INSECTA 2019

September 5-6, 2019 in Potsdam

CONFERENCE PROGRAM

jointly organized by

ATB
Leibniz-Institut für
Agrartechnik und Bioökonomie

PPM
Pilot
Pflanzenöltechnologie
Magdeburg e.V.

ACKNOWLEDGEMENTS

We would like to thank the following persons for their support, creating INSECTA 2019 as a successful event:

ORGANIZING TEAM

Sara Bußler, Julia Durek, Helene Foltan, Antje Fröhling, Jessica Lietze, Thomas Piofczyk, Oliver Schlüter, Beate Spehr

SCIENTIFIC COMMITTEE

Lilia Maria Ahrné, Alaa El-Din Bekhit, Marco Dalla Rosa, Henry Jäger, Michael Ngadi, Umezuruike Linus Opara, Thomas Piofczyk, Pablo Daniel Ribotta, Amauri Rosenthal, Oliver Schlüter, Brijesh K. Tiwari, Leen Van Campenhout, Arnold van Huis, Andreas Vilcinskas

SPECIAL THANKS TO

Universität Potsdam and Biosphere Potsdam

SPONSORS & PARTNER

PROGRAM – September 05, 2019

07:55 a.m. **Bus shuttle from "Kongresshotel Potsdam" to conference venue "Neues Palais"**

08:10 a.m. **Bus shuttle from "Luisenplatz" to conference venue "Neues Palais"**

08:00 a.m. **Registration** — **Foyer**

09:00 a.m. **Welcome – Opening remarks** — **Room 1.12**

09:30 a.m. **KEYNOTE:** — **Room 1.02: video broadcast**
Prof. Dr. Ir. Arnold van Huis, The Netherlands
Progress and prospects of insects as food and feed

10:00 a.m. **KEYNOTE:**
Heinrich Katz, Germany
EU Guidance document on best hygiene practices for the insect sector

10:30 a.m. **Coffee break and poster session**

Parallel sessions from 10:50 a.m. – 6:20 p.m. in rooms 1.12 and 1.02

Session 1 — Room 1.12

Safety and environmental aspects

Chair:

10:50 a.m.

Safety of insect based food and feed
Winnie Nyakerario Akara, Germany

11:10 a.m.

Regulatory environment of edible insects in the EU: What have the past two years looked like, what does the future hold?
Nicolas Carbonnelle, Belgium

11:30 a.m.

Consumer acceptance of deep-fried, cornmeal-based fritters with 10 % meal of *Gryllus assimilis*, *Locusta migratoria*, and *Tenebrio molitor* in comparison to ordinary German food-stuffs
Nils Th. Grabowski et al., Germany

11:50 a.m.

Readiness to adopt insects as food in the Czech Republic: Preliminary results
Martin Kulma et al., Czech Republic

12:10 p.m.

Research in Myanmar's edible insect sector: Rapid knowledge growth as Myanmar emerges
David Allan et al., Myanmar

Session 2 — Room 1.02

Insect rearing and production systems

Chair:

10:50 a.m.

Development of efficient feeds for production of black soldier fly larvae derived from industrial by-products
Anton Gligorescu et al., Denmark

11:10 a.m.

Influence of moisture content of feeding substrate on growth and composition of *Hermetia Illucens* larvae
Lotte Frooninckx et al., Belgium

11:30 a.m.

Insects are what they eat: Impact of organic waste substrate on growth performance and nutritional status of *Hermetia illucens* larvae
Chrysantus M. Tanga et al, Kenya

11:50 a.m.

Self-selection of foods and by-products by the yellow mealworm (*Tenebrio molitor*) and impact of nutrient intake on biomass gain
Juan Morales-Ramos et al., USA

12:10 p.m.

Evaluating different organic by-products as rearing diet for *Acheta domesticus*
Costanza Jucker et al., Italy

12:30 p.m. **Coffee break and poster session**

Session 3 **Room 1.12**

Insect rearing and production systems

Chair:

12:50 p.m.

