

Conference Agenda 43rd Mycotoxin Workshop

Date: Monday, 30/May/2022

8:00am Registration

9:30am Welcome

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9:45am

9:45am Occurrence and analyses of mycotoxins in food, feed and physiological samples

10:15am 9:45am - 10:00am

Non aqueous capillary electrophoresis: an alternative for the determination of emerging mycotoxins

Maria del Mar Delgado-Povedano, Francisco J. Lara, Emilio Borrego-Marín, Laura Gámiz-Gracia, Ana M. García-Campaña

Department of Analytical Chemistry, Faculty of Sciences, University of Granada, 18071 Granada, Spain

10:00am - 10:15am

Microbial and photodegradation of AFB1 in two contrasting soils

Julius Albert, Katherine Muñoz

University of Koblenz-Landau, Germany

10:15am Coffee break / Poster session

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11:00am

11:00am Occurrence and analyses of mycotoxins in food, feed and physiological samples 2

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12:00pm 11:00am - 11:15am

Internal exposure to multiple mycotoxins among German vegans and omnivores

Katharina J. Penczynski¹, Benedikt Cramer², Stefan Dietrich¹, Hans-Ulrich Humpf², Klaus Abraham¹, Cornelia Weikert¹

1: Department of Food Safety, German Federal Institute for Risk Assessment (BfR), Berlin, Germany; 2: Institute of Food Chemistry, Westfälische Wilhelms-Universität, Münster, Germany

11:15am - 11:30am

Investigation of aflatoxin B1 and its biosynthetic precursors in cheese

Kim Lara Gützkow¹, Carine Al Ayoubi², Nadja Kampschulte³, Laura Soler Vasco², Sascha Rohn⁴, Nils Helge Schebb³, Ronald Maul¹

1: Max Rubner-Institut, Federal Research Institute of Nutrition and Food, Department of Safety and Quality of Milk and Fish Products; 2: Toxalim (Research Center in Food Toxicology), Université de Toulouse; 3: University of Wuppertal, Faculty of Mathematics and Natural Sciences, Chair of Food Chemistry; 4: Technische Universität Berlin, Institute of Food Technology and Food Chemistry

11:30am - 11:45am

Mycotoxins throughout the life cycle of a wheat grain. A case study of organic farming with on-farm storage and processing

Camille Fouillet-Vindras¹, Marie-Hélène Robin², François Brionnet³, Maria Paula Arias Benavides⁴, Lauriane Mietton⁵, Ella Vannieuwenhuysse⁵, Pierrick Prangère⁴, Frédéric Bigey³, Delphine Sicard⁵, Jean-Michel Savoie⁴

1: ITAB, France; 2: El Purpan, France; 3: ENILIA-ENSMIC, France; 4: INRAE UR1264 MycSA, France; 5: INRAE UMR SPO, France

11:45am - 12:00pm

Identification of critical control points for *Penicillium expansum* and Patulin Contaminations and study of the epiphytic microbiome of long-term stored apples

Reem AL RIACHY¹, Vincent CHOCHOIS², Caroline STRUB¹, Noel DURAND², Angélique FONTANA¹, Sabine GALINDO-SCORR¹

1: Qualisud, Univ Montpellier, CIRAD, Institut Agro, Avignon Université, Univ de La Réunion, Montpellier, France.; 2: CIRAD, UMR Qualisud, F-34398 Montpellier, France. Qualisud, Univ Montpellier, Avignon Université, CIRAD, Institut Agro, Université de La Réunion, Montpellier, France.

12:00pm Lunch / Poster session

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1:45pm

1:45pm

Toxigenic fungi: Genetics, biology, new secondary metabolites

3:00pm

1:45pm - 2:00pm

Several species in a similar environment, how can this impact volatile organic compounds' emission and subsequent mycotoxin production?

Laurie Josselin¹, Marthe De Boevre², Caroline De Clerck¹, Antonio Moretti³, Hélène Soyeurt¹, Marie-Laure Fauconnier¹

1: Gembloux Agro-Bio Tech, Liege University, Belgium; 2: Centre of Excellence in Mycotoxicology and Public Health, Department of Bioanalysis, Faculty of Pharmaceutical Sciences, Ghent University, Belgium; 3: Institute of Sciences of Food Production, National Research Council, Bari, Italy

2:00pm - 2:15pm

A methanolic extract of *Zanthoxylum bungeanum* modulates secondary metabolism regulator genes in *Aspergillus flavus* and shuts down aflatoxin production

