Insect Production for Human and Animal Nutrition

Is industrial scale rearing taking off?

Tuesday, November 26, 2019

8:30  Welcome coffee

9:00  Welcome address from the organizers
Sylvio BENIO, Adebiotech, Samir MEZDOUR, AgroParisTech

9:10-10:00  Introductory Lectures

9:10  Keynote
Marcel DICKE, UWR University Wageningen, The Netherlands
*Insects as feed: developing a sustainable value chain*

9:40  Introduction
Philippe LE GALL, IRD (French Institute of Research for Development)
*The main insect species typically selected for industrial rearing and their physiology*

10:00-12:35  Session 1 - A worldwide overview of insect rearing from traditional farms to industrial plants

*Chair: Sylvio BENIO, Adebiotech*

10:00  Antoine HUBERT, IPIFF (International Platform of Insects for Food & Feed)
*Insect rearing and markets in Europe*

10:25  Keith DRIVER, NACIA (North American Coalition for Insect Agriculture), USA
*An overview of insect industry for feed and food in the United States and Canada*

10:50-11:35  Coffee break / exhibitions / posters / networking

11:35  Anne DEGUERRY, AFFIA (Asian Food & Feed Insects Association)
*Insect rearing in South East Asia*

11:55  Fogoh-John MUAFOR, Living Forest Trust, Cameroon
*Africa: traditional approaches and early stage industrial approaches*

12:15  Marc-Antoine LURASCHI, Cycle Farms, Ghana
*Example of insect production in tropical conditions*

12:35-14:00  Buffet lunch / exhibitions / posters / networking

www.adebiotech.org/ins3/
14:00-17:00  Session 2 - Hygiene, Safety, Allergy and Risks Prevention

Chairs: Jean-Philippe DESLYS, CEA and Christina NIELSEN-LEROUX, INRA

14:00  Keynote: Dominique PARENT MASSIN, Agricultural Academy and French Toxicology Society, France  
Toxicological aspects of human consumption of insects and insect proteins

14:20  Christophe TRESPEUCH, Mutatec, France  
Hygiene and risks prevention: example of the CertiFLY program

14:40  Christina NIELSEN-LEROUX, INRA (French National Institute for Agronomic Research)  
Insects health and risks of pathogen transmission to humans

15:00  Lars-Henrik LAU HECKMANN, DTI (Danish Technological Institute), Denmark  
An introduction to the IPIFF Guide on Good Hygiene Practices for the insect sector: Ensuring best practice for feed and food

15:20-15:50  Coffee break / exhibitions / posters / networking

15:50  Antoine LECOCQ, University of Copenhagen, Denmark  
Identification and management of diseases in insect production systems and building a European collaborative network on insect pathology

16:10  Romy GADISSEUR, CHU Liège, Belgium  
Risk of allergic transmissions linked to human insect consumption

16:30  Round table discussion Hygiene, Safety, Allergy and Risk prevention

17:00-18:20  Session 3 - Academic Research findings (part 1)

Chair: Samir MEZDOUR, AgroParisTech

17:00  Frédéric MARION-POLL, AgroParisTech, France  
Insect nutrition needs and behavioural aspects

17:20  Camille LOUPIAC, AgroSup Dijon-Université de Bourgogne Franche Comté, France, (collaboration AgroParisTech)  
Impact of extraction on soluble insect proteins from Tenebrio Molitor larvae

17:40  Hédi ROMDHANA and Samir MEZDOUR, AgroParisTech  
Valorization of Insects and larvae into high-value functional proteins: Optimization of drying conditions

18:00  Daylan-Amelia TZOMPA SOSA, Ghent University, Food technology and Engineering, Belgium  
Perspectives of insect oils and fats as food ingredients

18:20  Short presentations of exhibitor innovations
APPi
FLOTTWEG
GMMI
HAARSLEV INDUSTRIES
HOSOKAWA MICRON B.V.
MONTS
PROVISUR TECHNOLOGIES
REINARTZ

www.adebiotech.org/ins3/
19:00  Flash Posters

19:00  Nathalie BAREILLE, Oniris INRA UMR BIOEPAR
Development of a risk assessment method for biological hazards in the insect production process in Europe - Application to two farmed species and three consuming targets

19:05  Bader MAHAMAN, Action contre la Faim
État des lieux de la collecte, commercialisation et consommation d'insectes comestibles en république centrafricaine

19:10  Rodolphe RABOT, Phileo by Lesaffre
Effect of baker live yeast inclusion in feed substrates on growth performance and body composition of yellow meal worm and black soldier larvae

19:15  Abir BOUKIL, Université Laval
Effect of high hydrostatic pressure on the hydrolysis and the allergenicity of cricket and mealworm proteins

19:20  Carlotta TOTARO FILA, Start upper
2019 italian survey on intention to taste food products containing insect flour

19:25  Michel SAUVAIN, IRD
Tasty Peruvian insects: from traditional food to gastronomic innovation

