Translocation and Bacterial Lameness in Broilers

Douglas RHOADS

🕒 18:00

### Big versus Small Chickens: the answer is in the microbiome

Steve LEMER

🕒 18:30

### Strains Matter to Boost Microbiome Robustness

Dorthe SANDVANG

🕒 18:45

### GalliPro® Fit, the Easy Choice for a Robust Microbiome

Antoine MEUTER



REPLAY

## Sponsored technical symposium

🕒 17:30>19:00

📍 252AB



# ZINPRO: HOW THE ZINPRO FIRST LINE OF DEFENSE™ PROGRAM IMPROVES PERFORMANCE, HEALTH AND WELFARE

🕒 17:30

**Intestinal health from a gut microbial perspective, it's all about balance**

Filip VAN IMMERSEEL

🕒 17:45

**Don't let the bacteria get there ! Stop Translocation**

Adan ALRUBAYE

🕒 18:00

**The right supplementation for a better immune response**

Marco REBOLLO

# Notes








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# Let your poultry flock flourish with phytogenics

Are you having challenges with:

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-   Low hatchability and fertility,
-  Heat stress,
-  Dysbiosis and poor gut permeability,
-  Organic farming requirements ?

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Salle 251

Salle 252AB

Salle Maillot

08:30>10:00

**Parallel session  
Object-oriented  
African Poultry Network**  
Ayaho MISSOHOU (SE)

08:30>10:00

**Parallel session Specialized**  
**Alternative to antibiotics**

08:30>10:00

**Parallel session  
Object-oriented**  
**Genetics by nutrition interaction to  
optimize gut function**  
Sandrine GRASTEAU (FR)  
& Amelia CAMARINHA-SILVA (DE)

10:00>10:30

**Coffee Break & ePoster**

10:30>12:00

**Parallel session Specialized**

**Small scale family poultry  
farming**  
Fallou GUEYE (SN)

10:30>12:00

**Parallel session  
Object-oriented**

**Management of broiler breeders**  
Martin ZUIDHOF (CA)

10:30>12:00

**Parallel session Specialized**

**Protein nutrition**  
Marta GARIGLIO (IT)

Morning

Lunch

Afternoon

13:30>15:00

**Object-oriented sessions**  
**Early management  
of broilers: from  
embryo to the end  
of the starter phase**  
Zehava UNI (IL)

13:30>15:00

**Parallel session  
Object-oriented**  
**Robotics and big data for precision  
farming**  
Thomas NORTON (BE)

15:00>16:00

**Coffee Break & ePoster**

16:00>17:30

**Parallel session Specialized**

**Hygiene**

16:00>17:30

**Parallel session Specialized**

**Meat quality - slaughter and  
processing**  
Shai BARBUT (CA)



Salle 251	Salle 252AB	Salle Maillot	
08:30>10:00 <b>Parallel session Object-oriented African Poultry Network</b> Ayaho MISSOHOU (SE)	08:30>10:00 <b>Parallel session Specialized</b> <b>Alternative to antibiotics</b>	08:30>10:00 <b>Parallel session Object-oriented</b> <b>Genetics by nutrition interaction to optimize gut function</b> Sandrine GRASTEAU (FR) & Amelia CAMARINHA-SILVA (DE)	Morning
10:00>10:30 <b>Coffee Break &amp; ePoster</b>			
10:30>12:00 <b>Parallel session Specialized</b> <b>Small scale family poultry farming</b> Fallou GUEYE (SN)	10:30>12:00 <b>Parallel session Object-oriented</b> <b>Management of broiler breeders</b> Martin ZUIDHOF (CA)	10:30>12:00 <b>Parallel session Specialized</b> <b>Protein nutrition</b> Marta GARIGLIO (IT)	Lunch
	13:30>15:00 <b>Object-oriented sessions</b> <b>Early management of broilers: from embryo to the end of the starter phase</b> Zehava UNI (IL)	13:30>15:00 <b>Parallel session Object-oriented</b> <b>Robotics and big data for precision farming</b> Thomas NORTON (BE)	
15:00>16:00 <b>Coffee Break &amp; ePoster</b>			Afternoon
	16:00>17:30 <b>Parallel session Specialized</b> <b>Hygiene</b>	16:00>17:30 <b>Parallel session Specialized</b> <b>Meat quality - slaughter and processing</b> Shai BARBUT (CA)	

