

Final Program



3 – 6 April 2022
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General Information

1.1 Conference Location

The FOODSIM'2022- SCIFI-IT'2022 Conference itself is held at



University of Leuven/Campus Ghent

BUILDINGS L/M - ROOMS L226 and M228

Gebroeders de Smetstraat 1
9000 Ghent

Tel: +32.9 265 86 10

Email: biftec@kuleuven.be

See the Campus map for more info at the back of the programme.

The meeting rooms are in buildings M & L located to the LEFT of the main entrance of the campus. (the way to the meeting rooms will be signposted) Registration will start on Sunday at 4.00 p.m. and end at 5.30 p.m. On Monday from 8.00 a.m. till 5.00 p.m. On Tuesday from 8.30 a.m. till 5.00 p.m. On Wednesday from 9.00 a.m. till 12.30 p.m. The registration desk will be located in front of room **L226** on the same level as the meeting rooms in **Building L/M**.

Reaching the University of Leuven – Campus Ghent

By Plane:

Ghent lies some 40 km to the west of the airport of Brussels and some 70 kms from Charleroi-(Brussels South Airport) if you fly Ryanair. See below how to get reach Ghent from these different airports.

On arrival at Brussels Airport, probably with Brussels Airlines take a train towards Brussels, where you can change trains for Ghent at either Brussels North, Central or South (Midi). At each of these stations you can take the IC-Train either to Ostend, Knokke-Blankenberge or De Panne and exit in Ghent Sint-Pieters station. First stop after Brussels. (travel time approx. 35 mins)

From Charleroi airport you can take a bus to Charleroi Station. From there you take the train to Brussels South and change trains there for Ghent. At this station you can take the IC-Train either to Ostend, Knokke-Blankenberge or De Panne and exit in Ghent Sint-Pieters station. First stop after Brussels. (travel time approx. 35 mins)

By Train:

From Germany see the German Railway Information Site and also check the information on the ICE train from Cologne to Brussels.

From London see the EUROSTAR Information Site for information on trains between London and Brussels.

From Paris see the THALYS Information Site for information on trains between Paris and Brussels.

General Information

From Amsterdam see the [THALYS Information Site](#) for information on trains between Amsterdam (Schiphol Airport) and Brussels. If you take this train then you can also change trains in Antwerp and take the Ostend or Lille bound trains to reach Ghent Sint-Pieters station.

More information about timetables of [trains in Belgium](#).

By Tram:

Ghent has an excellent network of trams and busses run by the [De Lijn](#) company which cover everywhere you could wish to go. You can buy tickets from De Lijn offices, some newsagents, ticket machines at the bus/tram stops, by SMS or from the drivers. Tickets bought before boarding are substantially cheaper than those bought from the drivers and the present-time cost of a single ticket, bought in advance, is 2.50 Euro. Single tickets must be validated in the machine on board and are then good for 60 minutes. There are also day tickets (dagpas) valid for 24, 72 or 120 hours costing respectively 7,5 and 15 Euros. These also must be validated at the start of the first journey. The machines are quite simple to use and those at the train station have several language options. Payment can be credit/debit card or cash and the machines give change for notes up to 10 Euro. Or you can send an SMS (textmessage) to 4884 to pay for your ticket or download DeLijn app on your phone to make payments.

To view the tram network go to this [webpage](#). The tram to take is line 4 direction Rabot/Moscou from Ghent Sint-Pieters Station.

By Bus:

You can reach Ghent from anywhere in Europe by [EUROLINES](#). The EUROLINES coach stops at Ghent St.Pieters Station and at Ghent Dampoort. Within to use a bus Ghent see the information on [De Lijn](#) website.

ALL OTHER MAPS ARE AT THE BACK OF THIS PROGRAMME

1.2 Badges

Each registrant will receive a name badge upon registration. The badge must be worn in order to be admitted to the technical sessions, lunches and social event.

1.3 Tickets

Extra tickets for the social event and lunches are available from the Registration desk. (**at conference prices**)

Price: (or equivalent in another currency) for extra tickets. All participants will be issued with tickets for lunch and the conference dinner. **Or just the badge will apply.**

General Information

conference dinner: lunch	€ 70 € 10/lunch
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1.4 Registration

The **FOODSIM'2022-SCIFI-IT'2022** Registration Desk will be open for information and registration **in front of meeting room L226** on the second floor of **BUILDING L** in the same hallway as the meeting rooms:

Sunday, April 3.....4.00 p.m. to 05.30 p.m.
Monday, April 48.00 a.m. to 05.00 p.m.
Tuesday, April 58.30 a.m. to 05.00 p.m.
Wednesday, April 6.....9.00 a.m. to 12.30 p.m.

1.5 Conference Proceedings

Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format and/or electronic format) after the conference. Price: (or equivalent in another currency) for an extra printed copy

FOODSIM'2022 Proceedings	€ 50 (plus 6% VAT)= € 53
SCIFI-IT'2022 Proceedings	€ 30 (plus 6% VAT)= € 31,8

Other Proceedings can be ordered from the EUROSIS website.

1.6 Meeting Rooms

The **FOODSIM'2022** meeting rooms are rooms **L226** and **M228**, located to the left of the main entrance of the University entrance in **BUILDING L/M on the second floor**. To enter the buildings use the ground floor entrance for Building L. Directions to the rooms will be signposted. The **SCIFI-IT'2022** sessions are in **ROOM M210**

1.7 Internet Connection

There is full free WIFI at the conference site. Participants are advised to log in using their EDUROAM account.

1.8 Need Help?

Please see the conference desk in front of **ROOM L226** for your questions

1.9 Social Events and Lunches

All registrants are invited: To the **Welcome Drink** on **Sunday April 3rd**. **Reception, Coffee Breaks** and the **Lunches** for 3 days and the **Conference Dinner** on **Tuesday the 5th of April** at **Brasserie HA**. All meals will be COVID compliant.