Simulation of multi-stage air-separation of insects, faeces, and feed residues in a Zigzag-separator
Andreas Baur et al., Germany

01:10 p.m.

Designing a cage for *Hermetia illucens*
David Deruytter et al., Belgium

01:30 p.m.

G × E interactions: Larval performance of distinct black soldier fly genotypes grown on different feed substrates
Christoph Sandrock et al., Switzerland

01:50 p.m. **Lunch break and poster session**

Session 4 **Room 1.02**

Insect processing for food and feed

Chair:

12:50 p.m.

Effect of sex and developmental stage on nutritional quality of insects
Lenka Kouřimská & Martin Kulma, Czech Republic

01:10 p.m.

The different forms of vitamin B_{12} in edible insects – Sources and causes
Anatol Schmidt et al., Austria

01:30 p.m.

Crickets from farm to fork: farming, composition, safety and use
Laura Gasco et al., Italy

Session 5 **Room 1.12**

Safety and environmental aspects

Chair:

03:00 p.m.

The microbial community of *H. illucens* larvae: What do we know so far?
Jeroen De Smet, Belgium

03:20 p.m.

Will insect pathogens be a risk for black soldier fly (*Hemetia illucens*) production? Advancing research for reliable production
Ward Tollenaar et al., The Netherlands

03:40 p.m.

Pressed organic waste and sewage sludge for black soldier fly: Preliminary data on larvae rearing and safety evaluation
Marco Meneguz et al., Italy

04:00 p.m.

Rapid authentication of edible insect powders by means of infrared spectroscopy and multivariate analysis
Jorge Mellado-Carretero et al., Spain

04:20 p.m.

Attenuated total reflected infrared spectroscopy combined with multivariate analysis. A novel tool for insect food product design
Sílvia de Lamo-Castellví et al., Spain

4:40 p.m. **Coffee break and poster session**

Session 6 **Room 1.02**

Insect processing for food and feed

Chair:

03:00 p.m.

Edible insects in a traditional value chain: Consumption patterns and the effect of domestic cooking on nutrition security
Catriona Lakemond et al., The Netherlands

03:20 p.m.

Alternative solvents for lipid recovery from BSF and evaluation of the protein quality
Harish Karthikeyan Ravi et al., France

03:40 p.m.

Proteins from black soldier fly (*Hermetia illucens*) as emulsifiers in oil-in-water emulsions produced by premix emulsification
Junjing Wang et al., Spain

04:00 p.m.

Enrichment in ω3 of *Hermetia illucens* prepupae from oilseed co-products
Bertrand Hoc et al., Belgium

04:20 p.m.

From the larva to the feed: Safety and nutritional aspects
Verena Böschen, Germany

Session 7 **Room 1.12**

Insect rearing and production systems

Chair:

05:00 p.m.

Cost-effective insect rearing through automation and side-stream valorization
Filip Wouters et al., Belgium

05:20 p.m.

Where do the larvae come from? Morpho-physiological and behavioral reproductive aspects of black soldier fly adults and their industrial applications
Aline Malawey et al., USA

05:40 p.m.

Intraguild predation and cannibalism among adult *Ruspolia differens*: towards overcoming challenges for mass-rearing
Forkwa Fombong et al., Belgium

06:00 p.m.

Modularity of insect production and processing as a path to efficient and sustainable food waste treatment
Sergiy Smetana et al., Germany

Session 8 **Room 1.02**

Insect processing for food and feed

Chair:

05:00 p.m.

Insects as food – A pilot study for industrial production
Johan Berg et al., Sweden

05:20 p.m.

Physical functionality of *Tenebrio molitor* and using this knowledge to improve food applications
Simon Hvid et al., Denmark

05:40 p.m.

Effect of temperature and insect:meat ratio on structure formation in hybrid batters
Jana Scholliers et al., Belgium

06:00 p.m.

