IRC | 2019 | Berlin
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Congress Guide

15th International Rapeseed Congress

16.–19.06.2019 in Berlin


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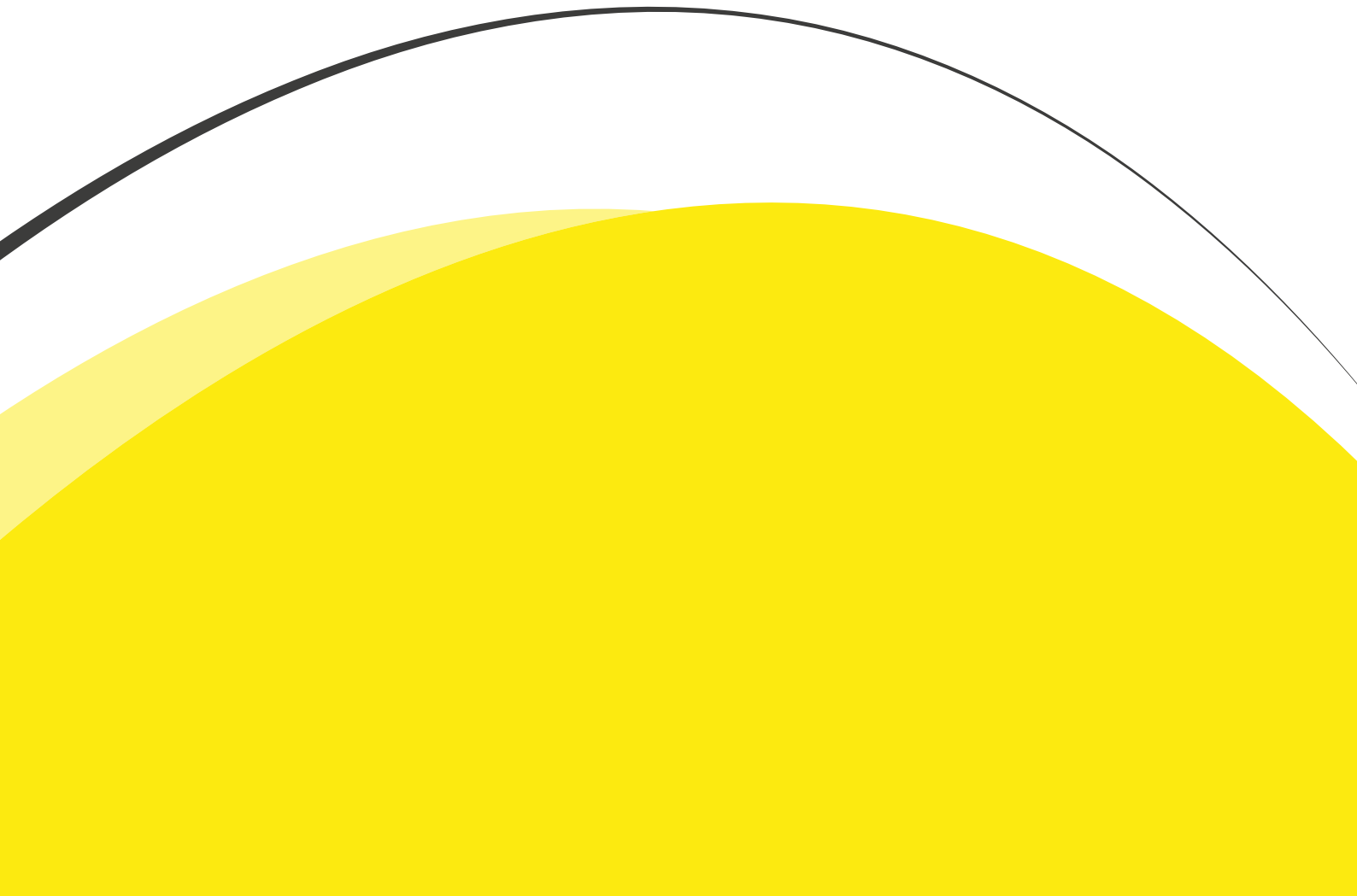

