8th International Symposium on Deep Frying

Better understanding, better fried products

15-17 September 2015
Munich, Germany

Parallel and in combination with the oils+fats trade fair
Dear Readers,

The 8th International Symposium on Deep-Fat Frying in Munich continues the long tradition of symposia since 1973. With these series of symposia the European Federation for the Science and Technology of Lipids (Euro Fed Lipid) has established an important platform for food producers, sciences, official and commercial laboratories, marketing and consumers to present and to discuss the latest news on deep-fat frying.

Although the process of deep-fat frying is known since nearly 4000 years and it is one of the most popular processes for food preparation with an increasing market world-wide a lot of questions are still under discussion. The complex and dynamic process taking place at the surface of the food but also in the oil is still not understood comprehensively. Nowadays it is realized that chemical and physical changes of fats and oils at elevated temperature cannot be explained by autoxidation only, but more knowledge is necessary to improve food quality. Since a remarkable part of oil is taken up by food the focus of interest also has to be on aspects important for maintaining the oil quality.

In this context new mechanisms taking place during the frying process have to be discussed. This may help to develop heat stabilizing agents based on natural sources and to optimize the frying process.

As a result from the last seven symposia on deep-fat frying recommendations on regulatory guidelines for the evaluation of used frying oils and fats, but also on issues such as acrylamide or trans-fatty acids in foods or information on the frying process have been released traditionally to achieve a better understanding of the frying process within the whole processing chain with respect to healthier and better food products. Several of these recommendations have found their way into practice.

The technical program of the forthcoming symposium will cover all aspects necessary for a better understanding of the frying process. It will provide a comprehensive overview on the theory and the modeling of the frying processing, but also discuss the occurrence of contaminants and degradation products. Furthermore, the 8th symposium will show possibilities to improve the quality and heat stability of frying oils by addition of natural compounds or filtering and oil treatment. New analytical methods for a fast and easy quality control to monitor the degradation of oil in the fryer and probable formation of toxic compounds during frying will also be presented.

Thus, the 8th International Symposium on Deep-fat frying is intended for all persons from food producers, sciences, official and commercial laboratories, marketing and consumers who are involved into the production of fried food, research on the frying process or the assessment of used frying oils or interested in deep-fat frying in general. The aim of the symposium is to provide the participants with new information on frying and to discuss the latest findings in order to make the market of fried products fit for the future. We look forward to welcoming you in Munich in September 2015.

Richard F. Stier
Sonoma, CA/USA

Christian Gertz
Hagen, Germany

Bertrand Matthäus
Detmold, Germany
In cooperation with the oils+fats trade fair we are pleased to offer a very cost effective all-inclusive package for companies active in the area of deep-frying which have not exhibited before at the oils&fats trade fair.

Euro Fed Lipid has negotiated a joint Deep-Frying exhibition space within the main oils+fats trade show. Nearby will be all social/networking events (Welcome reception, Bavarian evening, coffee breaks, lunch breaks) of the Deep-Frying symposium, which takes place in the upper level of the building.

Exhibiting in the main hall of the fair will allow you to contact the visitors from all areas of the oils+fats industry and all fair exhibitors in addition to the participants of the Deep-Frying Symposium.

For a 2,500 Euro (+VAT) investment to become a Gold Sponsor.

You get the following package:

» A standard 9sqm booth with walls, carpeting, lights, table, infocounter, 2 bar stools, brochure display stand, electricity.

» A basic entry in the exhibition catalogue

» Two exhibitor passes for the oils&fats trade show

» One complimentary registration for the Deep-Frying Symposium

» Opportunity to present a sponsor talk during the Deep-Frying Symposium

» Company logo/link on the symposium webpage and all printed matter of the Deep Frying Symposium.