Asmaa Abbas¹, Colin Wright², Nagwa El Sawi³, Tapani Yli-Mattila¹, Anssi Malinen¹

1: University of Turku, Finland; 2: University of Bradford, United Kingdom; 3: Sohag University, Egypt

2:15pm - 2:30pm

Dispersal of Phytopathogenic *Fusarium* and *Alternaria* Fungi by Ground-Dwelling Arthropods from Semi-Natural into Agricultural Habitats

Nadja Heitmann^{1,2}, Klaus Birkhofer², Michael Glemnitz¹, Peter Lentzsch¹, Marina E. H. Müller¹

1: Leibniz Centre for Agricultural Landscape Research (ZALF), 15374 Müncheberg, Germany; 2: Brandenburg University of Technology, Cottbus-Senftenberg, 03046 Cottbus, Germany

2:30pm - 2:45pm

Molecular biodiversity in *Fusarium subglutinans* and *F. temperatum*: a valuable tool to distinguish the two sister species and determine the beauvericin chemotype

Antonio Moretti, Alessandra Villani, Miriam Haidukowski, Filomena Epifani, Antonio Francesco Logrieco, Antonia Susca

National Research Council of Italy (CNR), Italy

2:45pm - 3:00pm

Analysis of genetic characteristics and the aflatoxin formation of different *Aspergillus* strains

Alexandra Schamann, Sebastian T. Soukup, Rolf Geisen, Sabine E. Kulling, Markus Schmidt-Heydt

Max Rubner – Institut, Federal Research Institute of Nutrition and Food, Department of Safety and Quality of Fruit and Vegetables, Karlsruhe, Germany

3:00pm

Coffee break / Poster session

3:30pm

3:30pm

Annual meeting of the members of the Society for Mycotoxin Research

5:00pm

6:00pm

Cruise and light dinner on the Canal du Midi

8:00pm

Date: Tuesday, 31/May/2022

8:00am Registration

9:00am Toxigenic fungi : Genetics, biology, new secondary metabolites

10:00am 9:00am - 9:15am

Regulation of secondary metabolism in *Penicillium expansum* by the transcription factor, *velB*, a member of the Velvet Complex

Nadia TAHTAH¹, Chrystian Zetina-Serrano¹, Ophélie Rocher¹, Claire Naylies¹, Emilien Jamin^{1,2,3}, Sophie Lorber¹, Olivier Puel¹

1: Toxalim (Research Center in Food Toxicology), Université de Toulouse, INRAE, ENVT, INP-Purpan, Toulouse, France; 2: MetaboHUB-MetaToul, National Infrastructure of Metabolomics and Fluxomics, Toulouse, 31077 France; 3: Metatoul-AXIOM, France Exposome, INRAE, Toulouse, France

9:15am - 9:30am

Novel secondary metabolites from *Stachybotrys chartarum*

Katharina Steinert¹, Stephanie Gerahn¹, Anna K. Atanasoff-Kardjallieff², Lena Studt², Hans-Ulrich Humpf¹, Svetlana A. Kalinina¹

1: Institute of Food Chemistry, Westfälische Wilhelms-Universität, Münster, Germany; 2: Institute of Microbial Genetics, Department of Applied Genetics and Cell Biology, University of Natural Resources and Life Sciences, Vienna, Austria

9:30am - 9:45am

Type A trichothecene mycotoxin NX-2 is produced by *Fusarium culmorum*

Simon Schiwiek¹, Mohammad Alhusein², Anna Rathgeb², Charlotte Rodemann³, Tuvshinjargal Budragchaa⁴, Lukas Beule⁵, Andreas von Tiedemann³, Petr Karlovsky²

1: Julius Kuehn-Institute, Institute for Plant Protection in Field Crops and Grassland, D-38104 Braunschweig, Germany; 2: Molecular Phytopathology and Mycotoxin Research, University of Goettingen, D-37077 Goettingen, Germany; 3: Plant Phytopathology and Crop Protection, University of Goettingen, D-37077 Goettingen, Germany; 4: Leibniz Institute for Plant Biochemistry, Department of Bioorganic Chemistry, D-06120 Halle (Saale), Germany; 5: Julius Kuehn-Institute, Institute for Ecological Chemistry, Plant Analysis and Stored Product Protection, D-14195 Berlin, Germany

9:45am - 10:00am

Development of a miniaturized cultivation method for secondary metabolites screening in fungal cultures

Sophie Vogel, Nina Berg, Katharina Steinert, Hans-Ulrich Humpf, Svetlana Kalinina