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Message from the Federal Minister of Food and Agriculture

Dear Readers,

Every spring, bright-yellow flowering rape fields create impressive landscapes everywhere from the North Sea to the Alps. This is one of the many different facets of the impressive, multi-talented rapeseed plant. Rapeseed found its way to us towards the end of the Middle Ages, although at first, the oil gained from it could only be used in lamps or as technical oil. But thanks to successful research, the undesired bitter and accompanying substances were able to be eliminated through conventional breeding from the mid-1970s. This paved the way for the wide range of uses to which it is put today.

The great success is demonstrated by the fact that rapeseed oil has become the most popular cooking oil in Germany. The "olive oil of the North" now fascinates people because of its valuable substances it contains. Rapeseed oil has thus become an important component for healthy eating.

In Germany, rapeseed is now the most important oil plant with a wide variety of uses and has thus become firmly established among our arable crops.

Moreover, rapeseed is also of benefit to the environment, especially with regard to humus formation, as the cultivation of rapeseed contributes to broader crop rotation, protects the soil from erosion when used as a cover crop in winter, and provides considerable benefits as preceding crop to the following cereal crops. In addition to that, rapeseed is an important source of nectar for bees in spring. Over the past 20 years, rapeseed has also become the basis for one of the most important sources of bioenergy.

The history of rapeseed cultivation in Germany is therefore a real success story. It is a concrete example of how agricultural innovations can increase people's quality of life – by introducing new products on the one hand and by continuously improving and optimising these products on the other. This would not have been possible without the many decades of successful research.

Last year's drought in Germany has clearly shown that we will continue to need advanced and modern breeding research focusing on our crop species, including rapeseed, as the climatic changes taking place everywhere also pose new challenges for rapeseed crops, in particular with respect to climate tolerance and resistance.

I therefore wish you a successful conference in Berlin, productive talks and every success for your future research projects.

Yours,

Julia Klöckner
Federal Minister of Food and Agriculture

Message from the Governing Mayor of Berlin

The 15th International Rapeseed Congress is one of the highlights on Berlin's conference calendar this year. We are delighted that more than 800 experts from all over the world are meeting in Germany's capital city to discuss the latest findings, developments, and prospects in the field of rapeseed research.

In this spirit, I would like to welcome all of the participants in the IRC 2019 to Berlin.

As one of the world's leading congress venues, Berlin offers ideal conditions for a successful gathering. In addition, our advantages as a conference location include the city's scientific landscape, since the German capital region is one of the largest, most diverse, and most innovative centers of science and research in Europe. Our excellent colleges and universities work closely with the many non-university research institutes, while specialized networks expedite cooperation between science and industry. A number of renowned institutes here are also engaged in rapeseed research.

The city itself – with its unique atmosphere and countless attractions – also helps to make every stay here an event. As a result, anyone attending a congress in Berlin should take advantage of the opportunity to visit one of our many museums, theaters, or concert halls. Another good idea would be to take a stroll through one of our trendy neighborhoods and enjoy the relaxed attitude towards life of our vibrant and diverse metropolis.

And with that I would like to welcome you to Berlin once again. I wish you a productive 15th International Rapeseed Congress – IRC 2019 and a very pleasant stay that you will long remember.

Michael Müller
Governing Mayor of Berlin

Welcome from GCIRC

Wolfgang Friedt – GCIRC President

Dear Friends, Respected Colleagues, Ladies and Gentlemen!

Today, oilseed rape/canola is one of the major sources of edible oil in the world. It is actually no. 2 of global oilseed crops. The total acreage amounts to nearly 34 million hectares where almost 70 million tons are produced every year. Half a century ago, rapeseed was a minor crop for feeding and industrial uses only.