To confirm your package please contact the headquarters

Euro Fed Lipid
Varrentrappstr. 40-42
60486 Frankfurt am Main
Germany

Phone: +49 (0)69 7917-345
Fax: +49 (0)69 7917-564
E-mail: amoneit@eurofedlipid.org

If you do not qualify for the all inclusive package or for other requirements please contact amoneit@eurofedlipid.org
## Programme

**Tuesday, 15 September 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>Arrival and Registration</td>
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<tr>
<td>until</td>
<td>Opportunity to visit the trade show oils+fats</td>
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<tr>
<td>17:00</td>
<td>Welcome Reception in the expo area</td>
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**Wednesday, 16 September 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30</td>
<td>Welcome and Opening</td>
<td>Richard F. Stier, Sonoma, CA/USA</td>
</tr>
<tr>
<td>08:45</td>
<td>1st Session: Theory of Frying</td>
<td>Felix Aladedunye, University of Lethbridge, Canada</td>
</tr>
<tr>
<td>09:30</td>
<td>Heat and Mass Transfer During Frying</td>
<td>Olivier Vitrac, INRA, Massy, France</td>
</tr>
<tr>
<td>10:00</td>
<td>Nutritional and Physiological Effects of used Frying Oils and fried Products</td>
<td>Gloria Márquez-Ruiz, Spanish National Research Council, Madrid, Spain</td>
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<tr>
<td>10:30</td>
<td>Coffee Break, EXPO</td>
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<tr>
<td>11:00</td>
<td>2nd Session: Contaminants and Degradation Products</td>
<td>Pierre Gonde, French Food Industry Association, Villeneuve, France</td>
</tr>
<tr>
<td>11:30</td>
<td>Are 3-MCPD and Glycidyl Esters in Frying Oils relevant?</td>
<td>Bertrand Matthäus, Max Rubner- Institute, Detmold, Germany</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch, EXPO</td>
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<tr>
<td>13:00</td>
<td>3rd Session: Quality and Analytics</td>
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<tr>
<td>15:00</td>
<td>Application of Near Infrared Spectrophotometry to the Study of the Degradation Products of Fats</td>
<td>Christian Gertz, Maxfry, Hagen, Germany</td>
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<tr>
<td>15:30</td>
<td>Analysis of Fat Deterioration-Comparison of some Quick Tests</td>
<td>Rüdiger Weißhaar, Official Chemical Investigation Institute, Stuttgart, Germany</td>
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<tr>
<td>16:00</td>
<td>Measuring and Differentiation Oxidative Activity and Thermal Degradation</td>
<td>Bertrand Matthäus, Max Rubner- Institute, Detmold, Germany</td>
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<tr>
<td>16:30</td>
<td>Sponsor Talks</td>
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<tr>
<td>17:00</td>
<td>Bavarian Evening in the Expo</td>
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</table>
## Thursday, 17 September 2015

### 4th Session: Stabilisation

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30</td>
<td>Natural Compounds as Stabilizer of Frying Oils</td>
<td>Felix Aladedunye, University of Lethbridge, Canada</td>
</tr>
<tr>
<td>09:00</td>
<td>Impact of Canolol enriched Extract on Oil Quality Parameters in Deep-frying</td>
<td>Bertrand Matthäus, Max Rubner-Institute, Detmold, Germany</td>
</tr>
<tr>
<td>09:30</td>
<td>Filtering and Oil Treatment</td>
<td>Neil McLeod, Filtercorp, Shawell, UK</td>
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### 5th Session: Modelling of the Frying Process

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>10:30</td>
<td>Comparison and Standardization of Domestic Frying Processes</td>
<td>Knut Franke, DIL, Quakenbrück, Germany</td>
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<tr>
<td>11:00</td>
<td>Simulation of the Frying Process</td>
<td>Christian Gertz, Maxfry, Hagen, Germany</td>
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<tr>
<td>11:30</td>
<td>Importance of properly designed Frying Studies</td>
<td>Richard F. Stier, Sonoma, CA/USA</td>
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<tr>
<td>12:00</td>
<td>SPONSOR TALKS</td>
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<tr>
<td>12:30</td>
<td>LUNCH, EXPO</td>
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### 6th Session: Industrial Frying