Westfälische Wilhelms-Universität Münster, Germany

10:00am Coffee break / Poster session

10:30am

10:30am Mycotoxins and human / animal health

11:45am 10:30am - 10:45am

Enniatin B and beauvericin in sustainable marine aquafeed causes adverse health effects in Atlantic salmon

Marc Berntssen¹, Per Gunnar Fjellidal¹, Jan Vidar Jakobsen², Kai K Lie¹

1: Institute of Marine Research (Bergen), Norway; 2: Cargill Aqua Nutrition Innovation Center (Dirdal), Norway

10:45am - 11:00am

Consequence of enniatin B and beauvericin on salmon intestinal health

Kai Kristoffer Lie¹, Sofie Karin Söderstrøm¹, Åsne Omdal², Øystein Sæle¹, Per Gunnar Fjellidal¹, Marc MHG Berntssen¹

1: Institute of Marine Research, Norway; 2: University of Bergen, Norway

11:00am - 11:15am

Bioenergetics status of the intestinal and hepatic cells after short term exposure to fumonisin B1 and aflatoxin B1

Xiangrong Chen, Mohamed F. Abdallah, Andreja Rajkovic

Ghent University, Belgium

11:15am - 11:30am

Combinatory estrogenic effects of mycoestrogens and isoflavones

Dino Grgic¹, Andrea Betschler¹, Rebeka Frühholz¹, Barbara Novak², Elisabeth Varga¹, Doris Marko¹

1: Department of Food Chemistry and Toxicology, Faculty of Chemistry, University of Vienna, Währinger Str. 38-40, 1090 Vienna, Austria; 2: BIOMIN Research Center, Technopark 1, 3430 Tulln, Austria

11:30am - 11:45am

AFB1 from unpackaged peanut oil and HBV infection could both induce RUNX3 hypomethylation: a cross-sectional study

Zhini He^{1,3}, Hang Wu², Lei Xia², Michael Routage², Xingfen Yang³, Yunyun Gong¹

1: School of Food Science and Nutrition, University of Leeds; 2: Leeds Institute of Cardiovascular and Metabolic Medicine, School of Medicine, University of Leeds; 3: Food Safety and Health Research Center, College of Public Health, Southern Medical University

11:45am **Lunch / Poster session**

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1:45pm

1:45pm **Mycotoxins and human / animal health / toxicology and risk assessment**

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3:00pm

1:45pm - 2:00pm

Does zearalenone-contaminated sugar beet pulp pose a risk for modern sow reproduction?

Susanne Kersten¹, Jeannette Kluess¹, Angelika Grümpel-Schlüter¹, Janine Saltzmann¹, Antje Schubbert², Sally Rauterberg², Stefan Büngener-Schröder³, Sven Dänicke¹

1: Friedrich-Loeffler-Institute (FLI) Federal Research Institute for Animal Health, Germany; 2: Institute of Animal Welfare and Animal Husbandry, Friedrich-Loeffler-Institut, Celle, Germany; 3: GS agri eG, Schneiderkrug, Germany

2:00pm - 2:15pm

Multiple mycotoxin exposure during pregnancy and its association with food consumption: a human biomonitoring study in rural Bangladesh

Nicholas Nana Adjei Kyei^{1,2,3}, Benedikt Cramer⁴, Hans-Ulrich Humpf⁴, Gisela H Degen⁵, Nurshad Ali⁶, Sabine Gabrysch^{1,2,3}

1: Institute of Public Health, Charité – Universitätsmedizin Berlin, Germany; 2: Heidelberg Institute of Global Health, Heidelberg University, Germany; 3: Research Department 2, Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany; 4: Institute of Food Chemistry, Westfälische Wilhelms-Universität Münster, Germany; 5: Leibniz-Research Centre for Working Environment and Human Factors (IfADo) at the TU Dortmund, Germany; 6: Department of Biochemistry and Molecular Biology, Shahjalal University of Science and Technology, Sylhet, Bangladesh.

