SCIENTIFIC AND SOCIAL PROGRAMME OF ICPMF11

Workshop: How to Benefit from the Risk Assessment Modelling and Knowledge Integration Platform (RAKIP)

Time: 9:30 - 12:30
Date: 17th September 2019

Organiser: Matthias Filter

Tutors: Matthias Filter, Virginie Desvignes, Laurent Guillier, Ahmad Swaid, Maarten Nauta

This workshop will explain the underlying principles of RAKIP, introduce the RAKIP Virtual Research Environment (VRE) and showcase open source software tools that already support FSK-ML. Workshop attendees will get the opportunity to perform their own hands-on exercises using both the online and the open source desktop software.

Lunch

Time: 12:30 - 14:30
Date: 17th September 2019
Location: IPB Canteen

Tutorial 1: Towards an integrated predictive software map: Practical examples of use of predictive microbiology software tools for food safety and quality

Time: 14:30 - 17:30
Date: 17th September 2019

Organisers: Fernando Pérez-Rodríguez, Pablo Fernández, Alberto Garre and Mariem Ellouze

The main objective of Tutorial 1 is to present existing software tools from a practical point of view, integrating and combining the main capabilities and strengths from each one. The hands-on session will be organised to address the main challenges and applications in the use of predictive microbiology and risk assessment, covering the whole predictive pipeline from model construction to application in the real world.
Tutorial 2: Advanced Methods in Predictive Microbiology

Time: 14:30 - 17:30
Date: 17th September 2019

Organisers: Lihan Huang, Cheng-An Hwang and Vasco Cadavez

Tutorial 2 will summarise, present, and discuss the most recent developments; demonstrate both the fundamental and applied aspects of predictive microbiology; and introduce the up-to-date one-step dynamic analysis in predictive modelling. More advanced topics, such as dynamic modelling, will be demonstrated using R, an open-source statistical package.

Tutorial 3: Topics in Quantitative Microbial Risk Assessment using R

Time: 14:30 - 17:30
Date: 17th September 2019

Organisers: Patrick Njage and Ana Sofia Ribeiro Duarte

Tutorial 3 will demonstrate the use of R in QMRA. The advantages and flexibility of R will also be demonstrated for selected commonly-overlooked perspectives in data analysis during QMRA. A final part of the workshop will involve a demonstration on machine learning methods as a tool for hazard characterization and source attribution, applying next generation sequencing data.

ICPMF Board Members Meeting

Time: 17:30 - 19:00
Date: 17th September 2019
Location: Sala Correia Araújo, IPB School of Agriculture

Welcome Reception at the Museum

Time: 19:30 - 21:30
Date: 17th September 2019
Location: Abade de Baçal Museum, Rua Abílio Beça 27
Plenary Lecture 1: Bayesian Modelling in QMRA: Separated but Together. The Pains and the Gains (Dr. Jukka Ranta)
Time: 8:30 - 9:10
Date: 18th September 2019

64 -
BAYESIAN MODELLING IN QMRA: SEPARATED BUT TOGETHER. THE PAINS AND THE GAINS.
Jukka Ranta
Finnish Food Authority, Helsinki, Finland

Oral Session 1: Advances in Predictive Microbiology Modelling

Time: 9:10 - 10:20
Date: 18th September 2019

10 -
ONE-STEP DYNAMIC INVERSE ANALYSIS AND PREDICTIVE MODELING FOR MICROBIAL FOOD SAFETY: THE BAYESIAN WAY
Lihan Huang
USDA Agricultural Research Service Eastern Regional Research Center, Wyndmoor, USA

25 -
DESCRIBING UNCERTAINTY IN PREDICTED THERMAL INACTIVATION OF SALMONELLA USING BAYESIAN STATISTICAL MODELLING
Kento Koyama1, Zafiro Aspridou2, Konstantinos Koutsoumanis2, Shige Koseki3
1Agricultural and Food Process Engineering Laboratory, Research Faculty of Agriculture, Hokkaido University, Sapporo, Japan. 2Department of Food Science and Technology, School of Agriculture, Faculty of Agriculture, Forestry and Natural Environment, Aristotle University of Thessaloniki, Thessaloniki, Greece. 3Agricultural and Food Process Engineering Lab., Division of Bio-systems sustainability, Research Faculty of Agriculture, Hokkaido University, Sapporo, Japan

55 -
GUIDELINES FOR (OPTIMAL) EXPERIMENTAL DESIGN OF MICROBIAL INACTIVATION EXPERIMENTS
José L. Peñalver1, Alberto Garre1, Arantxa Aznar1, Alfredo Palop1, Pablo S. Fernández1, Arturo Esnoz1, José A. Egea3
1Universidad Politécnica de Cartagena, Cartagena, Spain. 2Centro de Edafología y Biología Aplicada del Segura-CSIC, Murcia, Spain

**51 - MODELING THE EFFECTS OF PH ON GROWTH OF BACTERIA, YEASTS AND MOLDS: TOWARDS A UNIFIED APPROACH**

Yvan Le Marc, Nicolas Nguyen Van-Long, Véronique Huchet

Adria Food Technology Institute, Quimper, France

**8 - CARDINAL PARAMETER MODEL CONTAINING A NEW NISIN TERM TO PREDICT GROWTH OF LISTERIA MONOCYTOGENES IN PROCESSED CHEESE**

Veronica Martinez-Rios, Mikael Pedersen, Monica Pedrazzi, Elissavet Gkogka, Jørn Smedsgaard, Paw Dalgaard

National Food Institute (DTU Food), Technical University of Denmark, Kgs. Lyngby, Denmark

---

**Coffee Break and Poster Session 1**

**Time:** 10:20 - 10:50  
**Date:** 18th September 2019  
**Location:** Hall

Posters: Advances in predictive microbiology modelling, and Predictive modelling in innovative food processing and preservation technologies

**5 - MODELING THE EFFECTS OF TEMPERATURE AND LACTATE ON THE GROWTH OF BACILLUS CEREUS IN COOKED RICE**

Cheng-An Hwang¹, Jing Ni Tan², Lihan Huang¹, Hsin-I Hsiao²

¹ERRC-ARS-USDA, Wyndmoor, Pennsylvania, USA. ²Department of Food Science, National Taiwan Ocean University, Keelung, Taiwan

**21 - EXTENDED CARDINAL PARAMETER GROWTH AND GROWTH BOUNDARY MODEL FOR NON-PROTEOLOYTIC CLOSTRIDIUM BOTULINUM – EFFECT OF TEN ENVIRONMENTAL FACTORS**

Ioulia Koukou, Tina Dahl Devitt, Juozas Janonis, Ole Mejhlom, Paw Dalgaard

National Food Institute (DTU Food) Technical University of Denmark, KGS Lyngby, Denmark
39 -
NATURAL COMPOUND TO CONTRAST THE GROWTH OF CLOSTRIDIUM PERFRINGENS IN PORK MEAT, PERFORMANCE OF PREDICTIVE TOOLS
Elena Cosciani-Cunico1, Elena Dalzini1,2, Paola Monastero1, Daniela Merigo1, Marina-Nadia Losio1, Paolo Daminelli1

1Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna “B. Ubertini”, Brescia, Italy.
2National Reference Centre for Emerging Risks in Food Safety, Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna “B. Ubertini”, Milan, Italy

53 -
A SIMPLE CORRELATION BETWEEN THE CARDINAL TEMPERATURES OF BACILLUS CEREUS SENSU LATO
Yvan Le Marc1,2, Florence Postollec1,2, József Baranyi3,4, Mariem Ellouze5, Véronique Huchet1,2

1Adria Food Technology Institute, Quimper, France. 2UMT ACTIA 1903 ALTER’iX, Quimper, France.
3University of Debrecen, Debrecen, Hungary. 4Imperial College London, London, United Kingdom.
5Nestlé Research Center, Lausanne, Switzerland

59 -
GROWTH OF ESCHERICHIA COLI AND CRONOBACTER SAKAZAKII IN MINIMALLY-PROCESSED FRESH-CUT FRUITS: MODELLING THE EFFECT OF TEMPERATURE
Eduardo Esteves1,2, David Santo1, Ana Graça1, Célia Quintas1,3

1ISE Universidade do Algarve, Faro, Portugal. 2CCMAR Centre of Marine Sciences, Faro, Portugal. 3Center for Mediterranean Bioresources and Food (MeditBio), Faro, Portugal

72 -
PROBABILISTIC MODELING OF BACTERIAL RESPONSES UNDER THE EFFECTS OF SELECTED CONCENTRATIONS OF THYME ESSENTIAL OIL OR THYMOL IN VAPOR PHASE
Ana Cecilia Lorenzo-Leal, Nelly Ramírez-Corona, Enrique Palou, Aurelio López-Malo

Universidad de las Américas Puebla, Cholula, Mexico

78 -
MODELING WEISSELLA VIRIDESCENS GROWTH IN HAM VACUUM-PACKED WITH ACTIVE FILMS OF CELLULOSE ACETATE-CARVACROL
Denise A Laroque, Naomi R de Jong, Pedro H H de Araújo, Gláucia M F Aragão, Bruno A M Carciofi

Department of Chemical and Food Engineering, Federal University of Santa Catarina, Florianopolis, Brazil

79 -
MODELING GROWTH AND SURVIVAL OF SALMONELLA ENTERICA TYPHIMURIUM UNDER OSMOTIC STRESS CONDITIONS
Camila C Paganini, Charles Kautzmann, Bruno A M Carciofi, Gláucia M F de Aragão
Department of Chemical Engineering and Food Engineering, Federal University of Santa Catarina, Florianopolis, Brazil