LIVE &  
REPLAY

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## Specialized session

🕒 08:30>10:00

👤 241

# WELFARE OF LAYERS

**Chairs: Mike TOSCANO (Switzerland) and Virginie MICHEL (France)**

🕒 08:30

### **Keynote lecture**

**Recent progress on feather pecking behavior and perspectives to avoid beak trimming**

Bas RODENBURG (Netherlands)

🕒 09:00

**Development of an easily applicable monitoring tool for evaluation of feather pecking damage on commercial laying hens**

Neil VAN DEN BROECK (Belgium)

🕒 09:15

**How to deal with intact-beak laying hens in practice?**

Nathalie SLEECKX (Belgium)

🕒 09:30

**Is toe pecking a self-inflicted behavior?**

Sabine G. GEBHARDT-HENRICH (Switzerland)

🕒 09:45

**Early Life Environment and Genetic Strain are Key for the Development of Locomotion Skills in Laying Hens**

Ana RENTSCH (Canada)

# Science-based solution to protect poultry health and profitability in a non-medicated environment



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*Salmonella*  
Control



Antibiotic  
Reduction



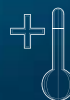
Production  
Efficiency



Trace Mineral  
Optimisation



Mycotoxin Risk  
Management



Heat Stress



SCAN THE QR CODE  
FOR MORE INFORMATION



## Object-oriented session

🕒 08:30>10:00

📊 251

# AFRICAN POULTRY NETWORK

**Chairs: Robert PYM (Australia) and Harry SWATSON (South Africa)**

🕒 08:30

### **Keynote lecture**

**Current status of exploiting alternative raw materials for poultry nutrition in Africa**  
Ayao MISSOHOU (Senegal)

🕒 09:00

**Effect of dietary protein and energy level of indigenous guinea fowl (*Numida meleagris*) on laying, biochemical and hematological parameters**  
Lamboni LARE (Togo)

🕒 09:15

**Comparative performance and Carcass yield prediction using body linear measurements in a pure and reciprocal cross breeding system of the Sasso and Wassache chickens**  
Joshua Torkuma DZUNGWE (Togo)

🕒 09:30

**Incidence of infectious bursal disease in village chickens in two districts of Amhara Region, Northwest Ethiopia**  
Hailu YIMAM (Ethiopia)

🕒 09:45

**Seroprevalence and associated risk factors of infectious bronchitis in broiler and layer flocks in the peri-urban area of dakar and thies (senegal)**  
Mireille Catherine KADJA (Senegal)



REPLAY

## Specialized session

🕒 08:30>10:00

📍 242AB

## GENERAL PHYSIOLOGY

Chairs: Barbara TZSCHENTKE (Germany) and Michel DUCLOS (France)

🕒 08:30

### Keynote lecture

**Neural and endocrine mechanisms that underpin feeding behaviour and metabolism**

Ian DUNN (United Kingdom)

🕒 09:00

**Central taurine induces hypothermia through modifying monoaminergic pathways and amino acid metabolism in neonatal chicks**

Vishwajit CHOWDHURY (Japan)

🕒 09:15

**Diurnal fluctuations in the tissue distribution of calcium and phosphorus transporter genes in laying hens.**

Micaela PINTO (United States)

🕒 09:30

**Characterization of broiler chickens individual myofibrillar proteins synthesis rate**

Jorge PEINADO (United Kingdom)

🕒 09:45

**Dietary antibiotics influence the expression of genes associated with broiler intestinal health and function in the face of a necrotic enteritis challenge**

Laura ELLESTAD (United States)



## Object-oriented session

🕒 08:30>10:00

📍 252AB

# ALTERNATIVE TO ANTIBIOTICS

Chairs: Isabelle KEMPF (France) and Christophe BOSTVIRONNOIS (France)

🕒 08:30

**Comparative efficacy of postbiotic, probiotic, and antibiotic against necrotic enteritis in broiler chickens**

Ahmed ELBESTAWY (Egypt)

🕒 08:45

**Increase of antimicrobial potential of acid lactic bacteria over Salmonella Heidelberg through quorum sensing**

Fernanda BARTHELSON CARVALHO DE MOURA (Brazil)