There is no doubt that the enormous extension of rapeseed cultivation would not have come true without the intense research on rapeseed quality leading to canola (00 type) cultivars. This was supported by the foundation of the Groupe Consultatif International de Recherche sur le Colza (GCIRC). This international group, an association supported by institutions interested in technical advance for the production and processing of oilseed rape (OSR), was initially founded by a small group of experts aiming for the promotion of OSR/canola. In order to achieve this goal, major improvements of seed quality were needed: i) the reduction of unhealthy erucic acid in the seed oil and ii) the reduction of glucosinolates in the rapeseed meal and cake. These two quality steps were initiated in the 1970s, first achieved by scientists in Canada and rapidly adopted in Europe and elsewhere. Today, there is a continuing interest in additional oil types like HOLL (high oleic, low-sat). Since the 1990s genetic research led to the development of OSR hybrids. Nowadays, a large part of the production is based on hybrid cultivars. In addition, GM traits, e. g. new hybrid system and HR resistance, have been introduced in many parts of the world, except Europe. Last but not least, the use of "biodiesel" as fuel has meanwhile gained importance.

The significant extension of OSR/canola cultivation has been accompanied by the appearance of harmful pathogens and pests endangering rapeseed cultivation in all major growing areas. While diseases like cylindrosporium in the 1980s and phoma in the 1990s have been overcome through genetics, other diseases and insect pests have gained importance, e. g. "clubroot," since the 2000s. At the same time, environmental stresses progressively compromise rapeseed production. Consequently, the improvement of resistance against biotic and abiotic stresses remains one of the major challenges for OSR breeding and cultivation, as well as the need for further enhancement of oil quality as a health-promoting edible oil and the amendment of protein content and composition for better feed and food.

The 15th IRC 2019 in Berlin will provide a platform to discuss recent achievements and to identify suitable future directions and improvements of OSR/canola as a whole. GCIRC is directing and coordinating rapeseed congresses every four years as well as interim technical meetings. In order to further promote OSR/canola for future demands in agriculture and industry, GCIRC will take necessary steps to extend and intensify research on the sustainable and economic cultivation and use of OSR/canola. For this purpose, the presence of GCIRC in the scientific as well as commercial community needs to be fortified. Rapeseed congresses have always been major forums for promoting and strengthening international exchange and cooperation. With this in mind, we are looking forward to a successful IRC 2019 in Berlin.

Welcome from UFOP

Wolfgang Vogel – Chairman UFOP, Vice President German Farmers' Association

Dear participants of the 15th International Rapeseed Congress,

on behalf of the UFOP Board and as Vice President of the German Farmers' Association (DBV), I would like to welcome you warmly. I emphasize this dual function because it underlines the successful development of oilseed rape cultivation in Germany. UFOP was founded on initiative of DBV and the Federal Association of German Plant Breeders (BDP) with the aim of developing oilseed rape cultivation as the most important leaf crop. The driving force in the 1990s was the obligation to set aside arable land in the EU, in combination with initial considerations for a European protein strategy. From the very beginning, consumers were taught the excellent nutritional properties of rapeseed oil. Today rapeseed is the leading oil and protein crop: as rapeseed oil, for biodiesel and as meal for animal nutrition. Through breeding progress, the product quality was further developed, and the economic attractiveness of rapeseed cultivation increased with positive effects on the income of producers.

UFOP wants to continue this development, even though the challenges in breeding, cultivation and marketing have increased considerably. In my position as "highest representative" of arable farmers in Germany, I am very pleased that over 800 international experts meet at this congress to exchange and discuss the latest research results. These days, the challenges are even increasing in view of climate changes. The drought year 2018 was a serious warning for Europeans. Research must keep pace with this development by applying the most advanced breeding methods and developing innovative measures in crop protection and production technology. At the same time, the knowledge gained must be implemented in cultivation practice as fast as possible.