81 - MODELLING OF LISTERIA MONOCYTOGENES GROWTH IN CHICKEN NUGGETS AS A FUNCTION OF TEMPERATURE
Ourania Raftopoulou, Evgenia Spyrelli, Efstatios Panagou, George-John Nychas, Alexandra Lianou
Agricultural University of Athens, Department of Food Science and Human Nutrition, Athens, Greece

89 - PREDICTING THE EFFECT OF SALT ON HEAT TOLERANCE OF LISTERIA MONOCYTOGENES IN MEAT AND FISH PRODUCTS
Somaya Abdalas, Iman Al Hilali, Tina Beck Hansen
Technical University of Denmark, Kgs. Lyngby, Denmark

92 - SURVIVAL OF SALMONELLA ENTERICA SER. ENTERITIDIS IN STRAWBERRIES DURING STORAGE AT DIFFERENT TEMPERATURES
Liliana Pérez-Lavalle¹, Elena Carrasco², Denisse Posada-Izquierdo³, Manuel Cejudo², Antonio Valero²
¹Universidad Simón Bolívar, Barranquilla, Colombia. ²Universidad de Córdoba, Córdoba, Spain

104 - GROWTH OF Listeria monocytogenes AND Salmonella spp. ON READY TO EAT FRESH-CUT LETTUCE: MICROBIOLOGICAL COUNTS AND COMBASE PREDICTOR
Marta Carvalho, Ângela Alves, Vânia Ferreira, Paula Teixeira
Universidade Católica Portuguesa, Porto, Portugal

105 - MODELING THE NON-THERMAL INACTIVATION OF SHIGA TOXIN-PRODUCING ESCHERICHIA COLI DURING MATURATION AND SHELF LIFE OF CHEESES
Fanny TENENHAUS-AZIZA¹, Janushan CHRISTY², Valérie MICHEL², Louis Coroller³
¹CNIEL, PARIS, France. ²ACTALIA, La Roche sur Foron, France. ³University of Western Brittany, Brest, France
HEAT RESISTANCE OF LISTERIA MONOCYTOGENES IN VANILLA AND STRAWBERRY ICE CREAM SYRUPS

Arthur Kael Rodrigues Pia¹, Juliana Silva Graça², Caio Henrique Tadashy Iwase², Caroline Heckler², Ursula Gonzales-Barron³, Vasco Cadavez³, Anderson Souza Sant’Ana³

¹Faculty of Pharmaceutical Sciences, University of Campinas, Campinas, Brazil. ²School of Food Engineering, University of Campinas, Campinas, Brazil. ³CIMO Mountain Research Centre, School of Agriculture, Polytechnic Institute of Braganza, Braganza, Portugal

DEVELOPMENT OF INTELLIGENT PACKAGING SOLUTIONS TO INCREASE RESOURCE EFFICIENCY IN COLD SUPPLY CHAINS

Claudia Waldhans¹, Antonia Albrecht¹, Rolf Ibald², Su-Jen Sy², Robert Paul Simon³, Markus Moest³, Pilar Krengel⁴, Guido Ritter⁴, Judith Kreyenschmidt¹,⁵

¹Institute of Animal Science, Cold Chain Management Group, University of Bonn, Bonn, Germany. ²Faculty of Retail and Logistics Management, European University of Applied Sciences Brühl, Brühl, Germany. ³Research Center for German and European Food Law, University of Bayreuth, Bayreuth, Germany. ⁴Institute of Sustainable Nutrition, University of Applied Sciences Münster, Münster, Germany. ⁵Department of Fresh Produce Logistics, Geisenheim University, Geisenheim, Germany

COMBINING PREDICTIVE SHELF LIFE MODELS WITH RAPID METHODS IN MEAT SUPPLY CHAINS

Martin Hebel¹,², Antonia Albrecht¹, Rene Breuch³, Ulrike Herbert³, Imke Korte¹, Ole Valler⁴, Verena Wörle⁵, Judith Kreyenschmidt¹,⁶

¹Institute of Animal Science, Cold Chain Management Group, University of Bonn, Bonn, Germany. ²Dr. Berns Laboratorium GmbH & Co. KG, Neukirchen-Vluyn, Germany. ³Institute of Safety and Security Research, Bonn-Rhein-Sieg University of Applied Sciences, Rheinbach, Germany. ⁴Faculty of Technology and Bionics, Rhine-Waal University of Applied Science, Kleve, Germany. ⁵FreshDetect GmbH, Pullach, Germany. ⁶Department of Fresh Produce Logistics, Geisenheim University, Geisenheim, Germany

POLYPHENOLOXIDASE AND PEROXIDASE KINETIC INACTIVATION IN COCONUT WATER UNDER DYNAMIC THERMAL AND THERMOSONICATION PROCESS

Mariana Matos Ribeiro¹, Tayná Márcia Teixeira Ferreira¹, Vasilis Valdramidis², Vanessa Rios de Souza¹,³

¹Universidade Federal de Lavras, Lavras, Brazil. ²University of Malta, Msida, Malta. ³University of Guelph, Guelph, Canada
PHOTODYNAMIC INACTIVATION OF Bacillus cereus SPORES: ESTIMATING THE INACTIVATION KINETIC PARAMETERS OF STRAINS FROM DIFFERENT SOURCES

Leonardo do Prado-Silva¹, Verônica O. Alvarenga², Gilberto U.L. Braga³, Anderson S. Sant’Ana¹

¹University of Campinas, Campinas, Brazil. ²Federal University of Minas Gerais, Belo Horizonte, Brazil. ³University of São Paulo, Ribeirão Preto, Brazil

KINETIC MODELLING OF MICROBIAL INACTIVATION OF SMOOTHIES BY HIGH HYDROSTATIC PRESSURE

Gerardo A. González-Tejedor, Alberto Garre, Asunción Iguaz, Alfredo Palop, Arantxa Aznar, Paula M. Periago, Francisco Artés-Hernández, Pablo S. Fernández

Universidad Politécnica de Cartagena, Cartagena, Spain

Oral Session 2: Predictive Modelling in Innovative Food Processing and Preservation Technologies

Time: 10:50 - 12:10
Date: 18th September 2019

ASSESSMENT OF ULTRASOUND EFFICACY BASED ON POPULATION AND SINGLE SPORE RESPONSES OF ALICYCLOBACILLUS ACIDOTERRESTRIS

Myrsini Kakagianni¹, Christina Chatzitzika², Kostantinos Koutsoumanis¹, Vasilis Valdramidis²

¹Department of Food Science and Technology, School of Agriculture, Faculty of Agriculture, Forestry and Natural Environment, Aristotle University of Thessaloniki, Thessaloniki, Greece. ²Department of Food Science and Nutrition, University of Malta, Msida, Malta

A SYSTEMATIC MULTISCALE COMPARATIVE STUDY OF THE COMBINED ANTIMICROBIAL EFFECTS OF COLD-ATMOSPHERIC PLASMA (CAP) AND NISIN AGAINST ESCHERICHIA COLI PLANKTONIC CELLS AND BIOFILMS

El Kadri Hani¹, Jorge Gutierrez-Merino², Philip Thomas³, Gavin Sandison⁴, Thomas Harle⁴, Thomas Wantock⁴, Andrea Lucca Fabris³, Eirini Velliou⁵

¹Bioprocess and Biochemical Engineering Group (BioProChem), Department of Chemical and Process Engineering, University of Surrey, Guildford, United Kingdom. ²School of Biosciences and Medicine, University of Surrey, Guildford, United Kingdom. ³Surrey Space Centre, University of Surrey, Guildford,
United Kingdom. 4. Fourth State Medicine Ltd, Haslemere, United Kingdom. 5. Bioprocess and Biochemical Engineering Group (BioProChem), Department of Chemical and Process Engineering, University of Surrey, Guildford, United Kingdom

34 -
MODELLING THE HEAT INACTIVATION OF S. NAPOLI AND E. HERBORATORIUM IN LOW MOISTURE FOODS
Joost Smid, Alejandro Amezquita, Guus Rijke, Christine van de Swaluw, Joerg Ueckert, Erik de Vries, Annemarie Pielaat
Unilever R&D, Vlaardingen, Netherlands

36 -
ANTIMICROBIAL PHOTODYNAMIC TREATMENT OF ORANGE (Citrus sinensis L. Osbeck) PEEL: Alicyclobacillus spp. INACTIVATION AND EFFECTS ON COLORIMETRIC CHARACTERISTICS
Leonardo do Prado-Silva1, Ana T. P. C. Gomes2, Mariana Q. Mesquita2, Maria G.P.M.S. Neves2, Maria A. F. Faustino2, Adelaide Almeida2, Gilberto U.L. Braga3, Anderson S. Sant'Ana1

1University of Campinas, Campinas, Brazil. 2University of Aveiro, Aveiro, Portugal. 3University of São Paulo, Ribeirão Preto, Brazil

66 -
DEVELOPMENT OF A FRESHINDEX AS PREDICTIVE SHELF LIFE INDICATOR FOR MA-PACKED PORK IN GERMAN SUPPLY CHAINS
Martin Hebel1, Antonia Albrecht1, Stephanie Krieger-Guess1, Baier Achim2, Matthias Brunner3, Judith Kreyenschmidt1

1Institute of Animal Science, University of Bonn, Bonn, Germany. 2arconsis IT Solutions GmbH, Karlsruhe, Germany. 3tsenso GmbH, Stuttgart, Germany