General Information



University of Leuven/Campus
Ghent

Gebroeders de Smetstraat 1
9000 Ghent

Tel: +32.9 265 86 10

To the **Conference Dinner**



From 20.00 p.m to 23.00 p.m.

The conference dinner will be
held on **Tuesday the 5th of
April** in the evening at the
Brasserie Ha

Kouter 29

9000 Gent

Tel: + 32. 9 265 91 81

Website:

<http://www.brasserieha.be/>



General Information

1.10 Best Paper Award

During the conference the papers, which were accepted as extended papers will be judged by the committee and participants in order to choose the best paper of the FOODSIM'2022 conference. The best paper candidate receives a certificate signed by the General Conference and Program Chairs and also a free registration to any EUROSIS conference within 2 years of receipt of the prize.

1.11 Paper Legend:

Each paper is designated before each paper by its number. This number has to be entered on the form for the best paper award.

The room has an LCD projector and an overhead projector

SESSION CHAIRPERSONS

ALL NAMES OF SESSION CHAIRPERSONS IN THIS PROGRAM ARE PROVISIONAL. Session Chairs are chosen on a voluntary basis by proposals by either authors or local committee members or are appointed by the Track Chairs, General Program Chair or General Conference Chair. They are responsible for their assigned session. They make sure their speakers are available, take care of the timing within the session, chair the discussion after each presentation and introduce each speaker based on the CV's given to them by the authors. **If a session chair is not available then the first author takes on the responsibility to chair**

Sessions with extended papers: If you are a session chair in a session with extended papers make sure the session participants have a copy of the best paper award form and ask them to return them to you at the end of the session. After the session hand over the collected forms to Philippe Geril.

THE NUMBERS NEXT TO THE PRESENTATIONS DENOTE THE PAGE-NUMBERS IN THE PROCEEDINGS. IF NO NUMBERS ARE MENTIONED THEN THIS PAPER IS NOT PUBLISHED IN THE PROCEEDINGS

THE AUTHORS WHO ARE UNDERLINED ARE NORMALLY THE PRESENTERS

ONLY PAPERS IN GREY BOXES ARE THE EXTENDED PAPERS ELIGIBLE FOR THE BEST PAPER AWARD

PAPER NUMBERS IN THE FINAL PROGRAMME FOLLOWED BY “ONL” MEAN THESE PAPERS WILL BE PRESENTED ONLINE

FINAL PROGRAMME SCIFI-IT'2022 – FOODSIM'2022

QUICK OVERVIEW

SUNDAY, 3 rd APRIL 2022		
16.00-17.30	REGISTRATION IN FRONT OF ROOM L-226, BUILDING L, 2 ND FLOOR	
16.00-17.30	WELCOME DRINK IN MEETING SPACE IN FRONT OF ROOM L-226, 2ND FLOOR BUILDING L	
MONDAY, 4 th APRIL 2022		
08.00-17.00	REGISTRATION IN FRONT OF ROOM L226, BUILDING L, 2 ND FLOOR	
08.30-09.00	MAIN MEETING ROOM BUILDING L ROOM L-226 – 2ND FLOOR	
	INTRODUCTION TO FOODSIM'2022 & SCIFI-IT'2022	
09.00-10.00	KEYNOTE SESSION BUILDING L ROOM L-226	
	KEYNOTE FOODSIM'2022 & SCIFI-IT'2022 MAARTEN SCHUTYSER (WUR)	
10.00-10.30	COFFEE BREAK	
10.30-12.30	PARALLEL SESSIONS BUILDING L/M - 2 ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022 M-210
	KEYNOTE KRIST GERNAEY (DTU) SESSION MODEL BASED OPTIMIZATION IN BEER, COFFEE AND WINE (FOOD_PROC_04, FOOD_PRED_03, NN_09)	KEYNOTE YARNE DE MUNCK (UGent) KEYNOTE JOEL COLLOC (Univ. Le Havre)
12.30-14.00	LUNCH BREAK MEETING AREA IN FRONT OF ROOM L-226	
14.00-16.30	PARALLEL SESSIONS BUILDING L/M - 2 ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022 M-228
	A MOST UNCONVENTIONAL FOODSIM SESSION (FOOD_MULTI_01, NN_03, ...)	KEYNOTE LU ZHANG (WUR) VISIONS OF THE FUTURE SESSION (2 Presentations)
16.30-17.00	COFFEE BREAK	
17.00-19.00	SESSION BUILDING L/M - 2 ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022 M-228
	KEYNOTE IHAB HASHEM (KU Leuven)	WORKSHOP UHasselt Wim Eerdekens and Jeroen Ceyskens
19.00-21.00	WELCOME RECEPTION	

TUESDAY, 5th APRIL 2022		
08.30-17.00	REGISTRATION IN FRONT OF ROOM L-226, BUILDING L, 2ND FLOOR	
09.00-10.00	KEYNOTE SESSION BUILDING L ROOM L-226	
	KEYNOTE SPEAKER SCIFI-IT'2022 – FOODSIM'2022 ARNAUD DELAUNAY (FarmWise)	
10.00-10.30	COFFEE BREAK	
10.30-12.30	PARALLEL SESSIONS BUILDINGS L/M - 2ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022 M-228
	SESSION FOOD PSE I FOOD_PROC_01, NN_02, FOOD_PROC_02, FOOD_PROC_07, FOOD_MULTI_03	KEYNOTE LEON ROTHKRANTZ (UPrague) KEYNOTE ALI REZA YAGHOUBI (AirGo Design)
12.30-13.30	LUNCH BREAK MEETING AREA IN FRONT OF ROOM L-226	
13.30-14.30	KEYNOTE SESSION BUILDING L ROOM L-226	
	KEYNOTE SPEAKER FOODSIM'2022 - SCIFI-IT'2022 RACHEL ANN ARMSTRONG (KU Leuven)	
14.30-15.30	PARALLEL SESSIONS BUILDINGS L/M - 2ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022
	SESSION FOOD PSE II FOOD_SAFE_02, FOOD_INNOV_03, FOOD_CHAIN_03	KEYNOTE ROB VINGERHOEDS (ISAE-SUPAERO)
15.30-16.00	COFFEE BREAK	
16.00-18.00	PARALLEL SESSIONS BUILDINGS L/M - 2ND FLOOR	
	ROOM A – FOODSIM'2022 L-226	ROOM B – SCIFI-IT'2022 M-228
	SESSION HUMAN HEALTH & RISK ASSESSMENT NN_01, NN_14, NN_03, FOOD_SUS_01, NN_10, NN_04, NN_12 (POSTER)	KEYNOTE ALI ANWAR (UAntwerpen)
20.00-23.00	Conference dinner at Brasserie Ha, Kouter 29, 9000 Gent	