Digitization in agriculture will facilitate and accelerate implementation. This will require political support. In research, financial support is known to be a "rare commodity" worldwide. The demand is consistent, because even politics and society are demanding higher standards for sustainability of rapeseed cultivation and arable farming. I therefore expect that the need for research will tend to increase. This is also confirmed by the critical discussion on the use of chemicals for plant protection or the approval of new active substances. Solutions must be found to ensure that rapeseed cultivation retains its economic perspective and that, depending on the season and region, the landscape with its bright yellow spots of color continues to enrich the landscape in the future.

This congress is an outstanding international platform for presenting and discussing interesting lectures on all these issues. It also offers the opportunity to establish valuable contacts and networks. With this in mind, I call on you to make intensive use of these congress days.

General information

Registration

bcc Berlin Congress Center GmbH
Alexanderstrasse 11 | 10178 Berlin

Sunday, June 16th, 2019
10:00 – 21:00 hrs

Monday, June 17th, 2019
07:00 – 20:00 hrs

Tuesday, June 18th, 2019
07:30 – 17:45 hrs

Wednesday, June 19th, 2019
08:00 – 16:30 hrs

The registration desk is located on Level A. The registration staff would be happy to assist you with any concerns or questions that may arise during the congress.

Full congress registration includes
Admission to scientific sessions, workshops, exhibition, poster area, congress bag, final program, abstracts (usb), coffee breaks, lunches and Congress Dinner.

Safety & Luggage

Your luggage will be checked for safety reasons. Luggage larger than 10 liters of volume has to be stored in the luggage tent right in front of the bcc building. Storage is free of charge. Smaller pieces of luggage (apart from technical devices or articles of value) can be handed in at the cloakroom.

Congress Name Badge

An official IRC 2019 name badge is required and must be worn at all times for entry into sessions, the poster and exhibitor hall, the Congress Dinner and social activities. Lost badges: A fee will be charged for reprinting lost badges as noted below:
100,00€ Full Delegate – 50,00€ Student

Language

The congress language is English. No interpretation is provided during speaker presentations.

Internet IRC2019

Free Wi-Fi is available throughout the venue.
Name of the network: **IRC2019**
Wi-Fi password: **IRCBerlin**

Twitter

Twitter hashtag is **#IRCBerlin**

Speakers

Please be in your session room 15 minutes prior to the session start. Seats in the front row of the respective session room are reserved for you. In the session rooms, a member of the IRC organization team will assist you in all technical matters.

Poster Exhibition

The Poster Exhibition will run concurrently with the Congress sessions.

Poster Hanging and Exhibit Booth set up/take down
Posters and booths can be set up on Sunday, June 16th after 10:00 hrs. They should remain up until 12:00 hrs, Wednesday, June 19th (must be removed by 17:00 hrs).

Congress Meals

Breakfast will not be served. The first refreshment break on Monday is at 10:00 – 10:30 hrs, Tuesday at 10:10 – 10:40 hrs, Wednesday at 10:00 – 10:30 hrs on the ground floor.
Lunch on Monday will be at 12:30 – 13:30 hrs,
Tuesday at 12:40 – 13:45 hrs,
Wednesday at 12:15 – 13:15 hrs.

Official Congress Dinner

The Congress Dinner located in the former departure hall of Tempelhof Airport will start on Tuesday, June 18th, at 19.00 hrs. Free shuttles to the Dinner location will run between 17:30 and 18:30 hrs in front of the bcc/Alexanderstrasse. Shuttles back to the bcc will run between 22:30 – 24:00 hrs. **Important:** Please take your Congress Badge with you. Your Congress Badge is your admission ticket.

City Bus Tour & Free City Walks

On Sunday, June 16th, a guided city bus tour will start at 12:00 hrs in front of the bcc/Alexanderstrasse (if booked). At 12:00, 14:00 and 16:00 hrs, three free guided city walks for all participants of the IRC will be offered. Meeting point is in front of the bcc entrance.