80 -
DESIGN OF CARVACROL-BASED ACTIVE PACKAGING FOR EXTENDING FRESH FISH SHELF-LIFE
Carlos Vilas1, Miguel Mauricio-Iglesias2, Míriam R. García1

1Process Engineering group. IIM-CSIC, Vigo, Spain. 2Department of Chemical Engineering, Univ. de Santiago de Compostela, Santiago de Compostela, Spain

OPENING SESSION OF THE ICPMF11
Time: 12:10 - 12:40
Date: 18th September 2019
Lunch
Time: 12:40 - 14:00
Date: 18th September 2019
Location: IPB Canteen

Time: 14:00 - 14:40
Date: 18th September 2019
Location: Auditório School of Technology

124 -
ESTIMATING PARAMETERS FROM DYNAMIC DATA: ADVANTAGES AND CHALLENGES
Kirk Dolan

Michigan State University, East Lansing, USA

Oral Session 3: Advances in Microbial Dynamics and Interactions
Time: 14:40 - 16:10
Date: 18th September 2019
Location: Auditório School of Technology

28 -
QUANTIFYING THE SYNERGISTIC EFFECTS OF NOVEL MICROBIAL INACTIVATION TECHNOLOGIES AND MICROSTRUCTURE ON THE STRESS ADAPTATION AND ANTIMICROBIAL RESISTANCE (AMR) OF LISTERIA IN MULTI-PHASE FOOD MODELS
Katherine Costello¹, Jorge Gutierrez-Merino², Madeleine Bussemaker¹, Cindy Smet³, Jan Van Impe³, Eirini Velliou⁴

¹Bioprocess and Biochemical Engineering Group (BioProChem), Department of Chemical and Process Engineering, University of Surrey, Guildford, United Kingdom. ²School of Biosciences and Medicine,
58 -
SPOILAGE INDICATORS IN FRESH PORK OR POULTRY SAUSAGES: EFFECTS OF MODIFIED ATMOSPHERE PACKAGING AND POTASSIUM LACTATE.
Ngoc-Du Martin LUONG¹, Sabine JEUGE², Louis COROLLER³, Carole FEURER⁴, Marie-Hélène DESMONTS⁵, Nicolas MORICEAU¹, Valérie ANTHOINE¹, Sophie GAVIGNET⁵, Adeline RAPIN⁵, Emeline ROBIEU², Monique ZAGOREC⁴, Jeanne-Marie MEMBRÉ⁴, Sandrine GUILLOU¹, Consortium REDLOSSES⁶

¹SECALIM, INRA, ONIRIS, Université Bretagne Loire, Nantes, France. ²IFIP, French Institute for the Pig and Pork Industry, Maison-Alfort, France. ³Université de Brest, Laboratoire Universitaire de Biodiversité et Ecologie Microbienne (LUBEM), UMT Alter’ix, Quimper, France. ⁴IFIP, French Institute for the Pig and Pork Industry, Le Rheu, France. ⁵Aerial, Parc d’Innovation, Illkirch, France. ⁶SECALIM, IFIP, LUBEM, MICALIS, ITAVI, MAIAGE, U.LIEGE, Nantes, France

88 -
EVALUATION OF NEGATIVE BINOMIAL MODEL TO DESCRIBE THE INACTIVATION KINETICS OF VEGETATIVE PATHOGENS IN THERMALLY PROCESSED LOW MOISTURE FOODS
Balasubrahmanyam Kottapalli, Tim Perez

Conagra Brands, Omaha, USA

96 -
IMPROVED PROBABILISTIC SIMULATIONS OF BACILLUS CEREUS GROUP III
Mariem Ellouze¹, Nathalia Buss Da Silva¹², Yvan Le Marc³, József Baranyi⁴

¹Nestlé, Lausanne, Switzerland. ²Federal University of Santa Catarina, Florianópolis, Brazil. ³ADRIA, Quimper, France. ⁴University of Debrecen, Debrecen, Hungary

97 -
INTEREST AND LIMITATION OF USING THE WEIBULL MODEL TO DESCRIBE AND QUANTIFY THE INACTIVATION KINETICS OF MICROORGANISMS
Ivan Leguerinel, Noémie Desriac, Olivier Couvert, Louis Coroller

Université de Brest, EA3882, Laboratoire Universitaire de Biodiversité et Ecologie Microbienne, UMT ACTIA 19.03 ALTER’IX, Quimper, France

103 -
A MATHEMATICAL APPROACH FOR INVESTIGATING THE EFFECT OF FOOD MATRIX ON THE BIO-PROTECTIVE CAPACITY OF Lactobacillus sakei CTC494 AGAINST Listeria monocytogenes IN READY-TO-EAT FISH PRODUCTS
Coffee Break and Poster Session 2

Time: 16:10 - 16:40
Date: 18th September 2019
Location: Hall

Poster Session 2: Advances in microbial dynamics and interactions, Ensuring safety of traditional foods, and Meta-analysis protocols and applications

26 - A MULTI-LEVEL ANALYSIS OF THE EFFECT OF FOOD MODEL SYSTEM MICROSTRUCTURE ON MICROBIAL DYNAMICS AND INTRA-SPECIES INTERACTIONS OF LISTERIA AND L. LACTIS

Katherine Costello¹, Jorge Gutierrez-Merino², Madeleine Bussemaker¹, Cindy Smet³, Jan Van Impe³, Eirini Velliou⁴

¹Bioprocess and Biochemical Engineering Group (BioProChem), Department of Chemical and Process Engineering, University of Surrey, Guildford, United Kingdom. ²School of Biosciences and Medicine, University of Surrey, Guildford, United Kingdom. ³Chemical and Biochemical Process Technology and Control Laboratory (BioTeC+), KU Leuven, Ghent, Belgium. ⁴a Bioprocess and Biochemical Engineering Group (BioProChem), Department of Chemical and Process Engineering, University of Surrey, Guildford, United Kingdom

90 - MODELLING THE BIOPROTECTION OF LACTOBACILLUS SAKEI CTC494 AGAINST LISTERIA MONOCYTOGENES IN COOKED HAM DURING REFRIGERATED STORAGE

Cristina Serra-Castelló¹, Jean Costa³, Anna Jofré¹, Araceli Bolívar³, Margarita Garriga¹, Fernando Pérez-Rodríguez³, Sara Bover-Cid¹
110 -
VARIABILITY OF BIOFILM FORMATION BY FIVE STRAINS OF BACILLUS CEREUS IN MONO AND CO-CULTURES ON STAINLESS STEEL AND POLYETHYLENE
Alexandra Chincha¹, Marianna Furtado², Beatriz Silva², Veronica Alvarenga²,³, Anderson Sant'Ana²
¹University of Campinas, Belo Horizonte, Brazil. ²University of Campinas, Campinas, Brazil. ³Federal University of Minas Gerais, Belo Horizonte, Brazil

125 -
effect of camu-camu (Myrciaria Dubia) powder on lipid oxidation and kinetics of salmonella typhimurium and spoilage bacteria in vacuum-packed ground beef
Jorge Luiz da Silva¹,², Jose Manuel Lorenzo³, Eduardo Eustáquio de Souza Figueiredo¹, Vasco Cadavez², Ursula Gonzales-Barron²
¹Universidade Federal de Mato Grosso, Cuiabá, Brazil. ²Centro de Investigação de Montanha, Escola Superior Agrária, Instituto Politécnico de Bragança, Bragança, Portugal. ³Meat Technology Centre Foundation of Galicia, Galicia, Spain

7 -
Effects of sugar concentration, temperature, and pH on the survival of Escherichia coli ATCC 25922 in the traditional local food amlou.
Youssef Ezzaky, Mariem Zanzan, Fouad Achemchem
High Institute of Technology, Agadir, Morocco

11 -
Validation via challenge test of a dynamic growth-death model for the prediction of Listeria monocytogenes kinetics in Pecorino di Farindola cheese.
Gabriella Centorotola, Romolo Salini, Anna Franca Sperandii, Diana Neri, Patrizia Tucci, Gino Angelo Santarelli, Violeta Di Marzio, Romina Romantini, Luca Candeloro, Annamaria Conte, Giacomo Migliorati, Francesco Pomilio, Luigi Iannetti
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", Teramo, Italy

75 -
Effect of yoghurt starter culture and nickel oxide nanoparticles on the activity of enterotoxigenic Staphylococcus aureus in Domiati cheese
Ahmed Abdel-Hameid Ahmed¹, Nagah Mohammed Saad Maharik¹, Antonio Valero², Sahar Mahmoud Kamal¹,²
83 -
EXTENSION OF THE MICROBIOLOGICAL SHELF LIFE OF REFRIGERATED VACUUM-PACKED TUSCAN SAUSAGE TREATED WITH ANTIMICROBIAL OREGANO (ORIGANUM VULGARE) AND ROSEMARY (ROSMARINUS OFFICINALIS) ESSENTIAL OILS
Vinicius Badia¹, Mari Silvia Oliveira², Alessandro Galvão¹, Weber Robazza¹, Denise Stolf³
¹Santa Catarina State University, Pinhalzinho/SC, Brazil. ²Santa Maria Federal University, Santa Maria/SC, Brazil. ³FAEM University, Chapecó/SC, Brazil

122 -
effect of physicochemical characteristics of lamb meat on its microbiological deterioration
Diogo Félix-Oliveira¹, Sara Coelho-Fernandes¹, José Manuel Lorenzo², Vasco Cadavez¹, Ursula Gonzales-Barron¹
¹CIMO Mountain Research Centre, School of Agriculture, Polytechnic Institute of Bragança, Bragança, Portugal. ²Meat Technology Centre Foundation of Galicia, Ourense, Spain