WEDNESDAY, 6th APRIL 2022	
09.00-12.30	REGISTRATION IN FRONT OF ROOM L-226, BUILDING L, 2ND FLOOR
09.00-10.00	SESSION BUILDING L - 2ND FLOOR
	ROOM A –FOODSIM'2022 L-226
	SESSION FOOD INNOVATIVE MONITORING FOOD_SAFE_01, FOOD_SAFE_06, NN_11, NN_13 (POSTER)
10.00-10.30	COFFEE BREAK
10.30-12.30	SESSION BUILDING L - 2ND FLOOR
	ROOM A –FOODSIM'2022 L-226
	SESSION INNOVATIVE TECHNOLOGY FOOD_INNOV_07, FOOD_INNOV_01, FOOD_INNOV_05, FOOD_INNOV_09, FOOD_PROC_09, NN_08, INNOV_13
12.30-13.30	LUNCH BREAK MEETING AREA IN FRONT OF ROOM L-226
13.30-15.50	SESSION BUILDING L - 2ND FLOOR
	ROOM A –FOODSIM'2022 L-226
	SESSION CLIMATE CHANGE EFFECTS ON DAIRY FOOD_ENV_01, NN_05, FOOD_SUS_03, FOOD_PRED_01, FOOD_RISK_01, FOOD_SAFE_04, NN_07
15.50-16.20	COFFEE BREAK
16.20-17.40	SESSION BUILDING L - 2ND FLOOR
	ROOM A –FOODSIM'2022 L-226
	SESSION FLEXIBLE BIOREFINERIES FOOD_CHAIN_01, NN_15, NN_06, NN_16
18.00-18.30	CLOSING SESSION FOODSIM'2022 – SCIFI-IT'2022 AND BEST PAPER AWARD ROOM A L-226

Sunday, 3rd April 2022

16.00 - 17.30

**HALLWAY BUILDING L – 2ND Floor
Registration in front of Room L-226**

16.00 - 17.30

**WELCOME DRINK IN MEETING SPACE IN FRONT OF ROOM L-226,
2ND FLOOR BUILDING L**



Monday, 4th April 2022

REGISTRATION

08.00 – 17.00

IN FRONT OF ROOM L226, BUILDING L, 2ND FLOOR

08.30 – 09.00

**MAIN ROOM L 226 BUILDING L – 08.30-09.00
WELCOME ADDRESS**

WELCOME

Introduction to FOODSIM'2022 and SCIFI-IT'2022

Jan F.M. Van Impe, University of Leuven, Campus Ghent, Belgium
FOODSIM'2022, General Conference Chair

09.00 – 10.00

ROOM A – L 226 – 09.00-10.00

KEYNOTE

KEYNOTE ADDRESS – FOODSIM'2022 – SCIFI-IT'2022

Chair: Simen Akkermans, KU Leuven/BioTeC+, Ghent, Belgium



FOODSIM_KEY_01

[Combining Experimental and Modelling
Approaches for Spray Drying of High-Quality
Powdered Food Ingredients](#)

Maarten Schutyser, AFSG: Wageningen University &
Research, Laboratory of Food Process Engineering,
Wageningen, The Netherlands

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

Welcome - Monday

Monday, 4th April 2022

10.30 - 12.30

ROOM A – L-226 - 10.30-12.30

FOODSIM

KEYNOTE AND

MODEL BASED OPTIMIZATION IN BEER, COFFEE AND WINE

Chair: Satyajeet Sheetal Bhonsale, KU Leuven/BioTeC+, Ghent, Belgium



FOODSIM_KEY_02

[Towards the Development of Digital Twins for the Bio-Manufacturing Industry](#)

[Krist Gernaey](#), DTU Chemical Engineering/Bioscavage ApS, Zealand, Denmark

FOOD_PROC_04

Optimisation of Coffee Aroma Extraction for the Manufacture of Instant Coffee

David Beverly, Peter J. Fryer, Serafim Bakalis, Robert Farr

and [Estefania Lopez-Quiroga](#) 61

FOOD_PRED_03

A Continuous Mechanistic Model Recovers Fermentation Phases in Wine Production

[Artai Rodríguez-Moimenta](#), David Henriques, Romain Minebois, Amparo Querol

and Eva Balsa-Canto 64

NN_09_FOOD_PROC_11

Multi-Objective Dynamic Optimisation of Beer Fermentation under Uncertainty

[Satyajeet Bhonsale](#), Wannes Mores and Jan F.M. Van Impe 69

ROOM B – M-228 - 10.30-12.30

SCIFI-IT

KEYNOTES – SCIFI-IT'2022

Chair: Leon Rothkrantz, University of Prague, Prague, Czech Republic

Monday, 4th April 2022



SCIFI_IT_KEY_07

Building an Autonomous Racing Car

Yarne De Munck, Team Captain, UGent Racing - Ghent University, Ghent, Belgium



SCIFI_IT_KEY_03

A Multi-Agent Model Approach to fill up the Gap between Emotion, Psychological and Brain Computing