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>13:30</td>
<td>New Aspects of Industrial Frying</td>
<td>Pierre Gonde, French Food Industry Association, Villeneuve, France</td>
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<tr>
<td>14:00</td>
<td>Advances in Industrial Fryer Design and Technology</td>
<td>Erik Geling, Heat and Control, Kaak, The Netherlands</td>
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<tr>
<td>14:30</td>
<td>Quality Parameters of Fried Foods</td>
<td>Christian Gertz, Maxfry, Hagen, Germany</td>
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<tr>
<td>15:00</td>
<td>COFFEE BREAK, EXPO</td>
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<tr>
<td>15:30</td>
<td>PANEL DISCUSSION: Harmonize Food Service Frying Regulations in the EU – Yes or No</td>
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<tr>
<td>16:00</td>
<td>Summary and Update of the Deep-Frying Recommendations</td>
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<tr>
<td>17:00</td>
<td><a href="http://www.dgfett.de/material/recomm.php">www.dgfett.de/material/recomm.php</a></td>
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Richard F. Stier
Consulting Food Scientists, Sonoma, CA/USA

Richard Stier is a consulting food scientist with international experience in food safety (HACCP), food plant sanitation, quality systems, process optimization, GMP compliance, and food microbiology. He has worked with a wide range of processing systems and products, including canning, freezing, dehydration, deep-fat frying, aseptic systems, meat processing and processing. He has shown a unique ability to work with companies at all levels, from top management, including marketing, to line workers, to understand, develop and implement systems to enhance operations. Stier has been instrumental in helping processors, including many small processors develop the quality, food safety and sanitation systems needed to compete in today’s market and grow their business. He is also a food safety, GMP, and quality systems auditor. Stier has worked in Asia, Africa, Australia, Central and South America, and Europe. All totalled, he has done projects in over forty countries.

Stier has been certified as a seafood HACCP instructor (AFDO) and by the HACCP Alliance.

Stier has a B.S. in Food Science from Rutgers University and an M.S. in Food Science and Technology from the University of California at Davis. He is a member of the IFT, IAFP, and the NCAACC. He is past Chairman of the Northern California Section of the IFT and of the Northern California Section of the AACC, a past-Chairman of IFT’s Refrigerated and Frozen Foods Executive Committee, is a former member of the IFT Program Committee, a past-Chair of IFT’s Continuing Education Committee and former councilor representative to the IFT’s Executive Committee. He is a Contributing Editor to „Baking & Snack“, „Food Engineering“, and serves on the editorial board of Food Safety Magazine. He has served on the IFT’s ad hoc panel assembled to comment on proposed food safety regulations and is a member of the United States delegation for TC-34, the technical committee charged with developing the ISO 22000 standard.

Dr. Felix Aladedunye
University of Lethbridge, Canada

Felix Aladedunye holds a Ph.D in Organic (Natural Products) Chemistry from the premier University of Ibadan (Nigeria) and a second doctorate degree in Biomolecular (Food) Science from the University of Lethbridge (Canada). For the past 10 years Felix has been working on the development of natural antioxidants with therapeutic properties specifically designed for frying applications. He has made several presentations at both national and international conferences and published over 40 research papers on natural antioxidants and the chemistry of frying oils.

Felix was an Alexander von Humboldt fellow hosted by the Max Rubner-Institut, Detmold (Germany) and has taught for several years at the Olabisi Onabanjo University (Nigeria) and the University of Lethbridge (Canada). He is currently with the Lucerne Foods, Lethbridge, and also holds an Adjunct Professorship appointment with the Department of Nutritional Sciences, University of Manitoba (Canada).
Dr. Olivier Vitrac  
Senior researcher at the French National Institute for Agricultural Research (INRA), Massy, France  
Olivier Vitrac is a specialist of mass transfer in porous media and polymers. His approaches combine multiscale modeling (from molecules to the supply chain) and devoted experiments at various scales. His current research activity focuses on the molecular mechanisms of diffusion of organic substances in thermoplastics and elastomers, but Olivier continues to supervise PhD and postdoctoral works in the field of deep frying. These include: oil uptake reduction, coupled between oxygen transport and oil oxidation, frying process design.