Volatile profile and odor attributes of mealworm, grasshopper, and silkworm dried by different methods and incorporated into cookies
Maryia Mishyna et al, China

06:30 p.m. **Bus shuttle from conference venue to evening event at Biosphere Potsdam**

07:00 p.m. - 12:00 a.m. **Conference dinner at Biosphere Potsdam**

PROGRAM – September 06, 2019

08:00 a.m. **Bus shuttle from "Kongresshotel Potsdam" to conference venue "Neues Palais"**

08:00 a.m. **Bus shuttle from "Luisenplatz" to conference venue "Neues Palais"**

08:00 a.m. **Registration** **Foyer**

08:30 a.m. **KEYNOTE:** **Room 1.12**
Dr.-Ing. Volker Heinz, Germany **Room 1.02: video broadcast**
Impact of insects on food and feed value chains

09:00 a.m. **KEYNOTE:**
PD Dr. Thomas Holzhauser, Germany
Edible insects – Assessment of allergenic potential and management of allergenicity

Parallel sessions from 09:30 a.m. – 12:40 p.m. in rooms 1.12 and 1.02

Session 9 **Room 1.12**

Safety and environmental aspects

Chair:

09:40 a.m.

Allergenicity assessment of edible insects and their protein hydrolysates
Giulia Leni et al., Italy

10:00 a.m.

Feeding study for the mycotoxin zearalenone in yellow mealworm (*Tenebrio molitor*) larvae – Investigation of biological impact and metabolic conversion
Nina Kröncke et al., Germany

10:20 a.m.

Effects of selected insecticides on black soldier fly (*Hermetia illucens*) larvae: Bioaccumulation, mortality, and growth
Nathan Meijer et al., The Netherlands

10:40 a.m.

Insect digestion does not generate active oxygen compounds, demonstrating a nutritional advantage over meat consumption
Adi Jonas-Levi, Israel

Session 10 **Room 1.02**

Non-food applications of insects

Chair:

09:40 a.m.

The potential of the black soldier fly bioconverted rearing substrate as a plant growth enhancer
Inbar Shouster-Dagan et al., Israel

10:00 a.m.

Insects as an alternative source for chitin or chitosan
Lise Soetemans et al., Belgium

10:20 a.m.

INFACT: From insect to surfactant
Sabine van Miert et al., Belgium

10:40 a.m.

Novel polycistronic expression systems for specialized protein production
Marc F. Schetelig et al., Germany

11:00 a.m. **Coffee break and poster session**

Session 11 **Room 1.12**

Industrial perspectives

Chair:

11:20 a.m.

Industrial bioconversion of meat waste by larvae of *Lucilia Caesar* L. (*Diptera Calliphoridae*) flies
Mikhail Smahliuk & Mikhail Zhuravlev, Russia

11:40 a.m.

Sustainable business model patterns – An integral part of insect-based business models
Maria Real, Germany

12:00 p.m.

Insect welfare in food and feed production
Andreas Baumann, Switzerland

12:20 p.m.

Edible insects in the German market – From online niche to retail mainstream
Timo Bäcker & Christopher Zeppenfeld, Germany

Session 12 **Room 1.02**

Insect processing for food and feed

Chair:

11:20 a.m.

Biorefinery approach for conversion of organic side-streams into multiple marketable products using insects – InDIRECT project
Leen Bastiaens et al., Belgium

11:40 a.m.

Impact of different meat starter cultures on pH reduction, microbial community dynamics, and glutamic and aspartic acid production during mealworm fermentation
An Borremans et al., Belgium

12:00 p.m.

Effect of high hydrostatic pressure (HHP) processing on colour and textural properties of mealworm species *T. molitor* and *Z. morio*
Philippa Victoria Grylls & Richárd Pintér, Hungary

12:20 p.m.

