

# Final Program



18-20 June 2012

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## General Information

### 1.1 Conference Location

The Conference itself is held at



Fraunhofer-Institut für  
Verfahrenstechnik und Verpackung  
IVV  
Giggenhauser Straße 35  
D-85354 Freising  
Germany

The registration desk will be placed in the hallway in front of the meeting rooms. Registration will start on Monday at 8.15 a.m. till 4.00 p.m. On Tuesday it will be from 8.30 a.m. - 3.30 p.m.

**ALL MAPS ARE AT THE BACK OF THIS PROGRAMME**

### 1.2 How to get there

#### By Plane

The [International Airport Munich](#) is approx. 10 km away from the Weihenstephan Campus. Using S-Bahn S1 (direction Freising - please change in Neufahrn), bus 635 or taxi.

#### By Train

It takes approximately 25 minutes by [rail](#) from the Munich Central Station to Freising Central Station (directions Munich-Regensburg, Munich-Passau) .It takes approximately 40 minutes by [S-Bahn](#) (Rail-Regionalexpress) from the Munich Central Station to Freising Central Station using the S1 to Freising. At the station "Freising" you can take the bus 638 and get off in "Weihenstephan" (Vöttinger Straße) or take a taxi. Duration: ca. 1h - 1,5h. You can check out the public transport possibilities to reach the conference location on this linked [public transportation map](#).

#### By Bus (the recommended way)

Coming from the airport please take the Bus 635 to Freising (train station). Change there for the Bus 638 and get off in "Weihenstephan" (Vöttinger Straße) or take a taxi. Duration: 1 h.

# General Information

## By Car

Freising is located to the north of Munich. It can be reached on Autobahn 92. From the Munich airport, take Ismaninger Str. to reach the city. If you are coming by car from Munich, get off A92 at Freising-Mitte. Once in Freising turn left into Vöttinger Straße direction Weihestephan. Once at the campus turn left and drive uphill. Duration: ca. 1h. If you are coming by car from Nuremberg, get off A9 at Allershausen. Drive direction Freising. Once you enter Freising, at the first traffic light turn right (Am Staudengarten), again right (Vöttinger Str) and then left.

## 1.3 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.

## 1.4 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.**

conference dinner:	€ 50
lunch per day	€ 25

## 1.5 Registration

The **FOODSIM'2012** Registration Desk will be open for information and registration:

**Monday, June 18.....8.15 a.m. to 4.00 p. m. in the hallway**  
**Tuesday, June 19.....8.30 a.m. to 3.30 p. m. in the hallway**

## 1.6 Conference Proceedings

Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format). (Extra copies are available on a cash and carry basis at special rates during FOODSIM-2012)

## General Information

Price: (or equivalent in another currency) for an extra copy

FOODSIM'2012 Proceedings	€ 30
Other Proceedings –see price list at desk	

Other Proceedings can be ordered using the forms available at the conference.

### 1.7 Meeting Room

The meeting room will be designated and signposted as the **FOODSIM 2012 MEETING ROOM** at the conference.

### 1.8 Internet Connection

Information about Internet Connections will be available at IVV

### 1.9 Need Help?

Please see the conference desk for your questions

### 1.10 Social Events and Lunches

All registrants are invited to

Lunches on **Monday the 18<sup>th</sup> and Tuesday the 19<sup>th</sup> of June** plus Coffee Breaks for the 2 days will be served at IVV.

The **Beer Tasting, Brewery Visit and Dinner on the 18<sup>th</sup> and 19<sup>th</sup> of June**



On the **18<sup>th</sup> of June** there will be a beer tasting reception at the **Fraunhofer Chair of Brewing Technology** and a visit of the chair starting at **6.00 p.m.**

On the **19<sup>th</sup> of June** a **visit** to the [Weihenstephan brewery](#), the oldest brewery in the world. (this visit starts at **07.00 p.m.**) followed by the **conference dinner** at the [Bräustüberl Weihenstephan](#) (the dinner starts at 08.00 p.m.)