Bus Stops

for Excursion/Field Trip departure times, in front of the bcc/Alexanderstrasse:

Excursion Nauen
Sunday, June 16th, departure: 11:30 hrs

Field Trip West
Wednesday, June 19th to the 21st, departure: 17:00 hrs

Field Trip North
Thursday, June 20th to the 21st, departure: 7:30 hrs

Field Trip South
Thursday, June 20th to the 21st, departure: 7:00 hrs

Important: Your Congress Badge is your Field Trip ticket. Please take it with you.

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Groupe Consultatif International de Recherche sur le Colza – International Consultative Group of Research on Rapeseed

GCIRC is an international association of people interested in technical advances in rapeseed production and processing.

Its Constitution defines its aims as follows:

- to develop scientific and technical research as well as studies and experiments concerning improvement of rapeseed and its processed products from agronomic, technological and food-related perspectives
- and to ensure close links between researchers.

To fulfill its aims, GCIRC

- contributes to coordination of technical studies carried out in various countries
- assumes responsibility for establishing the dates and locations of International Rapeseed Congresses dealing with rapeseed research every four years
- and convenes scientists from various fields and countries in a plenary session or specialized study committees held periodically between two congresses.

How is GCIRC organized?

The Association is made up of active and honorary members working on rapeseed.

Candidates may apply personally or be presented by an organization. In the latter case, membership fees of successful candidates shall be paid by the organization in question.

The annual membership fee is determined by the Board.

New rules for membership will be examined by the GCIRC General Assembly, on June 17th, 2019.

Further information ...

If you would like to find out more about GCIRC's activities or if you wish to apply, please consult GCIRC's website: **www.gcirc.org** or contact Etienne Pilorgé (GCIRC Secretary-Treasurer): **epilorge@terresinovia.fr**, or Laetitia Devedeux: **l.devedeux@terresinovia.fr**. You may also visit the GCIRC information desk during the Congress.

Union for the Promotion of Oil and Protein Plants

Sow ideas ...

The Union for the Promotion of Oil and Protein Plants (UFOP) was founded in 1990 by the German Farmers' Association (Deutscher Bauernverband e. V.) and the German Plant Breeders' Association (Bundesverband Deutscher Pflanzenzüchter e. V.). With its unique association structure, UFOP works in national and international committees to represent the political interests of companies, associations and institutions involved in production, processing and marketing of domestic oil and protein plants.

Harvest success!

In contrast to almost all other agricultural organizations, UFOP has succeeded in combining cultivation, growing as well as market and agrarian politics into a single concept backed up by the entire agrarian economy.

UFOP's activities have produced considerable results. Biodiesel from renewable feedstocks has for example been developed successfully as a flagship product. Comprehensive knowledge about rapeseed oil's nutritional qualities has been compiled. Foodstuffs based on domestic oil and protein plants make an important contribution to domestic protein supply and are defended by a respected representative body: UFOP. Agricultural practice benefits from extensive practical information and variety test results.

Tasks

UFOP's work is divided into four important areas of responsibility:

- Representing political interests in national and international committees
- Optimizing agricultural production by promoting research and support for variety testing
- Promoting projects to develop recycling options in the animal and human nutrition sectors and in the field of material and energy use
- Public relations work to promote sales of all end-products of domestic oil and protein plants.

Further information ...

If you would like to find out more about UFOP's activities or if you have questions about domestic oil and protein plants, please consult UFOP's website: **https://www.ufop.de/english/news**

Steering Committee

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Deutsche Saatveredelung AG, Germany

Stephan Arens
UFOP e. V., Germany

Michael Hess
BASF SE, Germany

Dietmar Brauer
NPZ / Norddeutsche Pflanzenzucht, Germany

Norbert Breuer
WPR COMMUNICATION GmbH & Co. KG, Germany

Olaf Christen
Martin-Luther-University Halle-Wittenberg, Germany

Martin Frauen
NPZ / Norddeutsche Pflanzenzucht, Germany

Wolfgang Friedt
Justus-Liebig-University Giessen, Germany

Reinhard Hemker
Groupe Limagrain, Germany

Folkhard Isermeyer
Thünen Institut, Germany

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Pioneer Hi-Bred International, Inc., Germany

