



## **Combined workshop of WPSA**

**“Fundamental Physiology and Perinatal Development in Poultry”**

**And**

**“Incubation and Fertility Research Group”**

**Tours – France  
August 28 – 30, 2019**

## **Program**



## Scientific Committee

**Anne Collin** – BOA, INRA, Université de Tours, France, Chair of the Scientific Comitee

**Barbara Tzschentke** - Humboldt University, Berlin (Head of WPSA WG12), Germany

**Marleen Boerjan** - Pas Reform (Head of WPSA WG6), The Netherlands

**Glenn K Baggott** - Assistant Editor, British Poultry Science

**Vincent Coustham, Sonia Métayer-Coustard, Nicolas Guyot, Sophie Réhault-Godbert, Sophie Tesseraud, Michel Duclos** - BOA, INRA, Université de Tours, France

**Pascal Froment, Elisabeth Blesbois, Joelle Dupont** - PRC, INRA, CNRS, IFCE, Université de Tours, France

**Sylvain Brière** - Hendrix Genetics, France

**Angélique Travel** - ITAVI, France

## Organizing Committee

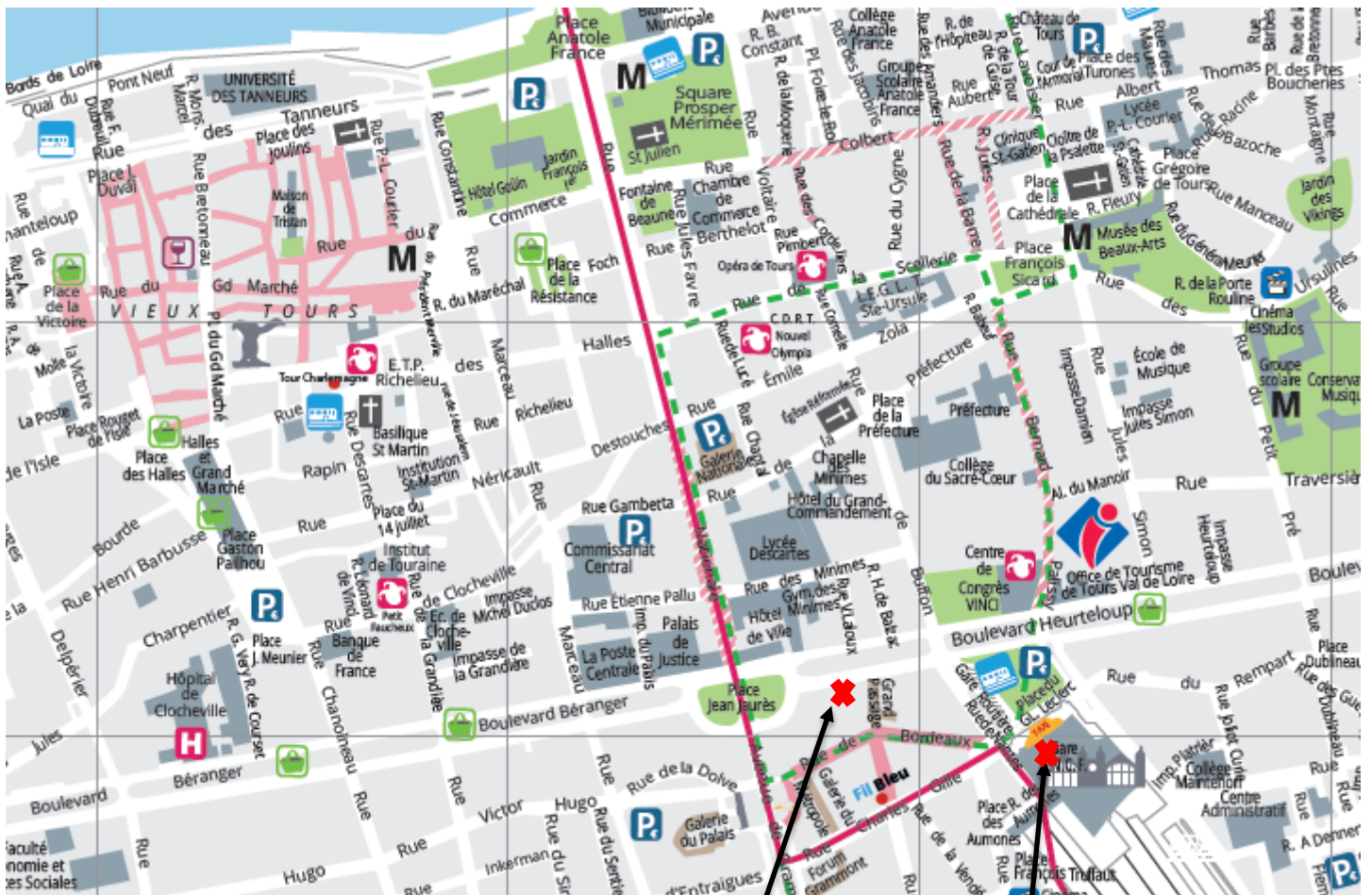
**Christine Lessire**, French WPSA branch