# General Information

## 1.12 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'2012 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.**

## 1.13 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 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**

**MONDAY, 18<sup>th</sup> JUNE 2012****08.15-16.00 REGISTRATION****09.00-09.15 OPENING SESSION AND WELCOME****09.15-10.00 INVITED TALK BY DR. TOBIAS VOIGT****10.00-10.30 COFFEE BREAK****10.30-12.30 SESSION I****MEETING ROOM****SIMULATION  
METHODOLOGY  
IN  
FOOD SCIENCES****12.30-13.30 LUNCH BREAK****14.00-15.00 KEYNOTE TALK BY PROF. HORST-CHRISTIAN LANGOWSKI****15.00-15.30 COFFEE BREAK****15.30-17.30 SESSION II****MEETING ROOM****SIMULATION  
IN  
FOOD PROCESSING  
AND  
PACKAGING****18.00-19.30 CHAIR OF BREWING TECHNOLOGY VISIT WITH BEER TASTING****FREE EVENING**



**TUESDAY, 19<sup>th</sup> JUNE 2012**

08.30-15.30	<b>REGISTRATION</b>
09.00-10.00	<b>INVITED TALK BY PROF. HEIKO BRIESEN</b>
10.00-10.30	<b>COFFEE BREAK</b>
10.30-12.30	<b>SESSION III</b>
	<b>MEETING ROOM</b>
	<b>FOOD CONTAMINATION AND SAFETY MEASURES</b>
12.00-14.00	<b>LUNCH BREAK</b>
14.00-15.00	<b>SESSION IV</b>
	<b>MEETING ROOM</b>
	<b>ENERGY APPLICATIONS IN FOOD PRODUCTION</b>
15.00-15.30	<b>COFFEE BREAK</b>
15.30-16.15	<b>SESSION V</b>
	<b>MEETING ROOM</b>
	<b>POSTER SESSION</b>
16.15-16.30	<b>CLOSING SESSION AND BEST PAPER AWARD</b>
19.00-20.00	<b>VISIT TO THE WEIHANSTEPHAN BREWERY</b>
20.00-23.00	<b>CONFERENCE DINNER</b>

<b>WEDNESDAY, 20<sup>th</sup> JUNE 2012</b>	
<b>09.00-09.15</b>	<b>MEETING FOR THE VISIT AT IVV MEETING ROOM</b>
<b>09.15-11.00</b>	<b>VISIT OF THE IVV RESEARCH FACILITIES</b>

**Monday, 18<sup>th</sup> June 2012**

**HALLWAY**

**Registration**

**08.15 - 16.00**

**09.00 – 09.15**

---

**MEETING ROOM**

**WELCOME**

**Opening FOODSIM'2012 and Welcome**

**Welcome Address**

**Dr. Hannes Petermeier, TU München, Freising Weihenstephan, Germany**  
**Florian Loibl, TU München, Freising Weihenstephan, Germany**

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**09.15 – 10.00**

**MEETING ROOM - 09.15-10.00**

**INVITE**

**INVITED SPEECH**

**Chair: Dr. Hannes Petermeier, TU München, Freising Weihenstephan, Germany**



**Modelling and Simulation of Packaging Plants**  
Dr. Tobias Voigt

Welcome

**Monday, 18<sup>th</sup> June 2012**

**10.00 - 10.30  
COFFEE BREAK**

**10.30 – 12.30**

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**MEETING ROOM - 10.30-12.30** **METH**  
**SIMULATION METHODOLOGY IN FOOD SCIENCES**  
**Chair:** Dr. Hannes Petermeier, TU München, Freising Weihenstephan, Germany

**FOOD\_METH\_01**  
**Design of dynamic Experiments for Discrimination between Models for microbial Growth Kinetics as a Function of Temperature**  
I. Stamati, F. Logist, E. Van Derlinden and J. Van Impe ..... 5

**FOOD\_SCI\_03**  
**Molecular Dynamics Simulations as a Predictive Tool for the Behavior of Fats in High-Pressure Processes**  
Maximilian Greiner, Ekaterina Elts and Heiko Briesen ..... 10

**FOOD\_SCI\_01**  
**Population Balance Modelling of Flocculation of Biological Cells**  
Andre Braun and Heiko Briesen ..... 15

<p><b>FOOD_PROCESS_01</b>  <b>Towards optimized salt perception: simulation and correlation of salt release during mastication</b>  <u>Georg C. Ganzenmüller</u>, <u>Christian Zacherl</u> and Regina Fischl ..... 20</p>
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**12.30 - 14.00  
LUNCH BREAK**