🕒 09:00

**Impacts of prebiotic preparations on growth of susceptible and resistant Escherichia coli**

Sharon GRANT (Ireland)

🕒 09:15

**The use of an olive pomace extract from Olea europaea as an effective natural solution to the replacement of antibiotics in broiler chicken diets**

Marta BLANCH (Spain)

🕒 09:30

**Effect of the addition of humic substances in broilers challenged with a lipopolysaccharide on the productivity and antimicrobial resistance of commensal Escherichia coli**

Sergio GOMEZ-ROSALES (Mexico)

🕒 09:45

**Using a potential probiotic strain bacillus subtilis ps-216 for pathogen control and weight increase in poultry**

Katarina ŠIMUNOVIĆ (Slovenia)





REPLAY

## Specialized session

🕒 08:30>10:00

📍 Amphi Bleu

# MINERAL NUTRITION

**Chairs: Marie-Pierre LETOURNEAU-MONTMINY (Canada)  
and Catherine HAMELIN (France)**

🕒 08:30

### **Keynote lecture**

**Towards digestible calcium requirements and a digestible calcium system**

Roselina ANGEL (United States)

🕒 09:00

**Determination of Ca and P digestibility of individual feed ingredients as affected by limestone**

Kyle VENTER (South Africa)

🕒 09:15

**Available phosphorus requirement for broilers: integrated assessment of performance results using meta-analysis**

Ines ANDRETTA (Brazil)

🕒 09:30

**Effects of graded levels of dietary microbial 6-Phytase on performance, intestinal-histomorphology, cecal microbial population, and short-chain fatty acid composition of Lohmann white-classics**

Shahram GOLZAR ADABI (Turkey)

🕒 09:45

**Meta-analysis: Growth performance and carcass yields of broiler chickens are improved by hydroxychloride Zn at European commercial and lower dietary levels**

Sandra VAN KUIJK (Netherlands)



## Object-oriented session

🕒 08:30>10:00

📄 Maillot

# GENETICS BY NUTRITION INTERACTION TO OPTIMIZE GUT FUNCTION

Chairs: Sammy AGGREY (United States) and Michel SOURDIOUX (France)

🕒 08:30

### Keynote lecture

**Understanding nutrition by genetics interaction to optimize feed efficiency**

Sandrine GRASTEAU (France)

🕒 09:00

### Keynote lecture

**Host genetics, nutrition and animal microbiome - friends or foes?**

Amelia CAMARINHA-SILVA (Germany)

🕒 09:30

**Gene expression analysis of liver samples reveals metabolic and immunological pathways associated with the performance of commercial broiler flocks**

Luis ROMERO (Portugal)

🕒 09:45

**Sustainability of poultry meat production: growth performance and carcass traits of slow-growing genotypes fed low input diets**

Almudena HUERTA (Italy)



REPLAY

## Specialized session

🕒 10:30>12:00

📅 241

## WELFARE OF BROILERS

**Chairs: Bas RODENBURG (Netherlands) and Virginie MICHEL (France)**

🕒 10:30

**Evaluation of adaptability response, through a behavioural observation, of four different chicken genotypes reared in a free-range system**

Alice CARTONI MANCINELLI (Italy)

🕒 10:45

**A lower stocking density stimulates species-specific behavior and improves welfare of both fast- and slower-growing broilers**

Ingrid DE JONG (Netherlands)

🕒 11:00

**Effect of genotype and stocking density on behavior and health of broiler chickens**

Sandrine GRASTEAU (France)

🕒 11:15

**The effect of light wavelength treatments on broiler behaviour**

Bruna REMONATO FRANCO (Canada)

🕒 11:30

**Use of black soldier fly larvae to improve the welfare and behavior of broilers**

Eva PAMPOUILLE (France)

🕒 11:45

**The organic selenium hydroxy-selenomethionine improves broiler antioxidant capacity under heat stress conditions**

Mickaël BRIENS (France)



REPLAY

## Specialized session

🕒 10:30>12:00

📄 251

# SMALL SCALE FAMILY POULTRY FARMING

Chairs: Nasir MUKHTAR (Pakistan) and Alan GIBBINS (New Zealand)