**Christophe Bostvironnois** – CHR-HANSEN, President of the French WPSA branch

**Catherine Hamelin** – Groupe CCPA, Treasurer of the French WPSA branch

# Congress Venue

Hotel Océania-Univers  
5 Boulevard Heurteloup  
37000 Tours



**Congress site**

**Train Station**

| Wednesday August 28 <sup>th</sup> |  |
|-----------------------------------|--|
| 09:00-09:45                       | Registration and welcome coffee  |
| 09:45-10:00                       | Welcome from the Scientific Committee  |
| 10:00-12:10                       | <p><b>Session 1: Dynamics of hormones and nutrients in the egg, the embryo and the chicken</b></p> <p><i>Regulation of the hepatic metabolic switch during perinatal development of the chicken</i><br/> <b>Keynote lecture:</b> <u>Porter T.E.</u> and Liu H.-C.</p> <p><b>Chairpersons:</b><br/> <b>S. Tesseraud &amp; B. Tzschentke</b></p> <p><i>Metabolomic analysis of nutrient sources in the embryonic egg of two divergent lines for meat ultimate pH</i><br/>           Petit A., Réhault-Godbert S., Nadal-Desbarats L., Cailleau-Audouin E., Jimenez J., Chartrin P., Raynaud E., Bernardet N., Chesse M., Le Bihan-Duval E., Métayer-Coustard S.</p> <p><i>Intestinal brush border maturation during the peri-hatch period: the effects of in-ovo feeding of L-Glutamine</i><br/>           Reicher N., Dayan J., Uni Z.</p> <p><i>Expression of Chemerin in the magnum of chicken oviduct, perivitelline membranes, egg white and in extraembryonic annexes: a potential role in embryo development?</i><br/>           Estienne A., Barbe A., Brossaud A., Rame C., Guyot N., Réhault-Godbert S., Froment P., Dupont J.</p> <p><i>Nutrient utilization of chicken embryos in a historical perspective</i><br/>           Molenaar R., van der Wagt I., Malcolm M.A., de Jong I.C., van den Brand H.</p> |
| 12:10-13:45                       | Lunch  |
| 13:45-15:05                       | <p><b>Session 2: Breeder management and multigenerational impacts</b></p> <p><i>Impact of a Grape Seed Extract supplementation and a long storage period on egg quality, hatchability and post-hatching performance in broiler breeder hens</i><br/>           Barbe A., Mellouk N., Rame C., Grandhaye J., Petit A., Chahnamian M., Rat C., Delaveau J., Froment P., Dupont J.</p> <p><b>Chairpersons:</b><br/> <b>A. Nangsuay &amp; M.J. Duclos</b></p> <p><i>Long-term effects of enrichment of hatching eggs with creatine on progeny</i><br/>           Reicher N., Epstein T., Gravitz D., Rademacher-Heilshorn M., Braun U., Uni Z.</p> <p><i>Effect of vitamin D source on embryo and early chicken development</i><br/>           Réhault-Godbert S., Nancy A., Christophe P., Duclos M.J., Godet E., Bernardet N., Mème N., Bordeau T., Gigaud V., Thoby J.-M., Folegatti E., Litta G., Berri C.</p> <p><i>Impact of chemerin on sperm function and embryo development in broiler breeder chicken</i><br/>           Estienne A., Bourdon G., Grandhaye J., Caldas-Silveiras E., Rame C., Barbe A., Chahnamian M., Ganier P., Froment P., Dupont J.</p>  |
| 15:05-15:35                       | Poster short oral presentations (1)  |
| 15:35-16:05                       | Coffee break - <i>With the support of: Hatchtech</i>   |
| 16:05-17:55                       | <p><b>Session 3: Egg storage, preincubation conditions and incubation of commercial poultry</b></p> <p><i>Effect of egg cooling rate after oviposition and SPIDES on embryonic development, and hatchability of long stored older flock eggs</i><br/>           Özlü S., Uçar A., Erkuş T., Yasun S., Nicholson A.D., Elibol O.</p> <p><b>Chairpersons:</b><br/> <b>M. Boerjan &amp; M. Bakst</b></p> <p><i>Heat treatments during prolonged storage of eggs from young and old breeders</i><br/>           Guinebretière M., Puterflam J.</p> <p><i>Incubation temperature affects bursa of Fabricius histology of broiler chicks at hatch</i><br/>           Wijnen J., Roover-Reijrink I., van der Pol C., Molenaar R., van den Brand H.</p> <p><b>Keynote lecture:</b> <i>Evolution of incubation conditions for commercial poultry over the last 10 years and trends for the future</i><br/> <u>French N.</u></p>   |

