Workshop: "Mathematical modeling of metabolism and contaminant transfer in farm animals"

Modern risk assessment of chemical and biochemical contaminants in food and animal feed makes use of mathematical modeling of the different stations in the food chain to understand the flow of undesirable substances. Whereas modeling of laboratory animals is pursued by many members of academia, modeling of farm animals has often been neglected. This type of modeling can only be successful in the context of cooperation spanning the fields of bioinformatics, theoretical biology, veterinary medicine and animal nutrition, to name a few. In this workshop, we will present interdisciplinary work covering modeling of contaminant transfer as well as different aspects of farm animal metabolism using mathematical approaches.

Contact person:
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Venue:

German Federal Institute for Risk Assessment (BfR)
Max-Dohrn-Str. 8–10
10589 Berlin
Room B.2048

Directions:

www.bfr.bund.de/en/location-jungfernheide.html
Destination stop "Jungfernheide Bhf (S+U)"
(www.bahn.de, www.bvg.de/en)

Registration:

Please register online by 28 November 2017
www.bfr-akademie.de/english/events/
math-modeling-farm-animals.html

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Organiser:

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Max-Dohrn-Straße 8–10
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GERMAN FEDERAL INSTITUTE FOR RISK ASSESMENT

Workshop: "Mathematical modeling of metabolism and contaminant transfer in farm animals"

5 December 2017, Berlin

15 YEARS
Science in the Service of Humanity

BfR
Bundesinstitut für Risikobewertung

Tuesday, 5 December 2017

09:15–09:35 am

Welcome

Jorge Numata and Helmut Schafft, German Federal Institute for Risk Assessment (BfR), Berlin

09:35–09:55 am

Kinetics of Cannabinoids in dairy cows

Pietro Gerletti, German Federal Institute for Risk Assessment (BfR), Berlin

09:55–10:15 am

Toxicokinetic modeling of (bio)chemical contaminants in farm animals without the use of animal experimental data

Daria Glushkina, German Federal Institute for Risk Assessment (BfR), Berlin

10:15–10:35 Uhr

Bottom-up kinetic modeling of liver metabolism / Presentation of the new BfR junior research group 'supply chain models'

Sascha Bulik, German Federal Institute for Risk Assessment (BfR), Berlin

10:35–11:00 am coffee and tea break

11:00–11:20 am

Ready-to-use computer tools for calculating the feed-to-food transfer of perfluoroalkyl acids in dairy cows and pigs

Jorge Numata, German Federal Institute for Risk Assessment (BfR), Berlin

11:20–11:40 am

A systems biology approach to animal sciences (Presentation of the BovSys project and the research group at ZIB)

Susanna Röblitz, Konrad-Zuse-Zentrum für Informationstechnik (ZIB), Berlin

11:40 am–12:00 pm

Modelling and simulation of potassium balance in dairy cows

Julia Plötzke, Konrad-Zuse-Zentrum für Informationstechnik (ZIB), Berlin

12:00–12:20 pm

The impact of nutritional glucose on reproduction in dairy cows investigated with a mathematical model

Mohamed Omari, Konrad-Zuse-Zentrum für Informationstechnik (ZIB), Berlin

12:20–13:00 pm

Round table discussion

13:00 pm Lunch at the BfR Cafeteria