Joël Colloc.....8

12.30 – 14.00

LUNCH BREAK - MEETING AREA IN FRONT OF ROOM L-226

14.00 - 16.30

ROOM A – L 226 - 14.00-16.30

FOODSIM

A MOST UNCONVENTIONAL FOODSIM SESSION

Chair: Jan F.M. Van Impe, KU Leuven/BioTeC+, Ghent, Belgium

NN_03_FOOD_MULTI_05

Individual-Based Modeling of Gut Microbiota: A Location Sensing Hypothesis

Ihab Hashem, Anyi Zhang and Jan F.M. Van Impe 189

FOOD_MULTI_01

A Novel Python Package for the Dynamic Genome-Scale Modelling of Yeast Fermentation

D. Troitiño-Jordedo, David Henriques and Eva Balsa-Canto..... 72

Optimisation Principles in Microbial Physiology: Theory, Models and Practice

Bas Teusink, Frank Bruggeman, Douwe Molenaar, Bob Planque and colleagues

Liquid Robots - Robots Without Sheet Metal and Wheels

Jitka Čejková

Network Modelling in Investment Decisions for Belgian Manufacturing Industry

Dries Telen

Monday, 4th April 2022

ROOM B – M 228 – 14.00-16.30

SCIFI-IT

KEYNOTE AND SESSION VISIONS OF THE FUTURE

Chair: Joël Colloc, University of Le Havre, Le Havre, France



SCIFI_IT_KEY_01_ONL

[Towards Adaptive Extrusion-based 3D Printing of Complex Food Systems](#)

Lu Zhang, AFSG: Wageningen University & Research, Laboratory of Food Process Engineering, Wageningen, The Netherlands

VEH_01_ONL

On Building Users' Initial Trust in Autonomous Vehicles

Izabella V. Lokshina and Cees J. M. Lanting..... **23**

ANMT_02_ONL

Echo-Free Testing of Aviation Equipment in a Robotic Electromagnetic Compatibility Chamber

Sergey Gorshenin, Nickolay Gubanov and Anton Ivaschenko **31**

16.30 - 17.00

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

17.00 - 19.00

ROOM A – L 226 - 17.00-19.00

FOODSIM

KEYNOTE/PhD Thesis Defense: IHAB HASHEM

Chair: Bart Lievens, KU Leuven

Unraveling the Social Complexity of Biofilms using Individual-based Modeling and Evolutionary Game Theory
Ihab Hashem



Monday, 4th April 2022

ROOM B – M 228 – 17.00-19.00

SCIFI_IT

WORKSHOP HASSELT UNIVERSITY

Chair: Leon Rothkrantz, University of Prague, Prague, Czech Republic



SCIFI_IT_WORK_01

[Virtual Nuclear Simulator \(ViNuS\) in Education](#)

Wim Eerdeken and Jeroen Ceyssens, EDM, Hasselt University, Campus Diepenbeek, Diepenbeek, Belgium



19.00 - 21.00

WELCOME RECEPTION –

MEETING AREA IN FRONT OF ROOM L-226

Sessions - Monday

Tuesday, 5th April 2022

REGISTRATION

08.30 - 17.00

IN FRONT OF ROOM L226, BUILDING L, 2ND FLOOR

09.00 - 10.00

ROOM A – L 226 – 09.00-10.00

KEYNOTE

KEYNOTE ADDRESS – SCIFI-IT'2022 – FOODSIM'2022

Chair: Artemio Plana-Fattori, AgroParisTech, Paris, France



SCIFI_IT_KEY_04_FOODSIM_ONL

[How Advances in Machine Learning Change the Way we grow Food](#)

Arnaud Delaunay, Computer Vision Team, FarmWise, Paris, France

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

10.30 - 12.30

ROOM A – L226 - 10.30-12.30

FOODSIM

PROCESS SYSTEMS ENGINEERING I

Chair: Estefania Lopez-Quiroga, UBirmingham & Torstein Skåra, Nofima

FOOD_PROC_01

Simulation of Coffee Roasting Time-Temperature Profiles

Mark Al-Shemmeri, Estefania Lopez Quiroga and Peter Fryer..... **114**

NN_02_FOOD_PRED_07

Temperature Evolution inside Liquids during Reciprocal Agitated Processing: Influence of Food Matrix Rheology on Thermal Inactivation

Davy Verheyen, Ferruh Erdogan, Ozan Altin, Fabrizio Sarghini, Dagbjørn Skipnes, Torstein Skåra and Jan F.M. Van Impe **109**

Tuesday, 5th April 2022

FOOD_PROC_02

Sensitivity Analysis of a Heat and Mass Transfer Model applied to Contact Heating of Sliced Potatoes

Emmanuel Bernuau, Thibaut Viné, Denis Flick and Bertrand Broyart 79

FOOD_PROC_07

Effect of Liquid Viscosity on the Temperature Evolution during Axial Rotation of Toroidal Cans: A Computational Force Analysis

Ferruh Erdogan, Huseyin Topcam, Ozan Altin, Ozan Karatas, Fabrizio Sarghini and Mustafa Tutar 86

FOOD_MULTI_03

Application of Novel Mesh Free Techniques for the Simulation of Mechanical Problems in Food

William J. Jenkinson, Denis Flick, Olivier Vitrac and Brian Guthrie 104

ROOM B – M228 - 10.30-12.30

SCIFI-IT

KEYNOTES

Chair: Joël Colloc, University of Le Havre, Le Havre, France



SCIFI_IT_KEY_02

Science Fiction versus Reality

Leon Rothkrantz.....5



SCIFI_IT_KEY_05_ONL

[The Rise of "Artificial Engineers" in the Manufacturing Industry](#)