🕒 10:30

### Keynote lecture

**Making family poultry value chain more mature and sustainable at a small scale**  
Fallou GUEYE (Djibouti)

🕒 11:00

**Egg production performance and consumption in households engaged in rearing brown egg layers in three altitude ranges of Simada and Ebinat Districts, Northwest Ethiopia**

Hailu YIMAM (Ethiopia)

🕒 11:15

**Production performance of duck reared under the river basin areas of Pabna district of Bangladesh**

Most Sumona AKTER (Japan)

🕒 11:30

**Can village poultry improvement empower women?**

Brigitte BAGNOL (France)

🕒 11:45

**Action research to Identify constraints and opportunities for increased New Castle Disease vaccine adoption among women small holder poultry farmers in Kenya, Rwanda and Uganda**

Janetrix Hellen AMUGUNI (United States)



REPLAY

## Specialized session

🕒 10:30>12:00

📍 242AB

# PHYSIOLOGY OF PERINATAL DEVELOPMENT

Chairs: Barbara TZSCHENTKE (Germany) and Michel DUCLOS (France)

🕒 10:30

### Keynote lecture

**Early-life environment and long-term programming**

Tom PORTER (United States)

🕒 11:00

**Effects of pre-incubation storage duration and non-ventilation incubation procedure on Sasso breeder egg embryonic physiology and post-hatch chick performance**

Abidi BILALISSI (Togo)

🕒 11:15

**Dynamics of energy resources (glycogen and creatine) pre and post hatch in broiler embryos**

Jonathan DAYAN (Israel)

🕒 11:30

**Studying the impact of light during incubation as a potential candidate to influence the hatching traits and subsequent post hatch growth performance of broilers**

Jibran HUSSAIN (Pakistan)

🕒 11:45

**Thermal manipulation during incubation of broilers affects the gene expression of transient receptor potential (trp) channels in the brain.**

Sara VERLINDEN (Belgium)



## Specialized session

🕒 10:30>12:00

📄 Maillot

# PROTEIN NUTRITION

Chairs: Joaquim BRUFAU (Spain) and Stephanie KLEIN (France)

🕒 10:30

### Keynote lecture

**Insect meals digestibility studies in poultry**

Marta GARIGLIO (Italy)

🕒 11:00

**Correlation of 7-14 d performance metrics with d 15 ileal amino acid digestibility (AAD) when birds are fed starter feed varying in average particle size (APS)**

Dalton DENNEHY (United States)

🕒 11:15

**Severe dietary crude protein, soybean meal and energy reductions and their influence on performance & carcass parameters of broilers**

William LAMBERT (France)

🕒 11:30

**Experimental validation of a precision feeding strategy to reduce feeding cost and nutrient excretion in broilers**

Eva PAMPOUILLE (France)

🕒 11:45

**Effect of supplementing papaya (Carica papaya) latex on performance, carcass traits and nutrient digestibility in broiler chicken fed recommended and sub-optimal levels of dietary protein**

Srilatha THOTA (India)



REPLAY

## Specialized session

🕒 10:30>12:00

📍 Amphi Bleu

## INFECTIOUS DISEASES

**Chairs:** David SWAYNE (United States) and Nicolas ETERRADOSSI (France)

🕒 10:30

**Augmenting traditional survey-based methods with social network analysis, social media analysis and mapping to better understand non-commercial poultry movement**

Myrna CADENA (United States)

🕒 10:45

**Reassessing the effects of Eimeria spp. infection on broiler performance**

Ines ANDRETTA (Brazil)

🕒 11:00

**High sequence similarity of Avian Pathogenic E. coli within bird and flock in colibacillosis outbreaks with high first week mortality**

Inger Helene KRAVIK (Norway)

🕒 11:15

**Mechanisms for viral adaptation to new hosts of highly pathogenic avian influenza viruses using viral quasi-species analysis**

Albert PERLAS PUENTE (Spain)

🕒 11:30

**Biofilm-forming ability, antimicrobial susceptibility and proteomic phenotypes of Klebsiella pneumoniae strains isolated on a turkey farm**

Liča LOZICA (Croatia)

🕒 11:45

**Early salmonella typhimurium inoculation alters systemic immunometabolism 24h post-inoculation with eimeria maxima**

Krysten FRIES-CRAFT (United States)