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| 18:00 | <i>Special event and welcome cocktail - With the support of: Aviagen and WPSA France</i> |
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| Thursday August 29 <sup>th</sup> |   |
|----------------------------------|---|
| 9:00-10:30                       | <p><b>Session 4: Egg quality, embryonic development and chick quality (1)</b></p> <p><b>Chairpersons:</b> <i>Keynote lecture: Evolution of innate immunity components during incubation of the avian egg</i><br/><b>Réhault-Godbert S.</b>, Da Silva M., Guyot N., Gautron J., Guabiraba R., Hincke M.</p> <p><b>Z. Uni &amp; H. van den Brand</b></p> <p><i>Effect of female age and genotype on eggshell quality in ostrich females</i><br/>Brand Z., Cloete S.</p> <p><i>Proteomic study of inner and outer hen egg vitelline membranes: insights into the biological functions of vitelline membrane layers</i><br/>Bregeon M., Bernay B., Labas V., Chessé M., Zatylny-Gaudin C., Réhault-Godbert S., Guyot N.</p> |
| 10:30-11:00                      | Coffee break - <i>With the support of: Petersime</i>  |
| 11:00-12:00                      | <p><b>Session 4: Egg quality, embryonic development and chick quality (2)</b></p> <p><b>Chairpersons:</b> <i>Yolk Sac Tissue development during incubation period</i><br/>Dayan J., Reicher N., Melkman Z.T., Uni Z.</p> <p><b>Y. Nys &amp; N. French</b></p> <p><i>Model-based monitoring of chicken embryo status during incubation</i><br/>Verlinden S., Tambuyzer T., Romanini E., Youssef A., Norton T.</p> <p><i>Effect of egg weight loss and hatch time on chick yield and first week post-hatch performance</i><br/>Özlü S., Uçar A., Banwell R., Romanini C.E.B., Elibol O.</p>   |
| 12:00-12:30                      | <b>Poster short oral presentations (2)</b>  |
| 12:30-14:05                      | Lunch   |
| 14:05-15:35                      | <p><b>Session 5: Epigenetics and long-term effects of perinatal environment and early life experience (1)</b></p> <p><b>Chairpersons:</b> <i>Keynote lecture: Transgenerational epigenetic inheritance in birds</i><br/><b>Guerrero-Bosagna C.</b></p> <p><b>V. Coustham &amp; J.M. George</b></p> <p><i>Early-life epigenetic changes along the corticotropin-releasing hormone (CRH) gene influence resilience or vulnerability to heat stress later in life</i><br/>Meiri N., Kisiouk T., Cramer T., Rosenberg T., Benun O.</p> <p><i>Long-lasting effects of perinatal temperature manipulations on hypothalamic mechanisms are age and sex-specific</i><br/>Tzschentke B.</p>                                      |
| 15:35-17:00                      | Coffee break and <b>poster session</b>  |
| 17:00-17:40                      | <p><b>Session 5: Epigenetics and long-term effects of perinatal environment and early life experience (2)</b></p> <p><b>Chairpersons:</b> <i>Early experience affects zebra finch adult thermoregulation in the heat</i><br/>Marianne M., Pessato A., McKechnie A., Buchanan K.</p> <p><b>A. Collin &amp; T. Porter</b></p> <p><i>Evidence for epigenetic reprogramming in response to acoustic signals in zebra finch eggs</i><br/>George J.M., Clayton D.F., Frank M.S.B., Marianne M.M., Buchanan K.L.</p>   |
| 19:30                            | <b>Workshop Dinner - With the support of: Jamesway</b>  |