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Julius-Kühn-Institut, Germany

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Canola Council of Canada

Arnaud Rousseau
Groupe Avril, France

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The Plant Breeding and Acclimatization Institute, Poland

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UFOP e. V., Germany

Lone Buchwaldt
Agriculture and Agri-Food Canada

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Distinguished Professor Zhejiang University (ZJU), Hangzhou, China
Universite d'Evry val d'Essonnes, Evry, France

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Andreas Stahl
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Andreas von Tiedemann
Georg-August-University, Göttingen, Germany

Klaus Wallner
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Welcome Notes

Wolfgang Friedt

GCIRC President

The main research interests of Wolfgang Friedt are genetic diversity, breeding science and plant breeding, including biotechnology, genetics and genomics, focusing on major crop plants such as barley *(Hordeum vulgare)*, bread wheat *(Triticum aestivum)*, sorghum *(S. bicolor)* and oilseed rape *(Brassica napus)*.

Major research topics include i) the genetic basis of biomass and grain yield and future yield trends in crops (e. g. wheat), ii) the genetic basis of heterosis, MS systems and hybrid breeding in winter barley, oilseed rape and sorghum, iii) the relevance and importance of the structure and function of root systems for resource efficiency and agronomic performance of crop plants; iv) disease resistance and tolerance against environmental (abiotic) stresses such as drought and cold; v) seed development and major seed compounds (starch, lipids, protein, fibre) in oil- and protein crops.

Michael Stübgen

Parliamentary State Secretary at the Federal Ministry of Food and Agriculture (BMEL)

Michael Stübgen has been Member of the German Bundestag since 1990. He has been Chairman of the Brandenburg State Group of the CDU / CSU Group since 1998 and was European Policy Spokesman and Chairman of the Europe Working Group of the CDU / CSU parliamentary group in the German Bundestag (2005 – 2018). Mr. Stübgen has been Parliamentary State Secretary to the Federal Minister of Food and Agriculture since March 2018.

Wolfgang Vogel

Chairman UFOP, Vice President German Farmers' Association

Wolfgang Vogel has been President of the Saxon State Farmers' Association since 2007 and Chairman of the Union for the Promotion of Oil and Protein Plants since 2012. Mr. Vogel is Vice President of the German Farmers' Association (DBV) and Chairman of the DBV Grain Committee of Experts. The graduate agricultural engineer is managing director of Bauernland GmbH in Beiersdorf (Saxony) as his main profession.

Opening Speeches I

Helmut Schramm

President of Agricultural Affairs for Germany

Helmut Schramm has been President of Agricultural Affairs for Germany since January 2019. After studying agricultural sciences at the Technical University of Munich-Weihenstephan and obtaining his PhD in the field of phytopathology, Helmut Schramm began his professional career in 1988 as a management trainee in the Crop Protection Business Group of Bayer AG. A few months later, he took over the worldwide function of product manager for fungicides. In 1990, Helmut Schramm became Technical Director in Turkey and moved to UK/Ireland in the same function in 1993. From 1997 to 2001, he headed the Garden/Professional Care business unit at Bayer Pflanzenschutz in Monheim, which bundled the non-agricultural activities. In 2001, he moved to the United States in the same function, where he headed the global consumer business following Bayer's acquisition of the crop protection activities of Aventis. After returning from the United States in 2007, he was responsible for the global fungicides business at Bayer CropScience AG, Monheim. In 2009, he also assumed responsibility for the Seed Treatment Products business unit. From July 2011 to December 2018, Helmut Schramm was Chief Executive Officer of Bayer CropScience GmbH.

Michael Hess

Business Management Crop Protection for Germany, Austria, Switzerland and Benelux at BASF SE

Michael Hess has been in agricultural business for over 20 years. He worked in various marketing and sales functions for many years until he took over as Sales Manager of Crop Protection for Germany and Austria at BASF in 2000. From 2007 Michael Hess worked in European marketing until he moved to Prague in June 2009 as Head of Central Europe, where he was responsible for BASF's crop protection business in 14 countries.