Evaluation of storage stability of dehydrated edible insects: Moisture adsorption isotherms, isosteric heat, estimated shelf life of flours of *Rhynchophorus phoenicis* and *Imbrasia truncata* larvae
Aymar Rodrigue Fogang Mba et al., Cameroon

Room 1.12
Room 1.02: video broadcast

12:50 p.m. **Closing remarks**
VDI BEST YOUNG SCIENTIST'S PRESENTATION AWARD Sponsor: VDI – Magdeburger Bezirksverein

01:15 p.m. **Refreshments for farewell**

01:45 p.m. **Bus shuttle from conference venue to ATB**

02:00 p.m. **Visit ATB (optional)**

03:00 p.m. **End of conference**
Bus shuttle from ATB to "Potsdam Main Station", "Luisenplatz" and "Kongresshotel Potsdam"

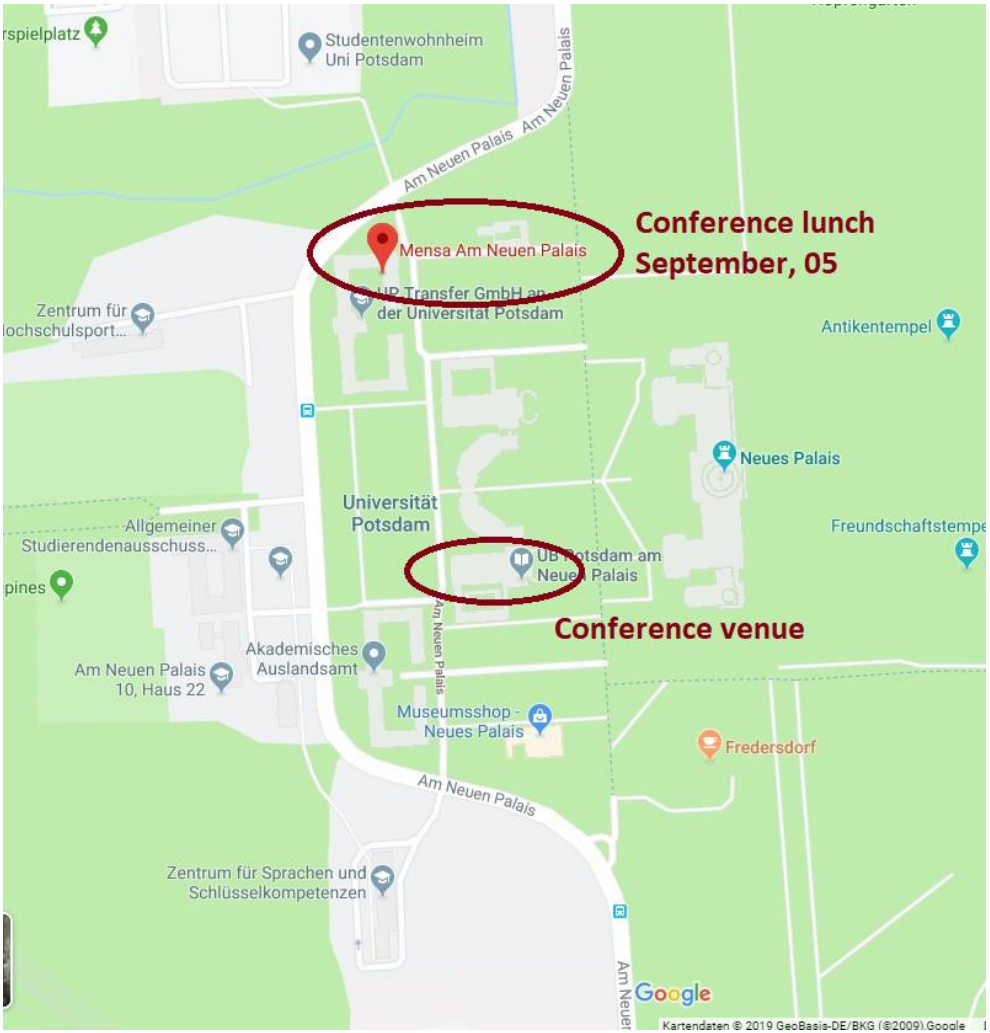
LUNCH BREAK - September 05, 2019

01:50 a.m. – 03:00 p.m.