Dr. Gloria Márquez-Ruiz  
Spanish National Research Council, Madrid, Spain  
Gloria Márquez-Ruiz received her M.S. (1985) and Ph.D. (1989) degrees in Pharmacy at the University of Sevilla, Spain; and carried out her Postdoctoral Project at the Department of Nutrition in the University of California, Davis (1989-1991). She developed her research activity at the “Instituto de la Grasa” of the Spanish Council for Scientific Research (CSIC) in Sevilla from 1986-89 and 1991-2003. From 2003 to date, she is Research Scientist at the “Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN-CSIC)” in Madrid.

Her main area of research focuses on analytical and nutritional studies on frying oils and fats. She has published 125 scientific papers including 24 book chapters, and participated in 44 international and national projects funded by public and private institutions.

Dr. Bertrand Matthäus  
Food Chemist, Scientist at the Max Rubner-Institute, Federal Research Institute for Nutrition and Food, Detmold, Germany  
In this position he is responsible for research dealing with the improvement of the quality of fats and oils, especially rapeseed oil, with the investigation of frying processes, with contaminants like acrylamide, phthalates or 4-hydroxy-2-trans-nonenal, 3-MCPD-esters and with the investigation of oxidation processes in edible fats and oils.

Since the last 20 years he has worked for the Max Rubner-Institute. He has published more than 200 articles, scientific papers and chapters of books. In several projects he worked together with the industry to evaluate and improve the quality of frying oils but also virgin rapeseed oil. He has presented lectures during the last four International Symposiums on Deep-Fat Frying held in Germany and USA and is co-organizer of several symposiums on Fats and Oils given for the industry. Matthäus is a member of the Euro Fed Lipid association and the German Society for Fat Science.
Dr. Pierre Gonde

- PhD in Food Science, SupAgro Montpellier (France)
- (Thesis and more than 15 communications and scientific publications)
- Agronomist, speciality Food Science (Supagro Montpellier)
- Regulatory Affairs, CSR Manager, Mc Cain Continental Europe
- 21 years experience in Food Regulation, Food safety, Nutrition, Frying oils
- Recognized expert in process contaminants in potato products, nutrition and oils on European level
- Crisis Management communication
- President of the Law Task force of EUPPA (European Potato Processor Association):
- Voice of the European Potato Industry about process contaminants, Nutrition, Food Safety
- Several scientific publications and communications about acrylamide in food and fried potato products
- Members of different Commissions of Food Drink Europe, French Food Industry Association (ANIA), Frozen Food Industry: Nutrition, Consumer Information, Process contaminants, Ingredients
- Others: Experience in quality management, research and development of foods, production, sensory
- English, German speaker
- Member of evaluation committee of thesis (Gent University Belgium); reviewer scientific publications about acrylamide and fried products
- Lectures in French Universities and High Schools

Dr. Christian Gertz

Hagen/Westphalia, Germany

Dr. Gertz was director of the Official Institute of Chemical and Food Analysis in Hagen. His experience in fats and oils extends over 35 years.

Since 1997 he has co-chaired the Analysis and Standard Methods division of German Society for Fat Science (DGF) and has been responsible for the editing of the DGF Standard Methods for many years.

He is member of the “Joint Committee for the Analysis of Fats, Oils, and Fatty Products” of DIN, Federal Health Office and DGF. He is also involved with various international working groups in Europe and the German Sensory Panel of Olive Oil. He has published more than 70 scientific papers including 3 book chapters and edited 2 books. His area of research includes all aspects of frying processing (analytics, HACCP, thermooxidative degradation, heat stabilizing agents, fat quality) and analysis of fats and oils (Olive oil and the development of chemometric methods to identify fats and oils).