Opening Speeches II

Dietmar Brauer

CEO Rapool-Ring GmbH, Germany

Dietmar Brauer is Managing Director of the sales organization Rapool-Ring GmbH and vice-Chairman of the sales organization Saaten-Union GmbH. He is also Vice-chairman of the Union for the Promotion of Oil and Protein Plants (UFOP) and member of the Board in several organizations like European Seed Association (ESA), Bundesverband Deutscher Pflanzenzüchter e. V. (BDP) and Vice-President of the European Oilseed Association (EOA) in Brussels and Paris.

After a business apprenticeship and a study of business administration, he joined the company of his family, Norddeutsche Pflanzenzucht Hans-Georg Lembke KG (NPZ) in Hohenlieth in 1987.

In 1991/92, NPZ repurchased the breeding station in Malchow/Island of Poel (after expropriation in 1945) and Dietmar Brauer became Managing Director of this branch in Malchow. In 1997 he became General Managing Partner of the NPZ-group including the following companies: NPZ Semences SARL Paris (France), NPZ Ukraina, Kiev (Ukraine), LS Plant Breeding (UK), LS Production (France), DL Seeds Morden/MA (Canada). The NPZ group employs more than 250 staff members at three locations. He is also Partner of the breeding company W. v. Borries-Eckendorf GmbH & Co. KG, Eckendorf (Germany) and Director of the Board of NPZ Australia.

Congress Dinner Speech

Michiel de Jongh

Head of Syngenta Seedcare | Based in Basel, Switzerland

Michiel de Jongh holds an M. Sc. degree in Industrial Engineering & Management Science from Eindhoven University of Technology in the Netherlands. While he grew up in the Netherlands, Michiel de Jongh spent the last 15 years living abroad in Spain, the US, Argentina, Korea, Ukraine and Canada, working for a leading Fortune-500 agriculture company. During that time, he held a variety of roles, from Human Resources to Sales and Operations, and for the last eight years has been heading businesses in a general management capacity. Earlier in his career, Michiel de Jongh worked in business, consulting and in an entrepreneurial role as co-founder of a business incubator.

He is passionate about modern agriculture and the role Syngenta play as an industry in feeding a growing population in a sustainable and cost-effective manner, with innovative products, applications and services.

Plenary Session Speakers I

Hubertus Paetow

→ *Challenges and prospects of oilseed rape production*

President of DLG, Germany
Hubertus Paetow has been President of DLG since 2018. Born in Schleswig-Holstein, Germany, in 1967, he completed his apprenticeship as a farmer there. After studying Agricultural Sciences in Göttingen and Kiel, he worked as managing director of an arable farm near Kiel until 2005. Since then he has been managing his own farm with a focus on arable farming and seed production in Finkenthal-Schlutow (Mecklenburg-Western Pomerania). He is a member of various boards in associations and local politics and in 2015 became Vice President of DLG and Chairman of the DLG Test Center.

Luc Ozanne

→ *Future markets of oilseeds, vegetable oils and proteins*

Managing Director Sofiprotéol, France
Luc Ozanne joined Sofiprotéol, a finance and development company subsidiary of the Avril Group, as Managing Director in 2011. He has extensive investment and market analysis experience in the agroindustry and food sectors. He graduated as an agronomy engineer from ENSAIA (National School for Agronomy and Food Science) and holds a management diploma from Ecole Polytechnique.

John Kirkegaard

→ *Agronomic challenges to adapting canola into cropping systems of the world*

CSIRO, Australia
John Kirkegaard is a farming systems agronomist who applies his expertise in agricultural research to develop practical solutions to Australia's farming challenge – to produce more crop with less input while protecting the environment. For example, John Kirkegaard is currently investigating ways to improve the productivity of no-till farming systems, increase the profitability of rotation crops such as canola, develop dual-purpose crops that can be used for grazing and grain production, and improve the use of deep-stored water by crops.