123 -
Microbial contamination of lamb carcasses and meat from autochthonous Portuguese breeds
Sara Coelho-Fernandes, Diogo Félix-Oliveira, Ursula Gonzales-Barron, Vasco Cadavez
CIMO Mountain Research Centre, School of Agriculture, Polytechnic Institute of Bragança, Bragança, Portugal

126 -
Characterising the fate of listeria monocytogenes in artisanal minas semi-hard cheese during ripening
Ursula Gonzales-Barron¹, Fernanda B. Campagnollo², Donald W. Schaffner³, Anderson S. Sant’Ana², Vasco Cadavez¹
¹CIMO Mountain Research Centre, Polytechnic Institute of Bragança, Bragança, Portugal. ²School of Food Engineering, University of Campinas, Campinas, São Paulo, Brazil. ³School of Environmental and Biological Sciences, Rutgers – The State University of New Jersey, New Brunswick, New Jersey, USA

41 -
Incidence of campylobacter in chicken along processing and retail: a meta-analysis approach
Veronica Ortiz Alvarenga\textsuperscript{1,2}, Leonardo Prado-Silva\textsuperscript{2}, Ursula Gonzales-Barron\textsuperscript{3}, Vasco Cadavez\textsuperscript{3}, Anderson Sant'Ana\textsuperscript{2}

\textsuperscript{1}Federal University of Minas Gerais, BELO HORIZONTE, Brazil. \textsuperscript{2}University of Campinas, Campinas, Brazil. \textsuperscript{3}Polytechnic Institute of Braganza, Braganza, Portugal

**114 -**

META-ANALYSIS AND META-REGRESSION INDICATE DYNAMIC PREVELANCE AND MODERATORS OF FOODBORNE PATHOGENS IN INDIGENOUS FERMENTED MILK IN AFRICA

Basirat Buys\textsuperscript{1}, Patrick Njage\textsuperscript{2}, Tarai Tasara\textsuperscript{3}, Elna Buys\textsuperscript{4}

\textsuperscript{1}University of Zurich, Pretoria, Switzerland. \textsuperscript{2}Technical University of Denmark, Copenhagen, Denmark. \textsuperscript{3}University of Zurich, Zurich, Switzerland. \textsuperscript{4}University of Pretoria, Pretoria, South Africa

**120 -**

A META-ANALYSIS ON HIGH-PRESSURE PROCESSING FOR *Salmonella* INACTIVATION IN ANIMAL AND VEGETAL PRODUCTS

Leonardo Prado-Silva\textsuperscript{1}, Verônica Alvarenga\textsuperscript{2}, Bruna Castro\textsuperscript{1}, Caroline Heckler\textsuperscript{1}, Ursula Gonzales-Barron\textsuperscript{3}, Vasco Cadavez\textsuperscript{3}, Anderson Sant'Ana\textsuperscript{1}

\textsuperscript{1}University of Campinas, CAMPINAS - SP, Brazil. \textsuperscript{2}Federal University of Minas Gerais, Belo Horizonte - MG, Brazil. \textsuperscript{3}Instituto Politécnico de Bragança, Bragança, Portugal

---

**Oral Session 4: Innovative Approaches for Ensuring Safety of Traditional Foods**

Time: 16:40 - 17:40
Date: 18th September 2019
Location: Auditório School of Technology

**107 -**

THE USE OF RISK-BASED MODELLING TOOLS FOR THE MANAGEMENT OF FOOD SAFETY IN THE FRENCH DAIRY SECTOR: A FEEDBACK

Fanny Tenenhaus-Aziza\textsuperscript{1}, Janushan Christy\textsuperscript{2}, Valérie Michel\textsuperscript{2}

\textsuperscript{1}CNIEL, Paris, France. \textsuperscript{2}Actalia, La Roche sur Foron, France

**69 -**

DETERIORATION AND SHELF LIFE TESTING OF “FOLERE DRINK” AN ARTISANAL SOFT DRINK FROM NORTHERN CAMEROON

Adamou BADAMASSI\textsuperscript{1}, DJOULDE DARMAN Roger\textsuperscript{2}
APPLICATION OF TERTIARY MODELS FOR PREDICTION OF *LISTERIA MONOCYTOGENES* GROWTH IN READY-TO-EAT MEALS SOLD IN SOUTH AFRICA.

Basirat Olaonipekun¹, Ranil Coorey², Elna Buys¹

¹University of Pretoria, Hatfield, South Africa. ²Curtin University, Perth, Australia

TAKING ADVANTAGE OF THE *SALMONELLA* INACTIVATION IN TRADITIONAL DRY-FERMENTED SAUSAGES TO DEFINE A CORRECTIVE STORAGE.

Cristina Serra-Castelló, Anna Jofré, Margarita Garriga, Sara Bover-Cid

IRTA, Food Safety Programme, Monells, Spain

PREDICTIVE MODELING OF SURVIVAL *ESCHERICHIA COLI* ATCC 25922 UNDER DIFFERENT CONCENTRATIONS OF ARGAN OIL, SUGAR AND PEPTONE USING RESPONSE SURFACE APPROACH.

Youssef Ezzaky, Mariem Zanzan, Fouad Achemchem

High Institute of Technology, Ibn Zohr University, Agadir, Morocco

OPTIMIZATION OF EXOPOLYSACCHARIDES PRODUCTION BY *LACTOCOCCUS LACTIS A2* USING CENTRAL COMPOSITE DESIGN

Mariem ZANZAN¹², Youssef Ezzaky¹, Fatima Hamadi², Fouad Achemchem¹

¹Bioprocess and Environment Team, LASIME Lab, High Institute of Technology (EST Agadir), Ibn Zohr University, Agadir, Morocco. ²Laboratory of Microbial Biotechnology and Plant Protection, Faculty of Sciences, Ibn Zohr University. 3Laboratory of Microbial Biotechnology and Plant Protection, Faculty of Sciences, Ibn Zohr University, Agadir, Morocco

---

**Round Table: Assuring the Safety of Traditional Foods: A Scientific Contribution to Protecting our Cultural Heritage**

Time: 17:40 - 18:40
Date: 18th September 2019
Location: Auditório School of Technology
THE ARTISANFOOD PROJECT: NOVEL STRATEGIES TO ENSURE THE QUALITY OF TRADITIONAL FOODS PRODUCED IN THE MEDITERRANEAN
Ursula Gonzales-Barron

CIMO Mountain Research Centre, Polytechnic Institute of Braganza, Braganza, Portugal

DECISION-MAKING TOOLS FOR QUALITY AND SAFETY MANAGEMENT OF TRADITIONAL FOODS: THE CASE OF SPANISH-STYLE TABLE OLIVES
Antonio Valero

Department of Food Science and Technology. University of Cordoba, Cordoba, Spain

The Eat-and-Mingle Party at the River
Time: 19:30 - 23:00
Date: 18th September 2019
Location: Parque Urbano do Fervença

Plenary Lecture 3: Big Data in Food Safety: Opportunities and Constraints (Dr. Hans Marvin)
Time: 8:40 - 9:20
Date: 19th September 2019
Location: Auditório School of Technology

BIG DATA IN FOOD SAFETY: OPPORTUNITIES AND CONSTRAINTS
Hans Marvin, Yamine Bouzembrak

Wageningen Food Safety Research, Wageningen, Netherlands

Oral Session 5: Advances in Software and Databases Tools
Time: 9:20 - 10:40
Date: 19th September 2019
Location: Auditório School of Technology
113 -
FRESHINDEX- THE DYNAMIC “BEST-BEFORE” DATE
Sarah Blanchard¹, Matthias Brunner²

¹METRO AG, Düsseldorf, Germany. ²tsenso GmbH, Stuttgart, Germany

20 -
FSSP v. 5.0 – A NEW SOFTWARE WITH PREDICTIVE MODELS FOR A RANGE OF DAIRY PRODUCTS
Paw Dalgaard¹, Brian J. Cowan², Veronica Martinez-Rios¹

¹National Food Institute (DTU Food), Technical University of Denmark, Kgs. Lyngby, Denmark. ²Anchor Lab KS, Copenhagen, Denmark

22 -
DETECT: A DATABASE OF MICROBIAL RESPONSE WITH AN EMPHASIS ON VARIABILITY AND UNCERTAINTY
Alberto Garre¹, Heidy M.W. den Besten², Marcel H. Zwietering²

¹Universidad Politecnica de Cartagena, Cartagena, Spain. ²Wageningen University, Wageningen, Netherlands

102 -
MICROHIBRO AS A SOFTWARE TOOL FOR ESTABLISHING RISK-BASED MICROBIOLOGICAL CRITERIA IN FOODS
Antonio Valero, Elena Carrasco, Guiomar Denisse Posada Izquierdo, Araceli Bolivar, Rosa Mª García Gimeno, Gonzalo Zurera, Fernando Pérez Rodríguez

Department of Food Science and Technology. University of Cordoba, Cordoba, Spain

134 -
PATHOGENS-IN-FOODS: A WEB APPLICATION TO ACCESS AND ANALYSE OCCURRENCE DATA OF MICROBIAL HAZARDS IN FOODS
Vasco Cadavez¹, Pauline Kooh², Moez Sanaa², Ursula Gonzales-Barron¹