His awards include: in 1982, the Josef Schormüller Foundation by the German Food Chemical Society and in November 2004 he received the Normann Medal by the German Society for Fat Research (DGF).
**Dr. Rüdiger Weisshaar**  
*Official Chemical Investigation Institute, Stuttgart, Germany*

Dr. Rüdiger Weisshaar is food chemist and since 1985 member of scientific staff of CVUA Stuttgart (official food control laboratory), with experience in different fields e.g. radiochemical analysis and analysis of veterinary drug residues. Since 2002 he is head of laboratory of lipid analysis and analytics of process borne contaminants (e.g. PAH, acrylamide, 3-MCPD esters) at CVUA Stuttgart.

He is member of German Chemists Society (GDCh), German Society of Fat Science (DGF) and European Federation for the Science and Technology of Lipids (Euro Fed Lipid) and published more than 30 articles about different aspects of food chemistry and food analysis in German and international scientific journals.

**Neil McLeod**  
*Filtercorp, Shawell, UK*

Graduate Aeronautical Design Engineer, but spent 30 years in the process industry.

Initially as a Project Engineer in the petrochemical industry. Then moving as a Technical Sales Engineer for Westfalia Separators, part of GEA, and working in all industry sectors.

I have spent the last 19 years with Carlson Filtration Ltd, as a Technical Sales Engineer/Manager specialising in micro filtration systems. Within this position I have heavily involved in frying oil filtration and treatment solutions working towards solutions to meet the varying challenges the frying industry has to offer.

**Dr. Knut Franke**  
*Food Engineer, Scientist at the German Institute of Food Technologies, Quakenbrueck, Germany*

Since 2008 he has been the head of the new research department for food robotics at the institute, but he has a long-term experience in frying processes and their modelling. He was involved in research projects regarding stability of frying oils and opportunities to extend the usage period of these oils. Formation of acrylamide during frying and possibilities to reduce this substance but maintain quality of French fries was another topic of his research work. For this purpose he compared frying processes in different types of equipment.

Furthermore, he carried out frying projects together with partners from industry to test performance of oils and to develop alternative frying processes. He was also involved in projects regarding reduction of 3-MCPD-esters and other compounds in refined oils.

Despite the fat and oil research, he has a long-term experience in confectionery manufacturing, egg processing and process modelling. During his scientific career he has published more than 75 articles and scientific papers. More than 85 oral presentations have been given by him on national and international conferences.
Erik Geling
Heat&Control, Kaak, The Netherlands

Eric Geling is a Regional Director and specialist in food processing and industrial frying equipment and technology. The office in The Netherlands which he leads is to serve the customers in North Central and Eastern Europe with the latest technology provided by Heat and Control.

Heat and Control is a family owned company with Headquarters in US and manufacturing plants and business offices worldwide. The company specializes in food processing and packaging solutions. Heat and Control uses the latest technologies in designing, engineering and manufacturing to provide the best available equipment and systems in the market in its areas of expertise.

At group level, Eric Geling contributes in Heat and Controls New Business Development and Product Development with insight from European markets and customers.

EXPERIENCE
» 2007 – present: General Manager Heat and Control BV
» 2006: Kaak Nederland BV

EXPERTISE
» New Business Development
» Product Development
» International Sales
» Engineering

EDUCATION
» 2006: MBA, Erasmus, Rotterdam School of Management, Rotterdam, The Netherlands
» 1998: Marketing Management, Richard Ivey School of Business, ON, Canada
» 1991: BSc Mechanical Engineering, Thermodynamics, Windesheim, Zwolle, The Netherlands

Prof. Jan Fritsche
Hamburg University of Applied Sciences, Hamburg, Germany
MUNICH

The Frauenkirche is a church in the Bavarian city of Munich that serves as the cathedral of the Archdiocese of Munich and Freising and seat of its Archbishop. It is a landmark and is considered a symbol of the Bavarian capital city. The church towers are widely visible because of local height limits (city administration prohibits buildings with a height exceeding 99 m in the city center).