19:30  Cocktail and networking
Wednesday, November 27, 2019

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<thead>
<tr>
<th>Time</th>
<th>Session 3 - Academic research findings (part 2)</th>
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<tbody>
<tr>
<td>9:00</td>
<td><strong>Chair</strong>: Samir MEZDOUR, AgroParisTech</td>
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<tr>
<td>9:00</td>
<td>Houcine MHEMDI, ESCOM Chimie, (collaboration AgroParisTech), France</td>
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<td><strong>Selective extraction of intracellular compounds from the Tenebrio molitor by mechanical pressing assisted by</strong></td>
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<td><strong>pulsed electric field treatment</strong></td>
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<td>9:20</td>
<td>Nicolas POLLET, EGCE (Evolution Genomes Comportement Ecologie), CNRS, France</td>
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<td>9:40</td>
<td>Alain DOYEN, Université de Laval, Québec, Canada</td>
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<td><strong>Emerging processing for the production of edible insect ingredients</strong></td>
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<tr>
<th>Time</th>
<th>Session 4 - Industrial Issues, Regulatory Aspects, Markets</th>
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<tr>
<td>10:00</td>
<td><strong>Chair</strong>: Anne DEGUERRY, AFFIA (Asian Food &amp; Feed Insects Association)</td>
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<td>10:00</td>
<td>Christian RABIN, Dalkia, France</td>
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<td></td>
<td><strong>Industrial challenges and solutions for construction of large-scale insect rearing plants</strong></td>
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<td>10:20</td>
<td>Chloé PHAN VAN PHI, InnovaFeed, France</td>
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<td><strong>Insect in animal nutrition: leverage consumer perception as a value creation lever for all players of the</strong></td>
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<td><strong>value chains</strong></td>
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<td>10:35</td>
<td>Louis LESUR, Le Gouessant, France</td>
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<td><strong>Insect based raw materials: aquafeed outlook</strong></td>
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<td>10:50</td>
<td>Eva PAMPOUILLE, ITAVI, France</td>
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<td><strong>Insect use in poultry: from protein intake to animal welfare</strong></td>
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<td>11:05-11:25</td>
<td>Coffee break / exhibitions / posters / networking</td>
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<td>11:25</td>
<td>Paola TEULIÈRES, Tomojo, France</td>
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<td><strong>Insect components in pet food</strong></td>
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<td>11:40</td>
<td>Patricia LE CADRE, Céréopa, France</td>
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<td><strong>Can insect meal contribute to the protein supply of French poultry?</strong></td>
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<td>11:55</td>
<td>Questions to previous speakers and discussion</td>
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<td>12:15</td>
<td>Christophe DERRIEN, IPIFF (International Platform of Insects for Food and Feed)</td>
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<td><strong>Global overview of European Regulatory aspects of insect applications for Food, Feed and Fertilizers</strong></td>
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<td>12:30</td>
<td>Damien MOREL, APPI, KOPPERT GROUP, France</td>
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<td><strong>Tools and guidelines for the total quality management in insect production</strong></td>
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<td>12:45</td>
<td>Questions to previous speakers and discussion</td>
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13:00 -14:30 **Buffet lunch / exhibitions / posters / networking**
14:30-17:30 Session 5 - Circular Economy Perspectives and Economic Support to Entrepreneurs

Chair: Maelenn POITRENAUD, SEDE Environnement, Veolia

14:30 Maelenn POITRENAUD, SEDE Environnement, Veolia, France
Introduction to circular economy and inclusion of bioconversion in this context

14:40 David Wilco DREW, ITG AgriProtein, South Africa
Feeding Larvae or Using Larvae? Substrates and maggot feeding issues and opportunities

14:55 Raphaël SMIA, NextAlim and IPIFF
Opportunity of insect industry in circular economy

15:10 Claire LHOUTELLIER-KASPRIK, SEDE Environnement, Veolia, France
Diversities of frass, and issues related to their valorization

15:25 Heinrich and Kirsten KATZ, Hermetia, Germany
Valorization of insect lipids

15:40 Joël AUBIN, INRA, France
Environmental performances of insect meal and value chain perspectives

15:50 Questions to previous speakers and discussion

16:00-16:35 Coffee break / Exhibition / Posters

16:35 Nadège ADOUARD, Pôle IAR, French Bioeconomy Cluster
Towards Bioeconomy Development: the keys to successful innovation !

16:50 Ariane VOYATZAKIS, Bpifrance (bank supporting innovations)
Supporting technology transfer and industrial development

17:05 Questions to previous speakers and discussion

17:20 INSECTINOV’3 CONFERENCE GENERAL CONCLUSIONS
Samir MEZDOUR, AgroParistech and Antoine HUBERT, IPIFF (International Platform of Insects for Food & Feed)

17:30 End of Plenary Conference
Thursday, November 28, 2019 Workshops

Choice Workshops

At Conference site in Romainville or at MUSEE DE L’HOMME in Paris

in partnership with the National Natural History Museum, Les Criquets Migrateurs
TOMOJO, and Chef Laurent from Inoveat

Maximum 20 participants per workshop! Please pre-register early by mail to colloque@adebiotech.org

Workshop 1. 9H30-13H00

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<td>“Insect Gastronomy Workshop for Humans” (insects tasting with specialized Chef) followed by an “Insect Pet food hands on workshop” organized by Tomojo where you will be guided to prepare yourself an insect protein containing dry croquette food for your dog!</td>
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<tr>
<td>Location</td>
<td>Adebiotech, Biocitech Romainville – (Plenary Conference site)</td>
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Workshop 2. 11H00-13H00

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<td>Interactive role plays Workshop and videos led by “Les Criquets migrateurs” <a href="https://lescriquetsmigrateurs.com">https://lescriquetsmigrateurs.com</a></td>
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<tr>
<td>Location</td>
<td>MUSEE DE L’HOMME IN PARIS (<a href="https://www.mnhn.fr/">https://www.mnhn.fr/</a>), Metro station Trocadero (travel time from Biocitech Romainville to Museum approx. 60 minutes)</td>
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Workshop 3. 14H00-15H30

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<td>Guided free private tour of the museum hosted food and feed exhibition “je mange donc je suis” <a href="http://www.museedelhomme.fr/fr/programme/expositions-galerie-lhomme/je-mange-je-suis-3970">http://www.museedelhomme.fr/fr/programme/expositions-galerie-lhomme/je-mange-je-suis-3970</a></td>
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Contact colloque@adebiotech.org for more information - please register early since seats are limited to 20

www.adebiotech.org/ins3/