## Object-oriented session

🕒 10:30>12:00

📍 252AB

# MANAGEMENT OF BROILER BREEDERS

**Chairs: Johan BUYSE (Belgium) and Frédéric FAGNOUL (France)**

🕒 10:30

### **Keynote lecture**

**Manangement of broiler breeders from hatch to the end of their breeding carrier**  
Martin ZUIDHOF (Canada)

🕒 11:00

**Data analytics of growth dynamics during rearing on the reproductive performance of commercial broiler breeders**

Maria ALFARO-WISAQUILLO (United States)

🕒 11:15

**Effects of a divergent selection for breast muscle ultimate pH, a proxy for glycogen reserves, on reproduction and egg quality traits in broiler breeders**

Kadir ERENSOY (Turkey)

🕒 11:30

**Effects of diet density and feeding frequency on broiler breeder behaviour during rearing and laying phases**

Annemarie MENS (Netherlands)

🕒 11:45

**Omega-3 Fatty Acids Sources Fed To Broiler Breeders and progeny: Impact On Intestinal Lesion Scores and Lymphoid Organ weight In Progeny challenged with Eimeria**

Aizwarya THANABALAN (Canada)



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## Object-oriented session

🕒 13:30>15:00

📄 241

# GENETICS BY ENVIRONMENT INTERACTIONS AND EPIGENETICS

Chairman: Dominic WRIGHT (Sweden) and Anne COLLIN (France)

🕒 13:30

### **Keynote lecture**

**Epigenetics as a mediator of genome x environment interactions**

Frédérique PITEL (France)

🕒 14:00

**Evaluating the Effect of Different Broiler Breeder Feeding Program's on the Broiler Generation via RNA Sequencing**

Chandler KECK (United States)

🕒 14:15

**Pathway activation analysis of liver gene expression data from chickens under heat stress reveals short- and long-term metabolic effects**

Luis ROMERO (Portugal)

🕒 14:30

**Effect of Cyclic Heat Stress on Feeding-Related Hypothalamic Neuropeptides of Three Broiler Populations and Their Ancestor Jungle Fowl**

Elizabeth GREENE (United States)

🕒 14:45

**Naked neck gene and Intermittent thermal manipulation during incubation: Effect on hatching process and post hatch performance of Sasso broilers in tropical climate. Eimeria**

Hèzouwè Tchilabalo METEYAKE (Togo)



REPLAY

## Specialized session

🕒 13:30>15:00

📍 242AB

# REPRODUCTIVE BIOTECHNOLOGIES

Chairs: Bertrand PAIN (France) and Ampai NANGSUAY (Thailand)

🕒 13:30

### Keynote lecture

**Molecular and cellular aspects of avian sex determination**

Mike MCGREW (United Kingdom)

🕒 14:00

**Bucky Ball – an evolutionary conserved germ plasm protein for chicken primordial germ cell specification**

Sabine KLEIN (Germany)

🕒 14:15

**Conservation of chicken male germline via primordial germ cells from genetically distant donors**

Pavel TREFIL (Czech Republic)

🕒 14:30

**Application of colloidal centrifugation to remove glycerol from chicken frozen-thawed semen**

Hsiu-Lien Herbie LIN (France)



## Object-oriented session

🕒 13:30>15:00

📍 252AB

# EARLY MANAGEMENT OF BROILERS: FROM EMBRYO TO THE END OF THE STARTER PHASE

**Chairs:** Roselina ANGEL (United States) and Sonia MÉTAYER-COUSTARD (France)

🕒 13:30

### **Keynote lecture**

**Early management of broilers: from embryo to the end of the starter phase**

Zehava UNI (Israel)

🕒 14:00

**Eggshell microbiology and quality of chick embryos from eggs sanitized with clove essential oil**

Vinícius Machado DOS SANTOS (Brazil)

🕒 14:15

**Impact of a multi-species contamination model simulating commercial hatching conditions on 7-day performance of broiler chickens**

Danielle GRAHAM (United States)

🕒 14:30

**Prehatch application of *Enterococcus faecium* and *Lactobacillus animalis* to broilers**

Louise Ladefoged POULSEN (Denmark)