Alireza Yaghoubi, Chief Technology Officer, AirGo Design, Singapore

Sessions - Tuesday

Tuesday, 5th April 2022

12.30 - 13.30

LUNCH BREAK - MEETING AREA IN FRONT OF ROOM L-226

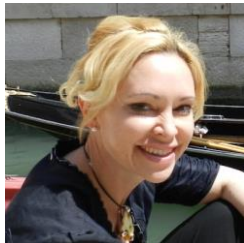
13.30 - 14.30

ROOM A – L 226 – 13.30-14.30

KEYNOTE

KEYNOTE ADDRESS – FOODSIM'2022 – SCIFI-IT'2022

Chair: Monika Polańska, KU Leuven/BioTeC+, Ghent, Belgium



FOODSIM_KEY_03

[DESIGN FICTIONS: Speculation, innovation and “worlding” through architectural design](#)

[Rachel Ann Armstrong](#), KU Leuven, Faculty of Architecture

14.30 - 15.30

ROOM A – L226 - 14.30-15.30

FOODSIM

PROCESS SYSTEMS ENGINEERING II

Chair: Ferruh Erdoğan, Ankara University, Golbasi-Ankara, Turkey

FOOD_SAFE_02

Optimizing the Design of Barrier Layers for Promoting the Use of Recycled Materials for Food Contact

[Natacha Daoud](#), Colette Breyse, Sandra Domenek and [Olivier Vitrac](#) 91

FOOD_INNOV_03

Modeling Convective Drying of Food Products: The Case Study of Yacon (Smallanthus Sonchifolius)

Bianca Cristine Marques, [Artemio Plana-Fattori](#), Carmen Cecilia Tadini

and Denis Flick 96

FOOD_CHAIN_03

An Intercontinental Machine Learning Analysis of Factors explaining Consumer Awareness about Food Risk

Alberto Tonda, Christian Reynolds, Nisrine Mouhrim

and [Rallou Thomopoulos](#) 184

Tuesday, 5th April 2022

ROOM B – M228 - 14.30-15.30

SCIFI-IT

KEYNOTE

Chair: Leon Rothkrantz, University of Prague, Prague, Czech Republic



SCIFI_IT_KEY_06_ONL

[How New Technologies increase Engineering Complexity and what to do about It...](#)

[Rob Vingerhoeds](#), ISAE-SUPAERO, Toulouse, France

15.30 - 16.00

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

16.00 - 18.00

ROOM A – L226 - 16.00-18.00

FOODSIM

HUMAN HEALTH AND RISK ASSESSMENT

Chair: Efstathia Tsakali & Spyridon Konteles, University of West Attica, Athens, Greece

NN_01_FOOD_SAFE_12

Influence of Food Composition on the Survival of Invading Pathogens during Simulated Digestion

[Theodora Akritidou](#), Simen Akkermans, Cindy Smet, Valérie Delens

and Jan F.M. Van Impe 173

NN_14_FOOD_PRED_05

Inhibitory Phenomena to *Cronobacter sakazakii* in Co-Culture with the *Bifidobacterium animalis* subsp. *lactis* BB-12 in Synthetic Medium at Different Inoculation Level

Spyridon J. Konteles, Anthimia Batrinou, Arhontoula Chatzilazarou, D. Houhoula

Irene Strati, Jan F.M. Van Impe and [Efstathia Tsakali](#)..... 178

FOOD_SUS_01

Human Health Risk Assessment of Microplastics through Seafood Products

[Zhihao Yuan](#), Rajat Nag, Rhea Sanjiv Chhaya and Enda Cummins 194

Tuesday, 5th April 2022

NN_10_FOOD_PRED_08

Simulation of Bile Acids Absorption in the Human Small Intestine during *In Vitro* Digestion via a Dialysis Membrane Process

Sotiria Gaspari, Theodora Akritidou, Simen Akkermans, Jewel Ann Joseph, Cindy Smet and Jan F.M. Van Impe **200**

NN_04_FOOD_PRED_06

Studying the Effect of Media Composition and PH on Growth of *Pichia Pastoris* and Production of Recombinant Thaumatin II

Jewel Ann Joseph, Simen Akkermans and Jan F.M. Van Impe **208**

NN_12_FOOD_SAFE_10

Comparison of Antimicrobial and Antioxidant Activity of Natural Extracts of the Greek Flora

Aliki Tsakni, Archontoula Chatzilazarou, Efstathia Tsakali, Panagiotis Halvatsiotis and Dimitra Houhoula **205**

ROOM B – M228 - 16.00-17.00

SCIFI-IT

KEYNOTE

Chair: Joël Colloc, University of Le Havre, Le Havre, France



SCIFI_IT_KEY_02

Letting Robots Imagine

Ali Anwar **16**

Tuesday, 5th April 2022

20.00 - 23.00

20.00 - 23.00
CONFERENCE DINNER




The conference dinner will be held on
Tuesday the 5th of April in the evening
at the

Brasserie Ha

Kouter 29

9000 Gent

 Tel: + 32. 9 265 91 81

Website: <http://www.brasserieha.be/>

Dinner - Tuesday

Wednesday, 6th April 2022

REGISTRATION

09.00 – 12.30

IN FRONT OF ROOM L226, BUILDING L, 2ND FLOOR

09.00 - 10.00

ROOM A – L 226 – 09.00-10.00

FOODSIM

FOOD INNOVATIVE MONITORING

Chair: Olivier Vitrac, INRAe, AgroParisTech, Massy, France

FOOD_SAFE_01

Coding and Tracking Contaminants of Food Contact Materials by Wavelet Analysis

Julien Kermorvant, Phuong-Mai Nguyen, Cédric Lythaud, Sandra Domenek and Olivier Vitrac 151

FOOD_SAFE_06

Botanical and Geographical Assessment of Greek Thyme Honey by Visible/NIR Spectroscopy and Pattern Recognition

Carolina S. Silva, Owen Falzon and Vasilis Valdramidis 156

NN_11_FOOD-SAFE_09

Molecular Characterization of Shiga Toxin Producing *E.COLI* (STEC) Virulence Genes from Various Foods