¹CIMO Mountain Research Centre, Polytechnic Institute of Braganza, Braganza, Portugal. ²French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France

63 -
HOW MANY SAMPLES SHALL I TAKE? AN ANSWER BASED ON NUMERICAL SIMULATIONS AND INFORMATION THEORY
Alberto Garre¹, José L. Peñalver¹, Marta Clemente¹, Paula M. Periago¹, Pablo S. Fernández¹, Arantxa Aznar¹, Arturo Esnoz¹, Alfredo Palop¹, Jose A. Egea²
Coffee Break and Poster Session 3

Time: 10:40 - 11:10
Date: 19th September 2019
Location: Hall

Poster Session 3: Advances in software and databases tools, and Advances in risk assessment methods and integration of omics techniques

23 -
FSK2R: A NEW R LIBRARY TO SUPPORT FOOD SAFETY KNOWLEDGE MARKUP LANGUAGE (FSK-ML)
Alberto Garre¹, Jose-Lucas Peñalver-Soto¹, Miguel de Alba Aparicio², Jose A. Egea³, Pablo S. Fernandez¹, Matthias Filter²

¹Universidad Politécnica de Cartagena, Cartagena, Spain. ²Consejo Superior de Investigaciones Científicas (CEBAS-CSIC), Murcia, Spain

43 -
THE ONE HEALTH SURVEILLANCE CODEX – A HIGH-LEVEL FRAMEWORK TO FACILITATE EFFICIENT INFORMATION EXCHANGE ACROSS ONE HEALTH SECTORS
Tasja Buschhardt¹, Taras Guenther¹, Fernanda Dorea², Matthias Filter¹

¹German Federal Institute for Risk Assessment, Berlin, Germany. ²National Veterinary Institute, Uppsala, Sweden

65 -
DEVELOPMENT AND IMPLEMENTATION OF POLYNOMIAL AND GAMMA MODELS FOR LISTERIA GROWTH IN ROAST BEEF IN THE NEW LISTWARE TOOL
Taran Skjerdal¹, Lars Erik Gangsei², Ole Alvseiåke², Mariem Ellouze³, Anja Kristoffersen¹, Lena Haugland Moen¹, Ane Osland Mohr¹, Sigrun Hauge²

¹Norwegian Veterinary Institute, Oslo, Norway. ²Animalia, Oslo, Norway. ³Nestle, Lausanne, Switzerland

67 -
ENABLING EFFICIENT FOOD SAFETY KNOWLEDGE EXCHANGE WITH THE OPEN SOURCE SOFTWARE FSK-LAB
Ahmad Swaid, Miguel de Alba, Carolina Plaza-Rodriguez, Tasja Buschhardt, Lars Valentin, Octavio Mesa-Varona, Taras Günther, Matthias Filter

Federal institute for risk assessment, Berlin, Germany

68 - RISK ASSESSMENT MODELLING AND KNOWLEDGE INTEGRATION PLATFORM (RAKIP)

Virginie Desvignes ¹, Lars Valentin ², Laurent Guillon ¹, Moez Sanaa ¹, Maarten Nauta ³, Matthias Filter ²

¹ANSES, Maisons-Alfort, France. ²BfR, Berlin, Germany. ³DTU Food, Lyngby, Denmark

70 - MIRARAM: Minimum Information Required to Annotate a Food Safety Risk Assessment Model

Estibaliz Lopez de Abechuco ¹, Octavio Mesa Varona ¹, Tasja Buschhardt ¹, Marios Georgiadis ², Matthias Filter ¹

¹German Federal Institute for Risk Assessment (BfR), Berlin, Germany. ²European Food Safety Authority (EFSA), Parma, Italy

82 - FAUTHENT – AN OPEN SOURCE FRAMEWORK FOR DISTRIBUTED FOOD AUTHENTICITY DATA AND KNOWLEDGE MANAGEMENT

Lars Valentin ¹, Martin Horn ², Sven Böckelmann ³, Tim Bartram ⁴, Ralph Tröger ⁴, Susanne Esslinger ¹, Matthias Filter ¹, Thomas Hirsch ³

¹German Federal Institute for Risk Assessment (BfR), Berlin, Germany. ²University of Konstanz, Konstanz, Germany. ³benelog GmbH & Co. KG, Kerpen, Germany. ⁴GS1 Germany GmbH, Cologne, Germany

100 - DEVELOPMENT OF AN ON-LINE COLLABORATIVE FRAMEWORK FOR APPLYING AND SHARING PREDICTIVE MICROBIOLOGY AND QUANTITATIVE MICROBIAL RISK ASSESSMENT MODELS

Fernando Pérez-Rodríguez, Elena Carrasco, Araceli Bolivar, Rosa Maria Garcia-Gimeno, Gonzalo Zurera, Antonio Valero

University of Cordoba, Cordoba, Spain

3 - RAW DRINKING MILK: WHEN POTENTIAL HEALTH BENEFITS FACE THE FOODBORNE PATHOGENS – A RISK-BENEFIT STUDY

Ricardo Assunção ¹,²,³, Sara M. Pires ¹, Maarten Nauta ¹
A QUANTITATIVE MICROBIOLOGICAL EXPOSURE ASSESSMENT FOR POSITIVE COAGULASE STAPHYLOCOCCUS IN MAYONNAISE SAUCE AT FAST FOOD RESTAURANTS « PIZZERIAS »: CASE OF AIN TEMOUCHENT CITY, ALGERIA
Ziane Mohammed1,2, CHIKHI Ahlem1, Membré Jeanne-Marie3

1Centre universitaire de Ain Témouchent, Ain Témouchent, Algeria. 2LAMAABE, Tlemcen, Algeria. 3SECALIM, INRA, Oniris, Université Bretagne Loire, Nantes, France

QUANTITATIVE ASSESSMENT OF MICROBIOLOGICAL RISKS DUE TO RED MEAT CONSUMPTION IN FRANCE
Juliana De Oliveira Mota1, Fabrice Pierre2, Sandrine Guillou1, Jeanne-Marie Membré1

1SECALIM, INRA, Nantes, France. 2INRA, ToxAlim, Toulouse, France

APPLICATION OF THE MINION SEQUENCER IN RAPID IN-DEPTH CHARACTERIZATION OF CRONOBACTER SAKAZAKII ISOLATED FROM DAIRY BASE POWDER PROCESSING ENVIRONMENT
Yu Cao, Daniel Hurley, Qicheng Hao, Francis Butler

University College Dublin, Dublin, Ireland

CRITICAL ANALYSIS OF BEEF QUANTITATIVE MICROBIAL RISK ASSESSMENT MODELS
Vincent Tesson1, Michel Federighi1, Enda Cummins2, Juliana de Oliveira Mota1, Sandrine Guillou1, Géraldine Boué1

1UMR1014 SECALIM, INRA, Oniris, Nantes, France. 2UCD School of Biosystems and Food Engineering, Dublin, Ireland

MASSIVE OPEN ONLINE COURSE TO GLOBALLY ADDRESS LEARNING NEEDS ON THE USE OF METAGENOMICS IN ANTIMICROBIAL RESISTANCE SURVEILLANCE
Ana Sofia Ribeiro Duarte1, Katharina D. C. Stärk2, EFFORT consortium1,3,4, EFFORT consortium5,6, Tine Hald1
108 -
ANALYSIS OF A MOLECULAR PREDICTIVE MODEL FOR LACTIC ACID BACTERIA GROWTH IN BLOOD SAUSAGES
Wiaslan Martins¹,², Gláucia Aragão², Daniel Longhi³, Beatriz Melero⁴, Jordi Rovira⁴, Ana Diez⁴
¹Goiano Federal Institute of Education, Science and Technology (IF Goiano), Morrinhos, Brazil. ²Federal University of Santa Catarina, Florianópolis, Brazil. ³Federal University of Paraná, Jandaia do Sul, Brazil. ⁴University of Burgos, Burgos, Spain

112 -
QUANTITATIVE RISK ASSESSMENT OF FUMONISINS IN CORN PRODUCED IN DIFFERENT REGIONS OF BRAZIL: INFLUENCE OF CLIMATIC CONDITIONS
Leticia dos Santos Lopes¹, Veronica Ortiz Alvarenga²,³, Fernanda Bovo Campagnollo³, Syllas Borburema Silva Oliveira³, Anderson de Souza Sant’Ana³
¹Embrapa Swine and Poultry, Concordia, Brazil. ²Federal University of Minas Gerais, Belo Horizonte, Brazil. ³University of Campinas, Campinas, Brazil

116 -
NEXT GENERATION SEQUENCING WORKFLOW APPLIED TO FOOD AUTHENTICITY AND SAFETY - A COMMERCIAL CASE
Cristina Barbosa¹, Franck Pandiani²
¹SGS Molecular, Lisbon, Portugal. ²SGS Molecular, Arcueil, France

118 -
THE IMPACT OF A MICROBIAL REDUCTION TREATMENT ON THE RISK OF HUMAN SALMONELLOSIS FROM THE CONSUMPTION OF ALMONDS, PECANS, PISTACHIOS AND WALNUTS IN THE UNITED STATES: A COMPARISON
Sofia Santillana Farakos¹, Regis Pouillot², Gordon Davidson¹, Rhoma Johnson¹, Judith Spungen¹, Insook Son¹, Nathan Anderson³, Jane Van Doren¹
¹US FDA, College Park, USA. ²Independent Consultant, Buenos Aires, Argentina. ³US FDA, Bedford Park, USA
Oral Session 6: Meta-Analysis Protocols and Applications