🕒 14:45

**Effects of in ovo injection of L-arginine and selenium nanoparticles on performance, nutrient composition and selenium deposition in Korat chickens**

Wittawat MOLEE (Thailand)



REPLAY

## Specialized session

🕒 13:30>15:00

📍 Amphi Bleu

## FEEDSTUFFS

Chairs: Birger SVIHUS (Norway) and Adeline MATHIAUD (France)

🕒 13:30

### Keynote lecture

**Use of algae in poultry nutrition**

Edouard COUDERT (France)

🕒 14:00

**Macro algae *Ulva rigida* and *Solieria chordalis* products in broiler diets: in vitro and in vivo digestibility and health related effects**

Lotte STOKVIS (Netherlands)

🕒 14:15

**Dietary replacement of soybean with microalgae meal during grower and finisher phases: effects on growth performance, occurrence of foot pad dermatitis, breast meat quality traits, and plasma and cecum metabolome of broiler chickens**

Marco ZAMPIGA (Italy)

🕒 14:30

**Bioaccessibility of maize carotenoids as a prerequisite for their utilization in egg yolk pigmentation**

Dora ZURAK (Croatia)

🕒 14:45

**Evaluation of Black Soldier Fly larvae oil digestibility in adult cockerels**

Hakim BEZAGU (France)



## Object-oriented session

🕒 13:30>15:00

📄 Maillot

# ROBOTICS AND BIG DATA FOR PRECISION FARMING

Chairs: Teun VAN DE BRAAK (Netherlands) and Martin ZUIDHOF (Canada)

🕒 13:30

### **Keynote lecture**

**Robotics and big data for precision farming**

Tomas NORTON (Belgium)

🕒 14:00

**Growth dynamics through data analytics of commercial broiler chickens**

Gustavo A. QUINTANA-OSPINA (United States)

🕒 14:15

**From measuring average body weight of the flock to precision feeding in broilers: A modelling approach to adjust daily feed composition**

Bertrand MEDA (France)

🕒 14:30

**Validation of an individual video tracking system to detect broiler behaviors on farm**

Pauline CREACH (France)

🕒 14:45

**A farmer assistant system (FAS) to create more broiler welfare, health and productivity**

Jörg HARTUNG (Germany)



REPLAY

## Specialized session

🕒 16:00>17:30

📅 241

# GENETICS : NEW TRAITS

Chairs: Jack DEKKERS (United States) and Sandrine GRASTEAU (France)

🕒 16:00

### Keynote lecture

**Genetics of new measurements: examples of implementing precision livestock farming tools in poultry breeding**

Teun VAN DE BRAAK (Netherlands)

🕒 16:30

**Genetic parameters for the oviposition time using high-throughput phenotyping from individual electronic nests in laying hens**

Lorry BECOT (France)

🕒 16:45

**Changes in oviposition time of brown hens during the cycle in an aviary system**

Angela TROCINO (Italy)

🕒 17:00

**Genetic variability of chick quality within two chicken lines differing for glycogen reserves**

Elisabeth LE BIHAN-DUVAL (France)

🕒 17:15

**Bioelectrical Impedance Analysis (BIA) to predict in vivo body composition in broiler chickens from 0 to 42 days**

Ana Isabel GARCIA RUIZ (Spain)



REPLAY

## Specialized session

🕒 16:00>17:30

📍 242AB

# REPRODUCTIVE PHYSIOLOGY

Chairs: Ampai NANGSUAY (Thailand) and Nadine GERARD (France)

🕒 16:00

### Keynote lecture

**Regulation mechanisms of sperm acrosome reaction in Chickens: the role of membrane rafts**

Atushi ASANO (Japan)

🕒 16:30

**Effect of nanoselenium on the improvement of cryopreservation of domestic fowl semen**

Barbara VEGI (Hungary)

🕒 16:45

**Proteome and biological functions of inner and outer perivitelline layers in the chicken egg**

Nicolas GUYOT (France)

🕒 17:00

**Chemerin concentration in albumen and cell number of germinal disc : potential markers of the quality of embryo development for genetic selection in birds**

Ophélie BERNARDI (France)