Anthimia Batrinou, Irene Strati, Andreas Tsantes, Efstathia Tsakali, Jan F.M. Van Impe, Spiridon Konteles, Panagiotis Halvatsiotis and Dimitra Houhoula 159

NN_13_FOOD_SAFE_11 – Flash Presentation (Poster)

Fast, Simple and Low Cost Detection of Foodborne Pathogens using In-House DNA Extraction and Molecular Detection with Colorimetric Loop mediated Isothermal Amplification

Spyridon Andreas Papatheodorou, Sotirios Magoulas, Efstathia Tsakali, Dimitra Houhoula, Panagiotis Halvatsiotis

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

Wednesday, 6th April 2022

10.30 - 12.50

ROOM A – L 226 - 10.30-12.30

FOODSIM

FOOD INNOVATIVE TECHNOLOGY

Chair: Cindy Smet & Davy Verheyen, KU Leuven/BioTeC+, Ghent, Belgium

FOOD_INNOV_07

Effect of Archimedes Screw on Process Efficiency of Continuous Flow Microwave Process

Ozan Karatas and Ferruh Erdogan.....123

FOOD_INNOV_01

How Agrivoltaics can be used as a Crop Protection System

Brecht Willockx, Anastasios Kladas, Cas Lavaert, Bert Uytterhaegen

and Jan Cappelle..... 130

FOOD_INNOV_13

Free Modelling Tools to assess the Effect of Ultrasound (US) and Ultraviolet (UV) Light with different Application for Food Industry

Arturo B. Soro, Márcia Oliveira, Paul Whyte, Declan J. Bolton

and Brijesh K. Tiwari..... 164

FOOD_INNOV_09

Plasma Functionalized Water: Unravelling Mechanistic Knowledge for Potential Food, Health and Agriculture Applications

Vasilis P. Valdramidis and Ruben Gatt..... 137

FOOD_PROC_09

Low Temperature Plasmas for Biofilm Inactivation: Unravelling the Mode of Action

Breno A. B. Salgado, Stefania Fabbri, Aaron Dickenson, Mohammad I. Hasan

and James L. Walsh 140

NN_08_FOOD_INNOV_11

Radio Frequency Inactivation of *Listeria Monocytogenes* and *Salmonella Typhimurium* in Liquid Nutrient Broth

Maria Tonti, Davy Verheyen, Dmytro Kozak, Cindy Smet, Patricia Cuba,

Torstein Skåra and Jan F.M. Van Impe 143

FOOD_INNOV_05_ONL

Modelling of Cold Plasma Reactive Species in a Model Fruit Juice and Prediction of Kinetics during Shelf Life

Sonal Chaple, Jesus Frias and Paula Bourke 217

Sessions - Wednesday

Wednesday, 6th April 2022

12.50 - 13.30

LUNCH BREAK - MEETING AREA IN FRONT OF ROOM L-226

13.30 - 15.50

ROOM A – L 226 - 13.30-15.50

FOODSIM

CLIMATE CHANGE EFFECTS ON DAIRY

Chair: Vasilis Valdramidis, National and Kapodistrian University of Athens & Lydia Katsini, KU Leuven/BioTeC+, Ghent, Belgium

FOOD_ENV_01

Towards a Novel Quantitative Method for Determination of pH and Dissolved CO₂ Concentration in Different Culture Media

Styliani Roufou, Sholeem Griffin, Jefferson de Oliveira Mallia, Lydia Katsini, Monika Polańska, Jan F.M. Van Impe, Ruben Gatt and Vasilis P. Valdramidis..... **23**

NN_05_FOOD_CLIM_01

Data-Driven Modelling of the Climatic Impact on the Microbial Food Safety of Raw Milk

Lydia Katsini, Carlos Andre Muñoz López, Satyajeet Bhonsale, Styliani Roufou, Sholeem Griffin, Vasilis Valdramidis, Simen Akkermans, Monika Polańska and Jan F.M. Van Impe **28**

FOOD_SUS_03

Improving the Sustainability of the Milk Pasteurization Process through a Fouling and Cleaning Model

Maria Ioanna Malliaroudaki, Nicholas J. Watson, Luanga F. Nchari, Rebecca Ferrari and Rachel L. Gomes **33**

FOOD_PRED_01

Development and Validation of a Predictive Model for *Bacillus licheniformis* Growth in Plant-Based Milk Alternatives

Ourania Misiou, Mariem Ellouze and Konstantinos Koutsoumanis..... **38**

FOOD_RISK_01

Human Health Risk Assessment of Aflatoxin M₁ in Dairy Products – A Disability-Adjusted Life Years (DALY) Approach

Rhea Sanjiv Chhaya, Rajat Nag and Enda Cummins..... **41**

Wednesday, 6th April 2022

FOOD_SAFE_04

Microbiological Quality Profile of Goat's Raw Milk Cheese during Ripening as affected by its Intrinsic Properties

Ana Sofia Faria, Sara Coelho-Fernandes, Gisela Santos-Rodrigues,
Ângela Fernandes, Lillian Barros, Vasco Cadavez
and Ursula Gonzales-Barron 46

NN_07_FOOD_SAFE_08

Modelling the Behavior of *Salmonella* Typhimurium and *Listeria Monocytogenes* in Skimmed and Whole Milk Powder during Storage at 20° C

Maria Tonti, Davy Verheyen, Torstein Skåra and Jan F.M. Van Impe 54

15.50 – 16.20

COFFEE BREAK - MEETING AREA IN FRONT OF ROOM L-226

16.20 - 17.40

ROOM A – L226 - 16.30-17.40

FOODSIM

FLEXIBLE BIOREFINERIES

Chair: Mihaela-Iuliana Sbârciog, ULB, Brussels, Belgium

FOOD_CHAIN_01

Designing The Future of Agri-Food Chains: Comparison of Prospective Results built 40 Years Ago and Today