Time: 11:10 - 12:30
Date: 19th September 2019
Location: Auditório School of Technology

40 -
A VARIETY OF VEGETATIVE BACTERIAL PATHOGENS SEEMS TO HAVE SIMILAR THERMAL RESISTANCE, AS BETWEEN-SPECIES VARIABILITY IS MUCH LOWER THAN WITHIN-SPECIES VARIABILITY

J. Hein M. van Lieverloo¹², Marjon H.J. Wells-Bennik³, Heidy M.W. den Besten⁴, Marcel H. Zwietering⁴

¹Food Technology, HAS University of Applied Sciences, 's-Hertogenbosch, Netherlands. ²Viaeterna, Rosmalen, Netherlands. ³NIZO, Ede, Netherlands. ⁴Food Microbiology, Wageningen University, Wageningen, Netherlands

121 -
A SQUARE-ROOT META-REGRESSION MODEL DESCRIBING THE GROWTH OF LISTERIA MONOCYTOGENES IN MEAT

Ursula Gonzales-Barron¹, Beatriz Nunes Silva¹², Mariem Ellouze², Vasco Cadavez¹

¹CIMO Mountain Research Centre, School of Agriculture, Polytechnic Institute of Braganza, Braganza, Portugal. ²Nestlé Research Centre, PO BOX44, CH-1000, Lausanne, Switzerland

99 -
DEVELOPMENT OF A GENERAL MODEL TO DESCRIBE SALMONELLA SPP. GROWTH IN CHICKEN MEAT SUBJECTED TO DIFFERENT TEMPERATURE PROFILES

Tatiane Milkievicz¹, Vinicius Badia¹, Daniel Longhi², Denise Stolf³, Alessandro Galvão¹, Weber Robazza¹

¹Santa Catarina State University, Pinhalzinho/SC, Brazil. ²Paraná Federal University, Jandaia do Sul/PR, Brazil. ³UCEFF University, Chapecó/SC, Brazil

60 -
SENSORY EVALUATION OF SEAFOOD FRESHNESS USING THE QUALITY INDEX METHOD: A SYSTEMATIC REVIEW USING META-ANALYSIS

Eduardo Esteves¹², Jaime Aníbal¹³

¹ISE Universidade do Algarve, Faro, Portugal. ²CCMAR Centro de Ciências do Mar, Faro, Portugal. ³Centro de Investigação Marinha e Ambiental (CIMA), Faro, Portugal
127 -
META-ANALYSIS OF RISK FACTORS FOR TWO FOODBORNE VIRAL DISEASES: NOROVIRUS AND HEPATITIS E VIRUS
Anne Thebault\textsuperscript{1}, Ursula Gonzales-Barron\textsuperscript{2}, Vasco Cadavez\textsuperscript{2}, Pauline Kooh\textsuperscript{1}, Moez Sanaa\textsuperscript{1}, Nicole Pavio\textsuperscript{3}

\textsuperscript{1}French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France. \textsuperscript{2}CIMO Mountain Research Centre, Polytechnic Institute of Braganza, Braganza, Portugal. \textsuperscript{3}UMR 1161 Virologie, ANSES LSAn, ENVA, INRA, Maisons-Alfort, France

128 -
META-ANALYSIS OF RISK FACTORS FOR SPORADIC INFECTIONS CAUSED BY TWO FOODBORNE PARASITES: \textit{TOXOPLASMA GONDII} AND \textit{GIARDA INTESTINALIS}
Pauline Kooh\textsuperscript{1}, Anne Thebault\textsuperscript{1}, Ursula Gonzales-Barron\textsuperscript{2}, Vasco Cadavez\textsuperscript{2}, Moez Sanaa\textsuperscript{1}, Isabelle Villena\textsuperscript{3}

\textsuperscript{1}French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France. \textsuperscript{2}CIMO Mountain Research Centre, Polytechnic Institute of Braganza, Braganza, Portugal. \textsuperscript{3}Centre Hospitalier Universitaire de Reims, Reims, France

129 -
META-ANALYSIS OF RISK FACTORS FOR SPORADIC CAMPYLOBACTERIOSIS AND LISTERIOSIS
Laurent Guillier\textsuperscript{1}, Philippe Fravalo\textsuperscript{2}, Alexand Leclercq\textsuperscript{3}, Pauline Kooh\textsuperscript{1}, Anne Thébault\textsuperscript{1}, Vasco Cadavez\textsuperscript{4}, Ursula Gonzales-Barron\textsuperscript{4}, Moez Sanaa\textsuperscript{1}

\textsuperscript{1}French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France. \textsuperscript{2}Research Chair in Meat-Safety (CRSV), Faculty of Veterinary Medicine, University of Montreal, Saint-Hyacinthe, Canada. \textsuperscript{3}Institut Pasteur, Biology of Infection Unit, National Reference Centre and WHO Collaborating Centre for Listeria, Paris, France. \textsuperscript{4}CIMO Mountain Research Centre, Polytechnic Institute of Braganza, Braganza, Portugal

---

**Lunch**

Time: 12:30 - 14:00  
Date: 19th September 2019  
Location: IPB Canteen

---

**Plenary Lecture 4: Integrating Next Generation Sequencing into Microbial Risk Assessments (Prof. Francis Butler)**

Time: 14:00 - 14:40
132 -
INTEGRATING NEXT GENERATION SEQUENCING INTO MICROBIAL RISK ASSESSMENTS
Francis Butler
UCD School of Biosystems and Food Engineering, University College Dublin, Dublin, Ireland

Oral Session 7: Advances in Risk assessment Methods and Integration of Omics Techniques
Time: 14:40 - 16:10
Date: 19th September 2019
Location: Auditório School of Technology

4 -
INCORPORATION OF WHOLE-GENOME SEQUENCING DATA IN EXPOSURE ASSESSMENT: MACHINE LEARNING AND NETWORK-ANALYSIS APPROACHES
Patrick Murigu Kamau Njage\textsuperscript{1}, Pimlapas Leekitcharoenphon\textsuperscript{1}, Ana-Rita Bastos Rebelo\textsuperscript{1}, Lisbeth Truelstrup Hansen\textsuperscript{1}, Rene Hendriksen\textsuperscript{1}, Matteo Bersanelli\textsuperscript{2}, Ettore Mosca \textsuperscript{3}, Tine Hald\textsuperscript{1}

\textsuperscript{1}National Food Institute, Technical University of Denmark, Lyngby, Denmark. \textsuperscript{2}Department of Physics and Astronomy, University of Bologna, Bologna, Italy. \textsuperscript{3}Institute of Biomedical Technologies, National Research Council, Rome, Italy

52 -
USING NEXT GENERATION SEQUENCING TO TRACK THE OCCURRENCE OF CRONOBACTER IN A DAIRY POWDER INGREDIENT PRODUCTION FACILITY
Qicheng Hao, Francis Butler, Friedrich von Westerholt
UCD Centre for Food Safety, Dublin, Ireland

61 -
MODELLING THE TRANSMISSION OF ANTIMICROBIAL RESISTANCE BETWEEN ANIMALS AND HUMANS USING METAGENOMICS
Ana Sofia Ribeiro Duarte, Timo Röder, Patrick Munk, Thomas N. Petersen, Tine Hald
Technical University of Denmark, Kongens Lyngby, Denmark
117 -
A FRAMEWORK TO EVALUATE THE IMPACT OF FOOD INTAKE SHIFTS ON RISK OF ILLNESS USING A CASE STUDY WITH INFANT CEREAL
Sofia Santillana Farakos\textsuperscript{1}, Regis Pouillot\textsuperscript{2}, Judith Spungen\textsuperscript{1}, Brenna Flannery\textsuperscript{1}, Laurie Dolan\textsuperscript{1}, Jane Van Doren\textsuperscript{1}

\textsuperscript{1}US FDA, College Park, USA. \textsuperscript{2}Independent Consultor, Buenos Aires, Argentina

50 -
IMPACT OF CONSUMER BEHAVIOUR ON RISK TO HUMAN HEALTH FROM DRINKING RAW MILK
Sarah Pirikahu\textsuperscript{1}, Tanya Soboleva\textsuperscript{2}, Beverley Horn\textsuperscript{1}, Peter Cressey\textsuperscript{1}

\textsuperscript{1}Institute of Environmental Science and Research (ESR), Christchurch , New Zealand. \textsuperscript{2}Ministry for Primary Industries (MPI), Wellington, New Zealand

85 -
A QUANTITATIVE EXPOSURE ASSESSMENT MODEL FOR \textit{Listeria monocytogenes} IN SLICED FERMENTED SAUSAGES DURING PRODUCTION AND DISTRIBUTION CHAIN
Arícia Possas\textsuperscript{1}, Vasilis Valdramidis\textsuperscript{2}, Rosa María García-Gimeno\textsuperscript{1}, Fernando Pérez-Rodríguez\textsuperscript{1}

\textsuperscript{1}University of Córdoba, Córdoba, Spain. \textsuperscript{2}University of Malta, Msida, Malta

106 -
PROBABILISTIC RISK MODEL OF NOROVIRUS TRANSMISSION DURING HANDLING AND PREPARATION OF FRESH PRODUCE IN SCHOOL FOODSERVICE OPERATIONS
Araceli Bolívar\textsuperscript{1}, Junehee Kwon\textsuperscript{2}, Kevin Sauer\textsuperscript{2}, Dojin Ryu\textsuperscript{3}, Ewen Todd\textsuperscript{4}, Fernando Pérez-Rodríguez\textsuperscript{1}