# Monday, 18<sup>th</sup> June 2012

14.00 – 15.00

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**MEETING ROOM - 14.00-15.00**  
**KEYNOTE SPEECH**

**KEYNOTE**

**Chair:** Dr. Hannes Petermeier, TU München, Freising Weihenstephan, Germany



**Environmental Impacts of Packaging**  
Prof. Horst-Christian Langowski

15.00 - 15.30  
**COFFEE BREAK**

15.30 – 17.30

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**MEETING ROOM- 15.30-17.30**  
**SIMULATION IN FOOD PROCESSING AND PACKAGING**

**PROCESS**

**Chair:** Dr. Hannes Petermeier, TU München, Freising Weihenstephan, Germany

**FOOD\_PROCESS\_03**  
**Simulation Model Design and Assessment of Nanoparticle Migration from a Nanocomposite with Experimental Validation**  
Maeve Cushen and Enda Cummins ..... 29

**FOOD\_PROCESS\_02**  
**Computational Fluid Dynamics (CFD) modeling of the fluidised bed coating process**  
Frederik Ronsse, Wasan Duangkhamchan, Koen Dewettinck and Jan G.Pieters ..... 34

## Monday, 18<sup>th</sup> June 2012

### FOOD\_SAFE\_05

**Modelling and Numerical Simulation of Water Vapour Sorption Kinetics in Humidity regulating Polypropylene Films containing Sodium Chloride**

Solange Sanahuja, Oliver Miesbauer, Ellen Reichmann and

Sven Sangerlaub ..... 91

### FOOD\_SAFE\_07

**Permeation through Passive and Active Barrier Materials – A Continuum Theoretical Approach**

Oliver Miesbauer ..... 98

**18.00 – 19.30**

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**BEER TASTING EVENING  
at the Chair of Brewing Technology**

**FREE EVENING**

Tuesday, 19<sup>th</sup> June 2012

**HALLWAY**

**Registration**

**08.30 - 15.30**

**09.00 – 10.00**

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**ROOM A- 09.00-10.00**

**INVITE**

**INVITED SPEECH**

**Chair:** Dr. Kathrin Mathmann, TU München, Freising Weihenstephan, Germany



**Population Dynamics**

Prof. Heiko Briesen

**10.00 - 10.30**

**COFFEE BREAK**

**10.30 - 12.00**

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**MEETING ROOM - 10.30-12.00**

**PROCESS**

**FOOD CONTAMINATION AND SAFETY MEASURES**

**Chair:** Dr. Kathrin Mathmann, TU München, Freising Weihenstephan, Germany

Sessions - Tuesday

Tuesday, 19<sup>th</sup> June 2012

**FOOD\_SAFE\_04**

**AFM1 Exposure in the French Population via Milk Products Consumption using Monte Carlo Simulation**

Nathalie Wesolek and Alain-Claude Roudot..... 67

**FOOD\_SAFE\_01**

**Software Tool for Assessment of Food Contamination and Food Bans Regulations**

Petr Pecha, Radek Hofman and Emilie Pechova ..... 72

**FOOD\_SAFE\_02**

**A Meta-Analytical Assessment of the Variability between Abattoirs in the Effect of Chilling on the *Salmonella* incidence on Pig Carcasses**

Ursula Gonzales-Barron, James Sheridan, Francis Butler and Vasco Cadavez ..... 80

**12.00 - 14.00  
LUNCH BREAK**

**14.00 - 15.00**

**MEETING ROOM - 14.00-15.00**

**ENERGY**

**ENERGY APPLICATIONS IN FOOD PRODUCTION**

**Chair:** Dr. Kathrin Mathmann, TU München, Freising Weihenstephan, Germany

**FOOD\_PROCESS\_04**

**Simulation based Energy Management Tools for the Food Processing Industry**

Sven Franke, Josef Höfler, Isabel Osterroth, Tobias Voigt, Horst-Christian Langowski and Hannes Petermeier ..... 45

**FOOD\_PROD\_01**

**Energy Based Production Plan Assessment and Optimization**

Josef Höfler, Hannes Petermeier, Sven Franke, Veronika Strobl, and Horst-Christian Langowski ..... 52