Romy Lynn Chaib, Catherine Macombe and Rallou Thomopoulos 16

NN_16_FOOD_BIOREF_04

Modelling of a Small Scale Biorefinery and Evaluation of its Sustainability in a Local Context

Aicha Ait Sair, Bernard Cathala, Franck Michaud and Kamal Kansou 13

NN_06_BIOREF_01

Modelling the Steam Refining Treatment of Food Waste

Mihaela Sbarciog, Viviane De Buck, Simen Akkermans, Satyajeet Bhonsale,
Monika Polańska and Jan F.M. Van Impe 10

NN_15_BIOREF_02

Modelling and Optimisation of a Small-Scale Flexi-Feed Biorefinery in Aspen Plus

Viviane De Buck, Mihaela Sbarciog, Jef Cras, Monika Polańska
and Jan F.M. Van Impe 5

Wednesday, 6th April 2022

18.00 - 18.30

ROOM A – L226 - 18.00-18.30

CLOSING SESSION

Chair: Philippe Geril & Jan F.M. Van Impe

Closing Session and Best Paper Award

FOODSIM'2024

FOODSIM'2024



Proposals for workshops, special tracks, exhibitions etc. can be sent in by **September 1st, 2023** to Philippe.Geril@eurosis.org & Jan.VanImpe@kuleuven.be

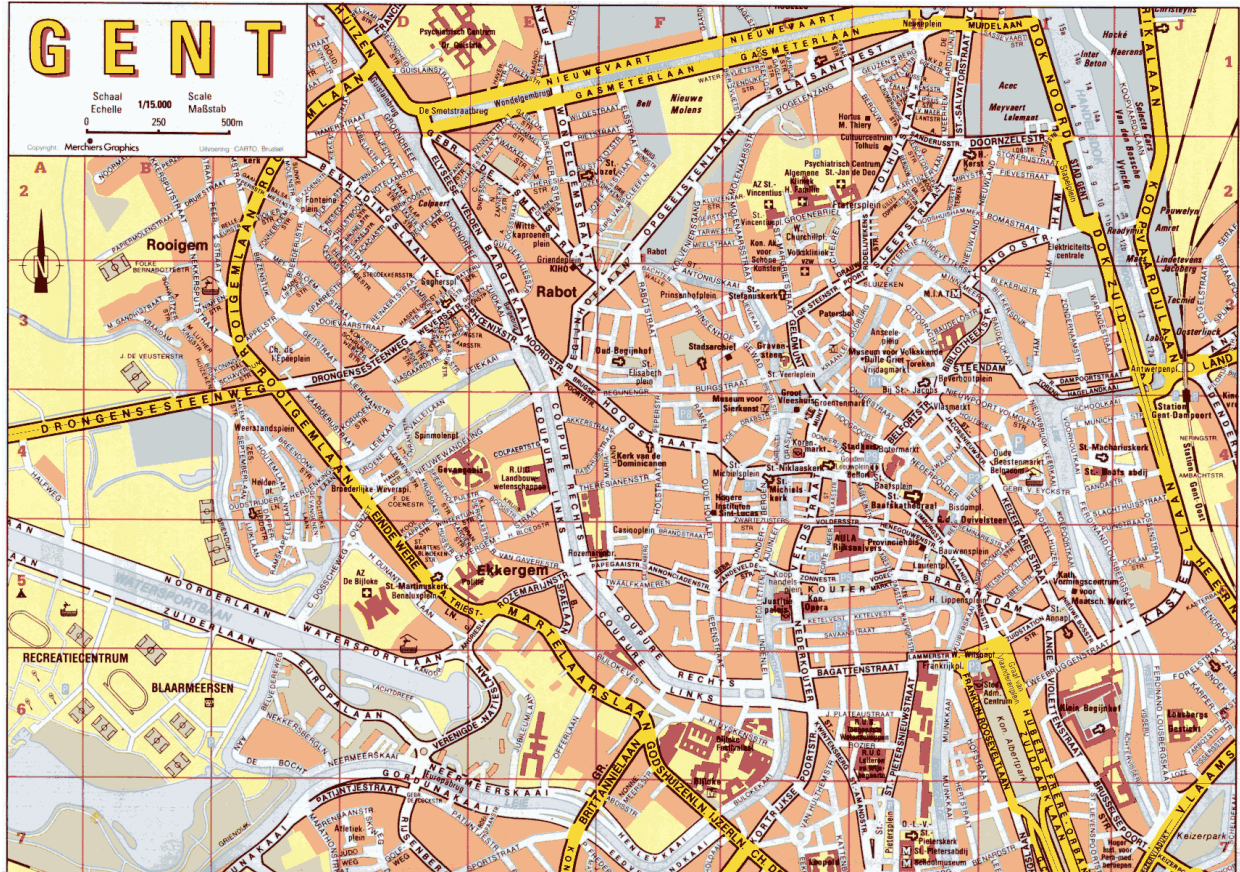
FOODSIM'2024

Conference Site Map



The conference takes place in rooms L 226 and M 228 in Buildings L&M. The coffee breaks and lunches are in Building L in the meeting space in front of room L226