\textsuperscript{1}University of Cordoba, Córdoba, Spain. \textsuperscript{2}Kansas State University, Manhattan, USA. \textsuperscript{3}University of Idaho, Moscow, USA. \textsuperscript{4}Ewen Todd Consulting, Okemos, USA

Coffee Break and Poster Session 4

Time: 16:10 - 16:40
Date: 19th September 2019
Location: Hall

Poster Session 4: Predictive modelling in food quality and safety, and Predictive mycology
18 -
SCREENING OF DIFFERENT CONDITIONS LEADING TO THE EXOPOLYSACCHARIDES PRODUCTION BY ENTEROCOCCUS FAECIUM F58
Mariem ZANZAN\textsuperscript{1,2}, Youssef EZZAKY\textsuperscript{1}, Fatima HAMADI\textsuperscript{2}, Fouad ACHMCHEM\textsuperscript{1}

\textsuperscript{1}Bioprocess and Environment Team, LASIME Lab, High Institute of Technology (EST Agadir), Ibn Zohr University, Agadir, Morocco. \textsuperscript{2}Laboratory of Microbial Biotechnology and Plant Protection, Faculty of Sciences, Ibn Zohr University, Agadir, Morocco

33 -
INTEGRATION OF \textit{Listeria} spp. GROWTH RATE VARIABILITY AND THE TEMPERATURE DISTRIBUTION IN DOMESTIC SCENARIO TO PREDICT THE CHANGES OF SHELF LIFE
Elena Dalzini\textsuperscript{1,2}, Elena Cosciani-Cunico\textsuperscript{1}, Stefania Calò\textsuperscript{1}, Silvia Todeschi\textsuperscript{1}, Paola Monastero\textsuperscript{1}, Marina-Nadia Losio\textsuperscript{1}, Giorgio Varisco\textsuperscript{1}, Paolo Daminelli\textsuperscript{1}

\textsuperscript{1}Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna, Brescia, Italy. \textsuperscript{2}National Reference Centre for Emerging Risks in Food Safety, Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna “B. Ubertini”, Milan, Italy

45 -
NON-INVASIVE MULTISPECTRAL IMAGE ANALYSIS FOR THE ASSESSMENT OF SPOILAGE IN POULTRY PRODUCTS
Evgenia Spyrelli\textsuperscript{1}, Agapi Doulgeraki\textsuperscript{2}, Anthoula Argyri\textsuperscript{2}, Chrysoula Tassou\textsuperscript{2}, Efstathios Panagou\textsuperscript{1}, George-John Nychas\textsuperscript{1}

\textsuperscript{1}Agricultural University of Athens, Department of Food Science and Human Nutrition, Laboratory of Microbiology and Biotechnology of Foods, Athens, Greece. \textsuperscript{2}Hellenic Agricultural Organisation "Demeter", Institute of Technology of Agricultural Products, Lykovrissi, Greece

46 -
RAPID QUALITY ASSESSMENT OF POULTRY PRODUCTS USING AT-LINE MULTISPECTRAL IMAGING (MSI)
Evgenia Spyrelli\textsuperscript{1}, Agapi Doulgeraki\textsuperscript{2}, Anthoula Argyri\textsuperscript{2}, Chrysoula Tassou\textsuperscript{2}, Efstathios Panagou\textsuperscript{1}, George-John Nychas\textsuperscript{1}

\textsuperscript{1}Agricultural University of Athens, Department of Food Science and Human Nutrition, Laboratory of Microbiology and Biotechnology of Foods, Athens, Greece. \textsuperscript{2}Hellenic Agricultural Organisation "Demeter", Institute of Technology of Agricultural Products, Lykovrissi, Greece

47 -
OPTIMIZATION OF BENZALKONIUM CHLORIDE TREATMENT IN THE DISINFECTION OF \textit{LISTERIA MONOCYTGENES} IN THE FOOD INDUSTRY
Laura Honrubia\textsuperscript{1,2}, Marta L. Cabo\textsuperscript{1}, Eva Balsa-Canto\textsuperscript{2}, Miriam R. García\textsuperscript{2}
COMBINATION OF FINITE ELEMENTS METHOD (FEM) AND KINETIC MODELS TO SIMULATE MICROBIAL INACTIVATION DURING COOKING OF A SOLID FOOD PRODUCT

Marta Clemente¹, Francisco N. Pérez², Asunción Iguaç¹, Francisco Sánchez², Paula M. Periago¹, Pablo S. Fernández², Arturo Esnoz¹, José A. Egea³, Alfredo Palop¹, Alberto Garre¹

¹Universidad Politécnica de Cartagena, Cartagena, Spain. ²Lynx Simulations S.L., Bullas, Spain. ³Centro de Edafología y Biología Aplicada del Segura - CSIC, Murcia, Spain

PROFILE LIKELIHOOD-BASED PREDICTION CONFIDENCE INTERVALS USING QUASI-MONTE CARLO

Marjan Mozaffarilegha¹, Matthias Brunner¹, Christian Fleck²

¹tsenso GmbH, Stuttgart, Germany. ²ETH, Zürich, Switzerland

EFFECT OF MICROBIAL SANITIZERS AND SILVER NANOPARTICLES ON ERADICATION OF LISTERIA MONOCYTOGENES AND SALMONELLA BIOFILMS

Sahar Mahmoud¹, Liliana Pérez-Lavalle²,³, Elena Carrasco³, Denisse Posada-Izquierdo³, Manuel Cejudo³, Antonio Valero³

¹Assiut University, Assiut, Egypt. ²Simón Bolívar University, Barranquilla, Colombia. ³University of Cordoba, Cordoba, Spain

PARTIAL SUBSTITUTION OF WHEAT FLOUR WITH MESQUITE FLOUR FOR TEXTURAL QUALITY AND SHELF LIFE IMPROVEMENT OF THE TRADITIONAL BRAGANZA BREAD

Rody Dijkshoorn¹, Maikel Maloncy¹, Vasco Cadavez², Ursula Gonzales-Barron²

¹The Hague University of Applied Sciences, The Hague, Netherlands. ²CIMO Mountain Research Centre, Polytechnic Institute of Bragança, Bragança, Portugal

EVOLUTION OF LAMB MEAT QUALITY TRAITS UNDER PROLONGED VACUUM STORAGE

Gisela Rodrigues¹, Jose Lorenzo³, Ursula Gonzales-Barron³, Vasco Cadavez²

¹CIMO Mountain Research Centre, Bragança, Portugal. ²Meat Technology Centre Foundation of Galicia, Ourense, Spain
38 -
GROWTH KINETICS OF THREE *SACCHAROMYCES CEREVISIAE* STRAINS USED IN FERMENTATION PROCESSES IN THE PRESENCE OF DIFFERENT OCHRATOXIN A CONCENTRATIONS
Luísa Freire, Marianna M. Furtado, Tatiane M. Guerreiro, Juliana S. da Graça, Beatriz S. da Silva, Diogo N. Oliveira, Rodrigo R. Catharino, Anderson S. Sant’Ana
State University of Campinas, Campinas, Brazil

48 -
AN APPROACH TO PROVIDE SAFE RECOMMENDATIONS TO THE CONSUMERS WITH RESPECT TO MOLDY PRODUCTS
Monika Coton, Arnaud Auffret, Elisabeth Poirier, Stella Debaets, Emmanuel Coton, Philippe Daantigny
LUBEM, Brest, France

73 -
MODELING THE ANTIFUNGAL ACTIVITY OF MEXICAN OREGANO (*LIPPIA BERLANDIERI SCHAUER*) ESSENTIAL OIL INCORPORATED TO ALGINATE EDIBLE FILMS IN TOMATO STEMS
Ricardo H Hernández-Figueroa, Nelly Ramírez-Corona, María Teresa Jiménez-Munguía, Enrique Palou, Aurelio López-Malo
Universidad de las Américas Puebla, Cholula, Mexico

93 -
MODELING ASCOSPORES INACTIVATION OF *Byssochlamys nivea* AND *Byssochlamys fulva* IN CLARIFIED APPLE JUICE BY UV- C LIGHT
Natielle Maria Costa Menezes, Beatriz Oliveira Ortiz, Carine Shizuka Kudo, Agenor Furigo Junior, Gláucia Maria Falcão de Aragão
Federal University of Santa Catarina, Florianópolis, Brazil

ICPMF Announcements
Time: 16:40 - 17:00
Date: 19th September 2019
Location: Auditório School of Technology
Oral Session 8: Predictive Modelling in Food Quality and Safety

Time: 17:00 - 18:10  
Date: 19th September 2019  
Location: Auditório School of Technology

101 -  
MULTI-CRITERIA ANALYSIS APPROACH CONSIDERING FOOD SAFETY, FOOD WASTE AND ENERGY CONSUMPTION: APPLICATION TO PRODUCTION PROCESS OF PUFF PASTRY  
Steven Duret\textsuperscript{1}, Laurent Guillier\textsuperscript{2}, Erwann Hamon\textsuperscript{3}, Hong-Minh Hoang\textsuperscript{1}, Evelyne Derens-Bertheau\textsuperscript{1}, Jean-Christophe Augustin\textsuperscript{2,4}, Anthony Delahaye\textsuperscript{1}, Onrawee Laguerre\textsuperscript{1}, Valérie Stahl\textsuperscript{3}  
\textsuperscript{1}Irstea, Antony, France. \textsuperscript{2}Anses, Maisons-Alfort, France. \textsuperscript{3}Aérial, Illkirch, France. \textsuperscript{4}ENVA, Maisons-Alfort, France