**15.00 - 15.30  
COFFEE BREAK**



## Tuesday, 19<sup>th</sup> June 2012

15.30 – 16.15

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**MEETING ROOM - 15.30-16.15**

**POS**

**POSTER PRESENTATIONS**

**Chair:** Dr. Kathrin Mathmann, TU München, Freising Weihenstephan, Germany

**FOOD\_POS\_02**

**Effect of Electron Beam Irradiation Doses in Antioxidant Activity and Phenolics Content of Portuguese Chestnuts**

Márcio Carochó, Lillian Barros, Albino Bento, Isabel C.F.R. Ferreira, Amilcar L. Antonio and Iwona Kałuska ..... 59

**FOOD\_POS\_03**

**Compartment Modelling in Drying of Gamma Irradiated Chestnut Fruits**

Amilcar L. Antonio, Elsa Ramalhosa, Albino Bento, Mauro Trindade, Guillermo Sanchez, M. Luisa Botelho and Begoña Quintana ..... 62

**FOOD\_POS\_01**

**Combined Effects of  $\gamma$ -irradiation and Storage Times on Sugars Composition of *Lactarius deliciosus*: Comparison through Linear Discriminant Analysis**

Ângela Fernandes, João C.M. Barreira, Anabela Martins, Isabel C.F.R. Ferreira, M. Beatriz P.P. Oliveira and Amilcar L. Antonio..... 77

16.15 – 16.30

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**MEETING ROOM - 16.15-16.30**

**FINAL**

**CLOSING SESSION AND BEST PAPER AWARD**

**Chair:** Dipl. Ing. Sven Franke, TU München, Freising Weihenstephan, Germany

19.00 – 23.00

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**CONFERENCE VISIT AND DINNER – 19.00 -23.00**

# Dinner - Tuesday

Tuesday, 19<sup>th</sup> June 2012



The conference dinner will be held on the 19th of June in the evening at the [Bräustüberl Weihenstephan](#) (the dinner starts at 08.00 p.m.)

The dinner will be preceded by a visit to the [Weihenstephan brewery](#), the oldest brewery in the world. (this visit starts at 07.00 p.m.)

**Wednesday, 20<sup>th</sup> June 2012**

**HALLWAY**

**Meeting for the Fraunhofer IVV visit**

**09.00 - 09.15**

**09.15 – 11.00**

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**Visit to the Fraunhofer IVV Research Facilities**



**Visit - Wednesday**

## FOODSIM'2014

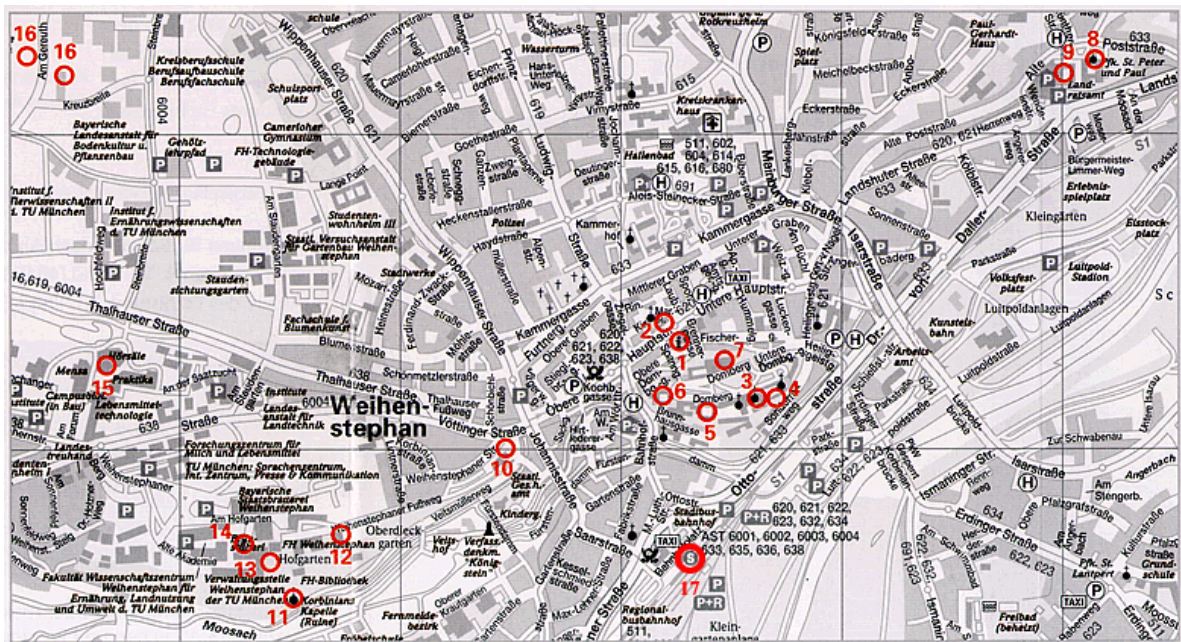
**FOODSIM'2014**  
**June 2014, Brest, France**