Mensa Am Neuen Palais

Am Neuen Palais 10, Haus 12

14469 Potsdam



CONFERENCE DINNER

The conference dinner will take place at Biosphere Potsdam.

From the conference venue to the dinner

How to get to the dinner event

A **bus shuttle** will be provided from the conference venue to the dinner event.

If you like to come on your own:
https://www.biosphaere-potsdam.de/en/directions/

How to get home from the dinner event

You can take the tramline 96 from the tram stop “Volkspark”, right in front of the “Biosphäre”.

Tram **96** — **Potsdam, Campus Jungfernsee - Potsdam, Bisamkiez / Potsdam, Marie-Juchacz-Str.**

ViP — gültig vom 05.09.2019 bis 06.09.2019

VNF 96 — **Montag - Freitag**

Bemerkungen

Potsdam, Campus Jungfernsee	**ab**	**21:15**	**21:35**	**21:55**	**22:15**	**22:35**	**22:40**	**22:55**	**23:15**	**23:35**	**23:55**	**00:15**	**00:35**	**00:55**
Potsdam, Rote Kaserne		21:17	21:37	21:57	22:17	22:37	22:42	22:57	23:17	23:37	23:57	00:17	00:37	00:57
Potsdam, Viereckremise		21:18	21:38	21:58	22:18	22:38	22:43	22:58	23:18	23:38	23:58	00:18	00:38	00:58
Potsdam, Volkspark		21:19	21:39	21:59	22:19	22:39	22:44	22:59	23:19	23:39	23:59	00:19	00:39	00:59
Potsdam, Campus Fachhochschule		21:21	21:41	22:01	22:21	22:41	22:46	23:01	23:21	23:41	00:01	00:21	00:41	01:01
Potsdam, Am Schragen		21:22	21:42	22:02	22:22	22:42	22:47	23:02	23:22	23:42	00:02	00:22	00:42	01:02
Potsdam, Puschkinallee		21:23	21:43	22:03	22:23	22:43	22:48	23:03	23:23	23:43	00:03	00:23	00:43	01:03
Potsdam, Reiterweg/Alleestr.		21:24	21:44	22:04	22:24	22:44	22:49	23:04	23:24	23:44	00:04	00:24	00:44	01:04
Potsdam, Rathaus		21:25	21:45	22:05	22:25	22:45	22:50	23:05	23:25	23:45	00:05	00:25	00:45	01:05
Potsdam, Nauener Tor		21:27	21:47	22:07	22:27	22:47	22:52	23:07	23:27	23:47	00:07	00:27	00:47	01:07
Potsdam, Brandenburger Str.		21:28	21:48	22:08	22:28	22:48	22:53	23:08	23:28	23:48	00:08	00:28	00:48	01:08
Potsdam, Platz der Einheit/West		21:29	21:49	22:09	22:29	22:49	22:54	23:09	23:29	23:49	00:09	00:29	00:49	01:09
Potsdam, Alter Markt/Landtag		21:31	21:51	22:11	22:31	22:51	22:56	23:11	23:31	23:51	00:11	00:31	00:51	01:11
Potsdam, Lange Brücke		21:32	21:52	22:12	22:32	22:52	22:57	23:12	23:32	23:52	00:12	00:32	00:52	01:12
S Potsdam Hauptbahnhof		21:35	21:55	22:15	22:35	22:55	23:00	23:15	23:35	23:55	00:15	00:35	00:55	01:15
Potsdam, Friedhöfe		21:37	21:57	22:17	22:37	22:57	23:02	23:17	23:37	23:57	00:17	00:37	00:57	01:17
Potsdam, Sporthalle		21:38	21:58	22:18	22:38	22:58	23:03	23:18	23:38	23:58	00:18	00:38	00:58	01:18
Potsdam, Kunersdorfer Str.		21:39	21:59	22:19	22:39	22:59	23:04	23:19	23:39	23:59	00:19	00:39	00:59	01:19