2:15pm - 2:30pm

Exposomics study for investigating multiple mycotoxins and environmental contaminants exposure and the association with telomere length in rural Burkina Faso

Yuri Bastos Moreira^{1,2}, Trenton Dailey-Chwalibóg^{2,3}, Laeticia Celine Toe^{2,3,4}, Carl Lachat^{2,3}, Sarah De Saeger^{1,2,5}, Marthe De Boevre^{1,2}

1: Centre of Excellence in Mycotoxicology and Public Health, Faculty of Pharmaceutical Sciences, Ghent University, Ghent, Belgium; 2: Mytox-South®, Centre of Excellence in Mycotoxicology and Public health, Ghent University, Ghent, Belgium; 3: Department of Food Technology, Safety and Health, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium; 4: Institut de Recherche en Sciences de la Santé, Bobo-Dioulasso, Burkina Faso; 5: Department of Biotechnology and Food Technology, Faculty of Science, University of Johannesburg, Doornfontein Campus, Gauteng, South Africa

2:30pm - 2:45pm

Innovative in vitro models for mycotoxin toxicity evaluation

Marine PODEVIN, Monika COTON, Emmanuel COTON, Nolwenn HYMERY

Univ Brest INRAE, Laboratoire Universitaire de Biodiversité et Écologie Microbienne, F-29280 Plouzané, France

2:45pm - 3:00pm

Beyond the wall: enteric glial cells (EGCs) as target of regulated and emerging food-associated mycotoxins.

Michał Dąbrowski¹, Hamza Olleik², Hassan Ajandouz², Josette Perrier², Philippe Pinton³, Isabelle Oswald³, Łukasz Zielonka¹, Marc MARESCA²

1: University of Warmia and Mazury in Olsztyn, Faculty of Veterinary Medicine, Department of Veterinary Prevention and Feed Hygiene, Oczapowski Str. 13/29, 10-718 Olsztyn, Poland; 2: Aix Marseille Univ., CNRS, Centrale Marseille, iSm2,

13397 Marseille, France.; 3: Toxalim, Research center in Food Toxicology, Université de Toulouse, INRA, ENVT, INP-PURPAN, UPS, F-31027, Toulouse France

3:00pm **Coffee break / Poster session**

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3:30pm

3:30pm **Toxicology and risk assessment of mycotoxins**

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4:15pm

3:30pm - 3:45pm

Comparative metabolic profiling of 20 mycotoxins in HepG2 cells using HILIC-MS/MS

Andrea Gerdemann, Matthias Behrens, Melanie Esselen, Hans-Ulrich Humpf
University of Muenster, Germany

3:45pm - 4:00pm

Identification of metabolites of the aflatoxin B1 precursor Versicolorin A, a genotoxic mycotoxin, using in vitro production of standards

Carine Al-Ayoubi¹, Justin Oules^{1,2}, Elodie Person¹, Sandrine Bruel¹, Alyssa Bouville^{1,2}, Philippe Pinton¹, Isabelle P. Oswald¹, Emilien L. Jamin^{1,2,3}, Olivier Puel¹, Laura Soler¹

1: Toxalim (Research Center in Food Toxicology), Université de Toulouse, INRAE, ENVT, INP-Purpan, Toulouse, France; 2: MetaboHUB-MetaToul, National Infrastructure of Metabolomics and Fluxomics, Toulouse, 31077 France; 3: Metatoul-AXIOM, France Exposome, INRAE, Toulouse, France

4:00pm - 4:15pm

Insight on JECFA's risk assessment on Sterigmatocystin and Ergot alkaloids

Nathalie ARNICH

ANSES (French Food Safety Agency), France

4:30pm

Guided tour through Toulouse

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6:30pm

7:45pm

Gala Dinner

Date: Wednesday, 01/June/2022

8:00am Registration

9:00am Toxicology and risk assessment of mycotoxins

10:00am 9:00am - 9:15am

Computational insights on ochratoxin A toxicokinetics (TK): how 3D modeling may identify consequences of subtle genome-based inter-individual differences on its TK and related toxicity

Luca Dellafora¹, Jochem Louisse², Jean-Lou C.M. Dorne³, Gianni Galaverna¹, Chiara Dall'Asta¹

1: Department of Food and Drug, University of Parma, Parma, Italy; 2: Wageningen Food Safety Research, Wageningen, the Netherlands; 3: Scientific Committee and Emerging Risks Unit, European Food Safety Authority, Parma, Italy

9:15am - 9:30am

An in silico-in vitro strategy to prioritize mycotoxins based on their genotoxic potential: a tool for decision-making

Maria Alonso-Jauregui¹, Maria Font^{2,3}, Elena Gonzalez-Penas², Adela Lopez de Cerain^{1,3}, Ariane Vettorazzi^{1,3}

1: Department of Pharmacology and Toxicology. School of Pharmacy and Nutrition. MITOX Research Group, University of Navarra, Pamplona, Spain; 2: Department of Pharmaceutical Technology and Chemistry. MITOX Research Group, School of Pharmacy and Nutrition. University of Navarra, Pamplona Spain; 3: IdiSNA, Navarra Institute for Health Research, Pamplona, Spain