**LIVE &  
REPLAY**

## Specialized session

🕒 16:00>17:30

📄 Maillot

# MEAT QUALITY - SLAUGHTER AND PROCESSING

**Chairs:** Massimiliano PETRACCI (Italy) and Cécile BERRI (France)

🕒 16:00

### **Keynote lecture**

**Trends and perspectives for poultry processed products**

Shai BARBUT (Canada)

🕒 16:30

**Electrical stunning of poultry: influence of animal sex and weight**

Marie BOURIN (France)

🕒 16:45

**Susceptibility of poultry processing Salmonella isolates to low and high pH**

Dianna BOURASSA (United States)

🕒 17:00

**Effect of Baking and Gelatin Addition on 3D Printed Functional Chicken Meat-Based Product**

Elvan Gökçen BULUT (Turkey)

🕒 17:15

**Preliminary characterization and pathogenesis of dorsal recumbency syndrome in broiler flocks from Ontario, Canada**

Sunoh CHE (Canada)



## Specialized session

🕒 16:00>17:30

📍 Amphi Bleu

# FEEDSTUFFS & FEED TECHNOLOGY

**Chairman: Adeline MATHIAUD (France) and Birger SVIHUS (Norway)**

🕒 16:00

**Alternatives to soybean meal in standard broiler diet**

Nathalie SALIEZ and Olivier GESTIN (France)

🕒 16:15

**Variation of amino acid digestibility and metabolisable energy of soybean meal in caecectomised laying hens**

Wolfgang SIEGERT (Germany)

🕒 16:30

**Effect of the saturation degree and the acidity level of added fat in broiler chicken diets on performance parameters, abdominal fat deposition and fatty acid profile of leg meat**

Gerard VERGE MÈRIDA (Spain)

🕒 16:45

**Evaluation of particle size, feed form and pellet diameter on performance and nutrient digestibility of broilers at 39 d of age**

Susan BONILLA (United States)

🕒 17:00

**Effects of drying temperature and storage on non-starch polysaccharide content of two varieties of corn differing in kernel hardness**

Edgar OVIEDO-RONDON (United States)

🕒 17:15

**Effects of mix time on coefficient of variation (mix uniformity) and broiler performance during the starter, grower, and finisher periods**

Andrea RUBIO (United States)



REPLAY

## Specialized session

🕒 16:00>17:30

📍 252AB

## HYGIENE

**Chairs:** Anne-Christine LEFORT (France) and Fabien ALLEMAN (France)

🕒 16:00

**Effects of down-time and litter management practices on cross-contamination of broiler flocks with *Campylobacter jejuni***

Matthew BAILEY (United States)

🕒 16:15

**The role of *Salmonella* recontamination on socks swab samples in the commercial broiler farms of Thailand**

Niroj KIIPHAKAPANITH (Thailand)

🕒 16:30

**Bacterial contamination of nipple watering systems in emptied broiler houses**

Olivier SPARAGANO (Hong Kong)

🕒 16:45

**Field evaluation of cold chain management performance**

Jessica REPLE (Brazil)

🕒 17:00

**Impact of the vaccines administration quality on the immunization strategy against chicken anemia virus**

Luciano FERNANDEZ (Argentina)

🕒 17:15

**In vitro survival of live salmonella enteritidis and salmonella typhimurium vaccine strains on matrices relevant to poultry house environments**

Doris MUELLER-DOBLIES (Austria)

Amphi Bleu	
Morning	07:30 <b>Registration</b>
	08:30>10:00 <b>Plenary session 5</b> <b>New frontiers in poultry science</b> Dominic WRIGHT (SE) & Jae Yong HAN (KR)
	10:00>10:30 <b>Coffee Break &amp; ePoster</b>
	10:30>11:00 <b>Plenary session 5</b> <b>New frontiers in poultry science</b> Thomas HEAMS (FR)
Lunch	11:15>12:00 <b>Closing Ceremony</b>
	12:00>12:30 <b>Lunch &amp; ePoster</b>
Afternoon	



**LIVE &  
REPLAY**

## Plenary

🕒 08:30>11:00

📍 Amphi Bleu

# NEW FRONTIERS IN POULTRY SCIENCE

Chairs: Mike MCCGREW (United Kingdom) and Xavier FERNANDEZ (France)

🕒 08:30

### Plenary lecture

**Epigenetics, domestication, feralisation and adaptation**

Dominic WRIGHT (Sweden)