The Maximilianeum, was built as the home of a gifted students’ foundation and has housed the Bavarian state parliament since 1949. The principal was King Maximilian II of Bavaria, who started the project in 1857. The building is situated on the bank of river Isar marks the eastern end of the Maximilianstrasse, one of Munich’s royal avenues which is framed by neo-Gothic palaces influenced by the English Perpendicular style.

Marienplatz has been the city’s main square since 1158, when Henry the Lion founded the city. The place was named after the Mariensäule, a Marian column erected in its centre in 1638 to celebrate the end of Swedish occupation.

The Munich Oktoberfest is with 6 Mio visitors the world’s largest funfair. Locally, it is often simply called Wiesn, after the colloquial name of the fairgrounds (Theresienwiese) themselves. The Oktoberfest is an important part of Bavarian culture, having been held since 1810. The Oktoberfest 2015 starts 19 September 2015. A very good reason to extend your stay in Munich a little bit....

VENUE

The symposium will take place in the MOC Munich, parralel to the oils+fats trade fair.

MOC Veranstaltungscenter München
Lilienthalallee 40
80939 Munich

Please note that this is NOT the main trade fair ground of Munich!

How to reach the MOC:
www.moc-veranstaltungscenter.de/en/meta/anreise/anreise_1.php

ACCOMMODATION

Messe Munich offers several services to find your perfect accommodation in Munich.

Please see here
GENERAL INFORMATION

REGISTRATION

Please use the online registration available at the workshop webpage

www.eurofedlipid.org/meetings/munich2015

Alternatively send the enclosed fax form back to the headquarters.

Euro Fed Lipid
P.O. Box 90 04 40
60444 Frankfurt/Main, Germany
Phone: +49 69 7917-345
Fax: +49 69 7917-564
E-mail: info@eurofedlipid.org

Registration is valid after receipt at the Euro Fed Lipid headquarters. Conference tickets will be handed out at the registration desk.

REGISTRATION FEES

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<tr>
<th>Status</th>
<th>Status until 21 August 2015</th>
<th>Status after 21 August 2015</th>
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</thead>
<tbody>
<tr>
<td>Member*</td>
<td>400 €</td>
<td>440 €</td>
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<tr>
<td>Non-members</td>
<td>440 €</td>
<td>480 €</td>
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<tr>
<td>Students** (proof required)</td>
<td>120 €</td>
<td>160 €</td>
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* Euro Fed Lipid or Euro Fed Lipid Member Associations
** The student status is granted to undergraduate, postgraduate and Ph.D. students. Please provide a suitable proof of your student status with the registration (e.g. copy of the student card, confirmation of the institute or similar).

Registration fees are not subject to value added tax (tax exemption according §4 Nr. 22a UStG).

The registration fee includes:
» Entry to the trade fair „oils+fats”
» Entry to the scientific programme
» Book of abstracts
» List of participants
» Free registration for the opening mixer and the Bavarian Evening
» Lunches
» Coffee Break beverages

After registration you will receive an invoice.

PAYING BY BANK TRANSFER

Please transfer the total fees (free of bank commission) to:

Euro Fed Lipid e.V.
Deutsche Bank, Frankfurt/Main
IBAN: DE 71 500 700 240 240 1610 00
SWIFT-BIC: DEUTDEDBFRA

Please quote your reference number.
**PAYING BY CREDIT CARD**

We accept Visa, MasterCard and AMEX

Please note that your participation is not guaranteed until the registration fee has been paid. Thus make sure to pay in advance. We reserve the right to refuse access to the congress until full payment has been received.

**CANCELLATION POLICY**

Cancellations received on or **before 8 September 2015** will be refunded minus a 30 € processing fee. There will be no refund for cancellations **after 8 September 2015** or No-Shows. Substitute participants can be named anytime without costs.

If the congress is cancelled for whatever reason, paid fees will be refunded. Further recourse is excluded.

**ORGANISER**

European Federation for the Science and Technology of Lipids e.V.
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60444 Frankfurt/Main
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