Potsdam, Waldstr./Horstweg		21:40	22:00	22:20	22:40	23:00	23:05	23:20	23:40	00:00	00:20	00:40	01:00	01:20
Potsdam, Magnus-Zeller-Platz		21:42	22:02	22:22	22:42	23:02	23:07	23:22	23:42	00:02	00:22	00:42	01:02	01:22
Potsdam, Bisamkiez	**an**	21:43	22:03	22:23	22:43	23:03	**23:08**	23:23	23:43	00:03	00:23	00:43	01:03	01:23
Potsdam, Bisamkiez	**ab**	21:43	22:03	22:23	22:43	23:03	.	23:23	23:43	00:03	00:23	00:44	01:04	01:24
Potsdam, Abzweig Betriebshof ViP		21:44	22:04	22:24	22:44	23:04	.	23:24	23:44	00:04	00:24	00:46	01:06	01:26
Potsdam, Turmstr.		21:46	22:06	22:26	22:46	23:06	.	23:26	23:46	00:06	00:26	00:47	01:07	01:27
Potsdam, Johannes-Kepler-Platz		21:47	22:07	22:27	22:47	23:07	.	23:27	23:47	00:07	00:27	00:49	01:09	01:29
Potsdam, Max-Born-Str.		21:49	22:09	22:29	22:49	23:09	.	23:29	23:49	00:09	00:29	00:50	01:10	01:30
Potsdam, Gaußstr.		21:50	22:10	22:30	22:50	23:10	.	23:30	23:50	00:10	00:30	00:51	01:11	01:31
Potsdam, Hans-Albers-Str.		21:51	22:11	22:31	22:51	23:11	.	23:31	23:51	00:11	00:31	00:52	01:12	01:32
Potsdam, Robert-Baberske-Str.		21:52	22:12	22:32	22:52	23:12	.	23:32	23:52	00:12	00:32	00:53	01:13	01:33
Potsdam, Priesterweg		21:53	22:13	22:33	22:53	23:13	.	23:33	23:53	00:13	00:33	00:54	01:14	01:34
Potsdam, Am Hirtengraben		21:54	22:14	22:34	22:54	23:14	.	23:34	23:54	00:14	00:34	00:55	01:15	01:35
Potsdam, Marie-Juchacz-Str.	**an**	**21:55**	**22:15**	**22:35**	**22:55**	**23:15**	.	**23:35**	**23:55**	**00:15**	**00:35**			

Quelle:

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INFORMATION

ADDRESSES

Conference venue

Universität Potsdam, Campus I – Am Neuen Palais,
Am Neuen Palais 10, 14469 Potsdam, Building 9, Rooms 1.12 and 1.02

Dinner event

Biosphere Potsdam, Georg-Hermann-Allee 99, 14469 Potsdam

PROGRAM UPDATES

The organizers reserve the right for **program changes**.
The **poster presentation** list will be available on our conference website.

ORGANIZATION

Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB)
Max-Eyth-Allee 100, 14469 Potsdam, Germany
Dr.-Ing.habil. Oliver Schlüter

Pilot Pflanzenöltechnologie Magdeburg e.V. (PPM)
Berliner Chaussee 66, 39114 Magdeburg, Germany
Dr.-Ing. Thomas Piofczyk

CONTACT

insecta@atb-potsdam.de

CONFERENCE LANGUAGE

English

PUBLIC TRANSPORT

Travel service of German Railways: https://reiseauskunft.bahn.de/bin/query.exe/en
Transport in Potsdam: https://www.vbb.de/en/fahrinfo

FURTHER INFORMATION

Please visit our conference website **www.insecta-conference.com**

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