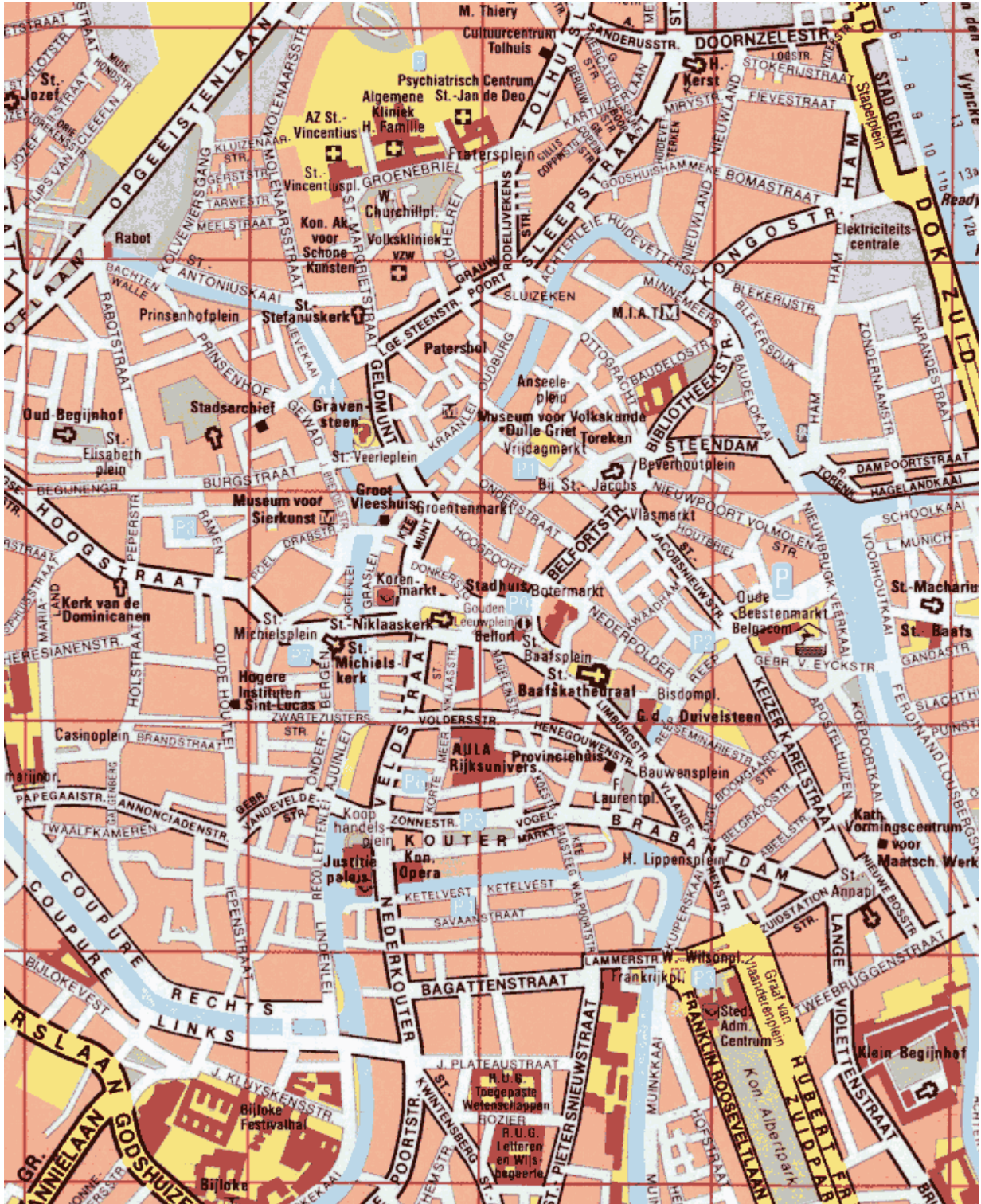
Conference Site Map



You will find the conference location on this map in quadrant E3
(KIHO/ODISEE)

Conference Site Map

Conference Dinner site location from left 2 down/3 across



NOTES

FOODSIM'-SCIFI_IT'2022

At-Conference Registration Form

Please legibly print or type and fill out completely. (Check appropriate boxes where necessary)

FIRST NAME	LAST NAME	M.I.
COMPANY OR AFFILIATION		
Mailing address (tick one): <input type="checkbox"/> HOME <input type="checkbox"/> BUSINESS		
STREET		
CITY		
ZIPCODE	COUNTRY	
TELEPHONE	FAX	
E-MAIL		
DATE	SIGNATURE	
1. <input type="checkbox"/> EUROSIS member € 605 Member Number: _____		€ _____
2. <input type="checkbox"/> Members of Sponsor or Affiliate Society € 605		€ _____
3. <input type="checkbox"/> Non-Member Participant € 645		€ _____
4. <input type="checkbox"/> Student Participant € 415		€ _____
5. <input type="checkbox"/> Students, <u>who are not authors</u> but who wish to attend the conference, or ONE DAY PARTICIPANTS pay: € 380		€ _____
(Above registration fees include, one copy of the PROCEEDINGS, all midday meals, cocktail, refreshments, coffees and social program,) One Day Participants and Non-Author Students cannot participate in the conference dinner.		
6. <input type="checkbox"/> Tutorial registration ONLY - €30 (students) Or €80 (non students)/ per tutorial		€ _____
6. <input type="checkbox"/> Conference Dinner Ticket for Companion € 70 <input type="checkbox"/> Lunch Ticket for Companion € 10/day		€ _____
7. <input type="checkbox"/> Extra Conference Proceedings € 50/€ 30 Cash and Carry (plus 6% VAT)		€ _____
VAT Number if applicable: _____		
TOTAL AMOUNT DUE		€ _____
<u>ADD 21% VAT (Value Added Tax) OBLIGATORY</u>		€ _____
TOTAL AMOUNT REMITTED		€ _____

[] 2) Pay by **CREDIT CARD** and fill in the information below:

Charge my (tick one): ☐ Visa ☐ Euro/Mastercard ☐ American Express

CARD NO: _____ : _____ : _____ : _____ EXP.DATE: ____ / ____

Authorizing Signature:

Print Signature in CAPITALS



EUROSIS was borne out of discussions with the European Community to set up a new kind of Society, which would be project driven instead of driven by pure membership and conferences.

The aim of EUROSIS is to set up topic related Technical Committees which will link directly to European Projects in the field of computer simulation and related areas and to act as a knowledge pool for future European Networks of Excellence, like MOSAIC.

If you would like to receive more information about EUROSIS, please contact

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