**Track and Tutorial Proposals for FOODSIM'2014 can be sent in by August 30<sup>th</sup>, 2012 to [philippe.geril@eurosis.org](mailto:philippe.geril@eurosis.org)**

**If you are interested in hosting a future FOODSIM conference, just contact EUROSIS.**

# Conference Site Map



- 1 Touristinformation, Asamsaal/Asamfoyer, Museum des Historischen Vereins
- 2 Rathaus
- 3 Dom
- 4 Barocksaal der Dombibliothek
- 5 Kardinal-Döpfner-Haus
- 6 Diözesanmuseum
- 7 Dom-Gymnasium
- 8 Ehem. Klosterkirche Neustift
- 9 Landratsamt - Marstall und Ökonomiehof
- 10 Lindenkeller
- 11 Ruin of the Korbinianskapelle
- 12 Löwentorgebäude der FH Weihenstephan
- 13 Hofgarten
- 14 Biergarten Bräustüberl and beer brewery
- 15 TUM
- 16 Gelände der Landesanstalt für Landwirtschaft
- 17 Railway and Bus Station

## Freising Centre Map

# Conference Notes

## NOTES

# FOODSIM'2012 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"/> <b>EUROSIS member € 545 Member Number:</b> _____		€ _____
2. <input type="checkbox"/> <b>Members of Sponsor or Affiliate Society € 545</b>		€ _____
3. <input type="checkbox"/> <b>Non-Member Participant € 555</b>		€ _____
4. <input type="checkbox"/> <b>Students, <u>who are not authors</u> but who wish to attend the conference, or <b>ONE DAY PARTICIPANTS</b> pay: € 435</b>		€ _____
(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.		
5. <input type="checkbox"/> <b>Conference Dinner Ticket for Companion € 50</b> <input type="checkbox"/> <b>Lunch Ticket for Companion € 25/day</b>		€ _____
6. <input type="checkbox"/> <b>Extra Conference Proceedings € 30 Cash and Carry</b>		€ _____
VAT Number if applicable: _____		
<b>TOTAL AMOUNT DUE</b>		€ _____
<b>ADD GERMAN VAT OF 19% TO THE TOTAL (OBLIGATORY)</b>		€ _____
<b>ADD BANK CHARGE of € 15 in case you pay by BANK or CHEQUE.</b>		€ _____
<b>TOTAL AMOUNT REMITTED</b>		€ _____

- [1] 1) Make payment by **BANK TRANSFER** to account **IBAN CODE: BE03 0014 0814 7784** EUROPEAN TECHNOLOGY INSTITUTE, ETI Bvba, BNP PARIBAS FORTIS BANK, Torhoutsesteenweg 356, B-8400 Ostend, Belgium, **SWIFT CODE: GEBABEBB MENTION YOUR NAME and FOODSIM'2012**
- [1] 2) Or pay by **CHEQUE** and send it to Philippe Geril, EUROSIS-ETI, European Simulation Office, Greenbridge Science Park, Ghent University – Ostend Campus, Wetenschapspark 1, Plassendale 1, B-8400 Ostend, Belgium.
- [1] 3) Or pay by **CREDIT CARD** and fill in the information below:  
 Charge my (tick one):  Visa  Euro/Mastercard  American Express  Diners  
 CARD NO: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ EXP.DATE: \_\_\_\_ / \_\_\_\_

Authorizing Signature:

Print Signature in CAPITALS

# eurosis

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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 **Email: Philippe.Geril@eurosis.org**

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Address: .....

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Telephone.....

Fax: .....

Email: .....