| Friday August 30 <sup>th</sup>   |   |
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| <b>9:00-10:00</b><br><br><b>Chairpersons:</b><br><br><b>B. Tzschentke</b><br><b>&amp;</b><br><b>C. Guerrero-</b><br><b>Bosagna</b> | <b>Session 5: Epigenetics and long-term effects of perinatal environment and early life experience (3)</b><br><br><i>Early rearing conditions in chicken: effects on cognition and stress response</i><br>Nordquist R., Riber A.B., Goerlich-Jansson V.<br><br><i>Effect of chick holding temperature and provision of a hatchling supplement on body temperature, blood glucose, residual yolk sac utilization and livability</i><br>Kuntze Ferreira A.D.C., Nicholson D.<br><br><i>Effect of feed and water deprivation during transport on post-hatch performance of early fed chicks</i><br>van Roovert-Reijrink I., van der Pol C., Wijnen J., Hijink T. |
| <b>10:00-10:35</b>   | Coffee break  |
| <b>10:35-11:15</b><br><br><b>Chairpersons:</b><br><br><b>M. Boerjan</b><br><b>&amp;</b><br><b>A. Collin</b>                        | <b>Session 5: Epigenetics and long-term effects of perinatal environment and early life experience (4)</b><br><br><i>Long-lasting metabolomic fecal signatures of negative postnatal events in chicks</i><br>Beauclercq S., Lefèvre A., Montigny F., Collin A., Tesseraud S., Leterrier C., Emond P., Guilloteau L.A.<br><br><i>The effect of various eggshell temperature patterns on hatchability, chick quality, and post hatch performance</i><br>van der Pol C., van Roovert-Reijrink I., Wijnen J., Hijink T.   |
| <b>11:15-11:25</b>   | <b>Aviagen Nick French Prize for the best oral communication from a Young Scientist</b>   |
| <b>11:25-12:00</b>   | <b>General Discussion</b>   |
| <b>12:00</b>   | Buffet lunch  |



Beautiful, vibrant and lively, Tours is a pretty stopping point on the route of the Loire Valley Châteaux. Wander round its historic quarters with their half-timbered houses, Saint-Gatien Cathedral and the bustling Place Plumereau, as well as the Olivier Debré Contemporary Art Centre.

On sunny days, the star of the city is the River Loire! Visit Tours must include a rest break at the famous 'Tours-sur-Loire' guinguette and the Tours beach extend the city limits to the banks of the river.



**Save the Date**



**World's Poultry Congress 2020**

The Symposium takes place with the support of

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Other Contributors



Nick French Aviagen Prize and Welcome Cocktail



We are grateful to:

- European Federation of WPSA
- WPSA Speaker's Bureau
- Foundation for Promoting Poultry Science for their support