9:30am - 9:45am

Individual and combined effects of regulated and emerging *Penicillium* sp. mycotoxins on human neuronal SH-SY5Y cells

Carolina Sousa Monteiro¹, Miguel Faria¹, Eugénia Pinto^{2,3}, Sara Cunha¹

1: LAQV-REQUIMTE, Laboratory of Bromatology and Hydrology, Faculty of Pharmacy, University of Porto, Porto, Portugal; 2: Laboratory of Microbiology, Biological Sciences Department, Faculty of Pharmacy, University of Porto, Porto, Portugal; 3: Interdisciplinary Centre of Marine and Environmental Research, University of Porto, Matosinhos, Portugal

9:45am - 10:00am

Combinatory effects of acrylamide and deoxynivalenol on in vitro cell viability and cytochrome P450-enzymes of human HepaRG cells

Julia Beisl¹, Kristina Jochum¹, Yi Chen², Elisabeth Varga¹, Doris Marko¹

1: University of Vienna, Faculty of Chemistry, Department of Food Chemistry and Toxicology, Austria; 2: Nanchang University, State Key Laboratory of Food Science and Technology, China

10:00am Coffee break / Poster session

10:30am

10:30am Mycotoxins and food/feed safety

11:45am 10:30am - 10:45am

Acclimatisation to Climate Change conditions of *Aspergillus flavus* strains from pistachio nuts and its effects on growth and aflatoxin B1 production

Alaa Baazeem^{1,2}, Naresh Magan¹, Angel Medina¹

1: Cranfield University, United Kingdom; 2: Taif University, Saudi Arabia

10:45am - 11:00am

Screening for anti-aflatoxin B1 activity of peruvian plants

Laura Fiorella Cadenillas Sueldo¹, Vanessa Durrieu¹, Jean Denis Bailly^{1,2}

1: Laboratoire de Chimie Agro-industrielle, Université de Toulouse, INRA, INPT, Toulouse, France; 2: Ecole Nationale Vétérinaire de Toulouse, Université de Toulouse, Toulouse, France

11:00am - 11:15am

Use of actinobacterial strains and their cell free supernatant, as biocontrol agents, to reduce aflatoxin B1 contamination

Albert Marianne, Boyer Florian, Maud Louise, Bornot Julie, Snini Selma P., Mathieu Florence

Laboratoire de Génie Chimique, Université de Toulouse, CNRS, Toulouse CEDEX, France

11:15am - 11:30am

Ochratoxin A removal during spontaneous cocoa bean fermentation using *Bacillus halotolerans* and *B. paramycooides*

Adobi Christian KADJO¹, Guézéré Corinne BEUGRE¹, Kra Brou Didier KEDJEBO¹, Mathurin Konan YAO², Pauline MOUNJOUENPOU³, Noël DURAND^{4,5}, Angélique FONTANA^{4,5}, Tagro Simplicie GUEHI¹

1: Laboratoire de Biotechnologie et de Microbiologie Alimentaire. Unité de Formation et de Recherche des Sciences et Technologies des Aliments, Université Nangui ABROGOUA Côte d'Ivoire; 2: Laboratoire de Biotechnologie et Valorisation des Agro-ressources. Unité de Formation et de Recherche des Sciences Biologiques, Université Péléforo Gon COULIBALY de Korhogo, Côte d'Ivoire.; 3: Laboratoire de Technologie Alimentaire, Institut de Recherche Agricole pour le Développement, Cameroun; 4: CIRAD, UMR Qualisud, TA B 96/16, 75 Av JF Breton, 34398 Montpellier cedex 5, France; 5: Qualisud, Univ Montpellier, CIRAD, Université d'Avignon, Université de la Réunion, Montpellier SupAgro, Montpellier, France

11:30am - 11:45am

Wood/forest and vine by-products as sources of new drugs for sustainable strategies to control fungal growth and type B trichothecene production by *Fusarium graminearum*

Vessela ATANASOVA¹, Charles TARDIF², Laetitia PINSON-GADAIS¹, Pierre WAFFO-TEGUO², Caroline ROUGER², Florence RICHARD-FORGET¹

1: INRAE, RU1264 Mycology and Food Safety (MycSA), 71, Avenue Edouard Bourlaux, 33883 Villenave d'Ornon, France; 2: Faculty of Pharmaceutical Sciences, RU Enology, EA 4577, USC 1366 INRAE, Molecules of Biological Interest, ISVV, Univ. Bordeaux, 210, Chemin de Leysotte, 33882, Villenave d'Ornon, France

11:45am

Closing session

12:00pm