12 -  
A GENERIC MODEL SYSTEM FOR COLLECTING DATA TO PREDICT MICROBIAL SPOILAGE OF COMMERCIALPACKAGED FRESH-CUT VEGETABLE SALADS USING TEMPERATURE AND IN-PACKAGE CO\textsubscript{2} LEVELS AS PREDICTORS VARIABLES  
ANASTASIA KAPETANAKOU, PANAGIOTIS SKANDAMIS  
AGRICULTURAL UNIVERSITY OF ATHENS, ATHENS, Greece

32 -  
LATENT DIRICHLET ALLOCATION IN FOOD SPOILAGE ANALYSIS: A CASE STUDY WITH ATLANTIC SALMON (SALMO SALAR)  
Lotta Kuuliala\textsuperscript{1,2}, Raúl Pérez-Fernández\textsuperscript{2}, Mengzi Tang\textsuperscript{2}, Bernard De Baets\textsuperscript{2}, Frank Devlieghere\textsuperscript{3}  
\textsuperscript{1}Department of Food Technology, Safety and Health / Ghent University, Ghent, Belgium. \textsuperscript{2}Department of Data Analysis and Mathematical Modelling / Ghent University, Ghent, Belgium

44 -  
PRACTICAL APPLICATION OF PREDICTIVE MODELS FOR MEAT PRODUCTS - CHALLENGES AND OPPORTUNITIES  
Antonia Albrecht\textsuperscript{1}, Martin Hebel\textsuperscript{1,2}, Ulrike Herbert\textsuperscript{2}, Claudia Waldhans\textsuperscript{1}, Imke Korte\textsuperscript{1}, Sophia Dohlen\textsuperscript{1}, Judith Kreyenschmidt\textsuperscript{3}  
\textsuperscript{1}Institute of Animal Science, University of Bonn, Bonn, Germany. \textsuperscript{2}Dr. Berns Laboratorium GmbH & Co. KG, Neukirchen-Vluyn, Germany. \textsuperscript{3}Department of Fresh Produce Logistics, Geisenheim University, Geisenheim, Germany
86 - PREDICTING THE EFFECT OF CARVACROL ON THE EFFLUX PUMP ACTIVITY IN *ESCHERICHIA COLI*

Anna Jánosity¹, Anja Klančnik², Gabriella Kiskó¹, Sonja Smole Možina², József Baranyi³

¹Szent István University, Department of Microbiology and Biotechnology, Budapest, Hungary. ²University of Ljubljana, Department of Food Science and Technology, Ljubljana, Slovenia. ³University of Debrecen, Institute of Nutrition, Debrecen, Hungary

15 - STOCHASTIC EVALUATION FOR SURVIVAL BACTERIAL NUMBERS AND THE TIME-TO-INACTIVATION BY USING WEIBULL MODELLING AND MONTE CARLO SIMULATION

Satoko Hiura, Kento Koyama, Hiroki Abe, Shige Koseki

Agricultural and Food Process Engineering Laboratory, Research Faculty of Agriculture, Hokkaido University, Sapporo, Japan

---

**Gala Dinner at the Castle**

Time: 19:30 - 23:30  
Date: 19th September 2019  
Location: Braganza Castle

---

**Plenary Lecture 5: Challenges and Opportunities in Quantitative Microbial Risk Assessments for Viruses (Prof. Donald Schaffner)**

Time: 9:00 - 9:40  
Date: 20th September 2019  
Location: Auditório School of Technology

---

119 - KEYNOTE LECTURE: CHALLENGES AND OPPORTUNITIES IN QUANTITATIVE MICROBIAL RISK ASSESSMENTS FOR VIRUSES

Donald Schaffner, Robyn Miranda

Rutgers University, New Brunswick, USA
Oral Session 9: Predictive mycology

Time: 9:40 - 10:40
Date: 20th September 2019
Location: Auditório School of Technology

95 - MODELLING THE INACTIVATION OF Neosartorya fischeri ASCOSPORES IN CLARIFIED APPLE JUICE BY DIFFERENT ULTRAVIOLET RADIATION INTENSITY

Natielle Maria Costa Menezes, Beatriz Oliveira Ortiz, Charles Kautzmann, Agenor Furigo Junior, Gláucia Maria Falcão Aragão

Federal University of Santa Catarina, Florianópolis, Brazil

49 - A BIGELOW-TYPE META-REGRESSION MODEL DESCRIBING THE HEAT RESISTANCE OF TALAROMYCES SPORES

Veronica Alvarenga¹, Leonardo Prado-Silva², Vasco Cadavez³, Ursula Gonzales-Barron⁴, Anderson Sant’Ana²

¹Federal University of Minas Gerais, Belo Horizonte, Brazil. ²University of Campinas, Campinas, Brazil. ³Polytechnic Institute of Braganza, Braganza, Portugal

77 - EFFECT OF 70% ETHANOL SOLUTION ON THE INACTIVATION OF FOUR STRAINS OF PENICILLIUM BIFORME: IMPACT OF THE PHYSIOLOGICAL STATE OF THE CONIDIA

Vincent Visconti, Karim Rigalma, Emmanuel Coton, Philippe Dantigny

Université de Brest, EA 3882, Laboratoire Universitaire de Biodiversité et Ecologie Microbienne, UMT ALTER’iX, ESIAB, Technopôle Brest-Iroise, Plouzané, France

13 - MODELLING OF THE EFFECT OF GRAIN STEEPING DEGREE, AND WHEAT GERMINATION TEMPERATURE AND TIME ON AFLATOXIN PRODUCTION BY ASPERGILLUS FLAVUS DURING WHEAT MALTING FOR CRAFT BEER

Marciane Magnani¹, Marta Hiromi Taniwaki², Donald Schaffner³, Marciane Magnani⁴

¹Federal Institute of Education, Science and Technology of Rondônia, João Pessoa, Brazil. ²Food Technology Institute, Campinas, Brazil. ³The State University of New Jersey, New Brunswick, USA. ⁴Federal University of Paraíba, João Pessoa, Brazil
84 - RISK ASSESSMENT MODELLING OF PASTEURIZED FRUIT PUREES SPOILAGE BY HEAT RESISTANT MOULDS (HRMS)

Juliana L. P. Santos¹, Jeanne-Marie Membre², Simbarashe Samapundo¹, Liesbeth Jacxsens¹, Jan Van Impe³, Anderson S. Sant’Ana⁴, Frank Devlieghere¹

¹Ghent University, Ghent, Belgium. ²SECALIM, INRA, Oniris, Nantes, France. ³University of Leuven, Ghent, Belgium. ⁴University of Campinas, Campinas, Brazil

Coffee Break

Time: 10:40 - 11:00
Date: 20th September 2019
Location: Hall

Session 10: Individual Cell and Whole Cell Modelling

Time: 11:00 - 11:50
Date: 20th September 2019
Location: Auditório School of Technology

14 - OPTIMIZED EXPERIMENTAL DESIGN TO STUDY THE PROBABILITY OF GROWTH OF INDIVIDUAL BACTERIAL CELLS

Nathália Buss da Silva¹, Bruno Augusto Mattar Carciofi¹, Mariem Ellouze², József Baranyi³

¹Department of Chemical and Food Engineering, Federal University of Santa Catarina, Florianópolis, Brazil. ²Nestlé Research Center, Lausanne, Switzerland. ³Institute of Nutrition, University of Debrecen, Debrecen, Hungary

19 - DEVELOPMENT AND VALIDATION OF CALCULATION FRAMEWORK FOR STOCHASTIC PREDICTION OF SURVIVAL SPORE BEHAVIOUR DURING ISOTHERMAL AND NON-ISOTHERMAL INACTIVATION PROCESS WITH SECOND-ORDER MONTE CARLO SIMULATION BASED ON A NONPARAMETRIC BOOTSTRAP METHOD

Hiroki Abe, Kento Koyama, Kohei Takeoka, Shinya Doto, Shuso Kawamura, Shige Koseki

Agricultural and Food Process Engineering Laboratory, Research Faculty of Agriculture, Hokkaido University, Sapporo, Japan
27 - MULTIPARAMETRIC CHARACTERIZATION OF THE MICROENVIRONMENT OF FOODSTUFFS BY NUCLEAR MAGNETIC RESONANCE (NMR): THE PROS WITHOUT THE CONS OF TARGETED ANALYSES APPLIED FOR PREDICTIVE MICROBIOLOGY PURPOSES
Raphaël RECHT, Lysiane FOUGY, Valérie STAHL, Erwann HAMON
Aerial, Illkirch, France

71 - DETERMINATION OF GROWTH PROBABILITY AND LAG TIME AT SINGLE-CELL LEVEL BY THE USE OF AN AUTOMATED MICROSCOPY METHOD
Lena Fritsch¹, Adrienne Lintz², Abirami Baleswaran¹, Bernard Hézard², Erwann Hamon², Hélène Bergis³, Jean-Christophe Augustin³, Laurent Guillier¹, Valérie Stahl²
¹Anses, Maisons-Alfort, France. ²Aérial, Illkirch, France. ³Ecole Nationale Vétérinaire d'Alfort, Maisons-Alfort, France

Closing Session
Time: 11:50 - 12:20
Date: 20th September 2019
Location: Auditório School of Technology
ICFMH's Developing Scientist Best Poster Awards
Elsevier's Young Researcher Best Oral Presentation Awards
Closing Congress

Lunch
Time: 12:20 - 13:00
Date: 20th September 2019
Location: Hall