🕒 09:00

### Plenary lecture

**PGC & Genome Editing : from laboratory to practice**

Jae Yong HAN (Korea)

🕒 10:30

### Plenary lecture

**Ethical issues of biotechnologies in animal production**

Thomas HEAMS (France)

# Notes

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# Innovating from what nature provides

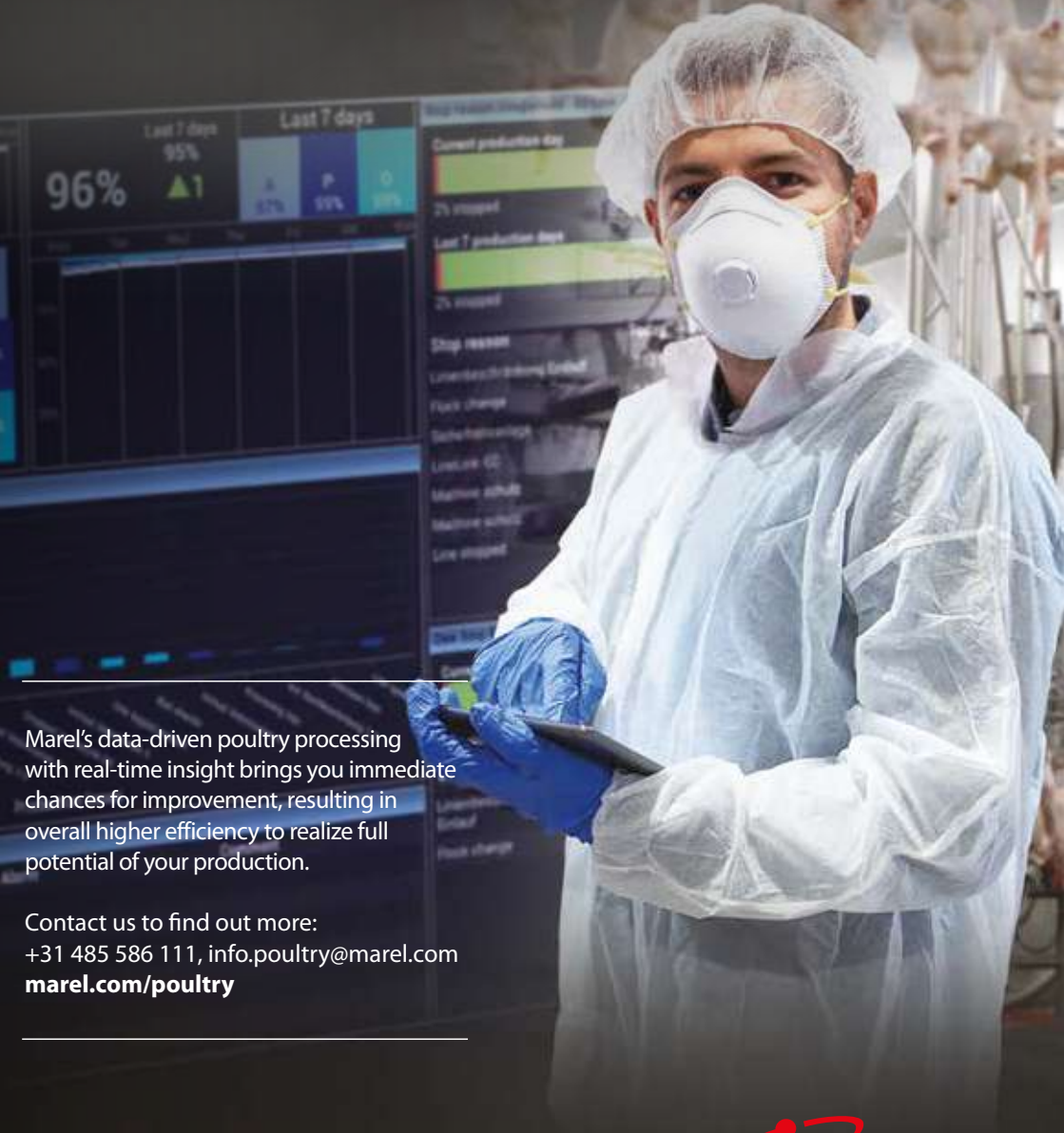
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