He joined CSIRO as an agronomist in 1990 to improve the productivity and sustainability of dry-land mixed farming systems in southeast Australia. During his career, he and his research teams have combined detailed studies of soil-plant interactions with broader considerations at the farming system level to develop innovative new approaches to improve farm productivity.

Rod Snowdon

→ *Understanding and exploiting the dynamic* Brassica napus *genome*

Justus Liebig University Giessen, Germany
Rod Snowdon is Professor of Plant Breeding at Justus Liebig University in Giessen, Germany, where he moved in 1993 after studying plant biology and genetics in New Zealand. Rod Snowdon leads a large research program working on genome analysis, quantitative trait dissection and breeding of major crops with a major focus on winter rapeseed. He has close collaborations with international research partners and with the breeding industry. In addition to classical quantitative genetics and molecular breeding, his group implements high-throughput genomics and innovative phenotyping solutions for analysis and dissection of genome structural diversity, investigation of complex trait regulation and prediction of trait performance. A major feature in many studies is the role of dynamic genome restructuring as a driver of genetic diversity for quantitative traits.

Plenary Session Speakers II

Andreas von Tiedemann

→ *Biotic constraints in rapeseed production – a global survey on pests and diseases and the options of control*

University of Goettingen, Germany
Andreas von Tiedemann has been head of the Division of Plant Pathology and Crop Protection at the University of Goettingen since 2002. He is an agricultural plant pathologist by training with a focus in fungal diseases of arable crops. In 2010, he implemented an international master program on Crop Protection in Goettingen which has so far attracted students from more than 30 countries. The main focus in research is on enhancing knowledge about the occurrence, epidemic development and damage potential of plant diseases and the interaction with crop production systems. During the last two decades, a chief interest in his research has been on fungal diseases in oilseed rape including Phoma blackleg, Sclerotinia stem rot, Verticillium stem striping and club root. Andreas closely collaborates with breeders in order to identify sources of resistance in the wider brassica gene pool and to unravel mechanisms of cultivar-derived resistance through in-depth plant-fungus interaction studies. Further research goals address the development of IPM tools such as forecasting systems or biological approaches in crop protection.

Samantha Cook

→ *Ecologically-based integrated pest management in rapeseed: a need not an option*

Biointeractions and Crop Protection, Rothamsted Research, United Kingdom
Samantha Cook is a Senior Research Scientist working in the Department of Biointeractions & Crop Protection at Rothamsted Research UK. She leads a group working on 'Eco-IPM' developing ecologically-based approaches for integrated pest management strategies. Her work is focused on oilseed rape cropping systems. She has particular interests in the pollen beetle (Brassicogethes/Meligethes aeneus), cabbage stem flea beetle (*Psylliodes chrysocephala*), and the use of trap cropping and push-pull strategies to reduce the need for insecticides. Her team are also involved in researching improved monitoring and decision support systems in oilseed rape crop management as well as methods to improve conservation biocontrol potential in the crop. She is the convenor of the entomology subsection of the IOBC/WPRS Working Group 'Integrated Control in Oilseed Crops'.

Henning Kage

→ *Optimizing resource use efficiency and carbon footprint in oilseed production systems*

Professor for Agronomy and Crop Science, Germany
Since 2003, Henning Kage is professor for Agronomy and Crop Science at Christian-Albrechts-University in Kiel, Germany. He works on different aspects of sustainable cropping systems from crop to cropping system level. In particular he is/was involved in projects for phenotyping cereal crops and oilseed rape, measurement and modelling of GHG emissions in bioenergy crops (maize/oilseed rape), heat and drought stress on cereal crops, model-based nitrogen fertilization advisory systems and crop rotation effects on resource use efficiency of cropping systems. Experimental field work combined with problem-specific tailored dynamic system models play a key role in the work of his group.

Henning Kage earned his PhD from Goettingen University, Germany in 1992 on a topic about simulation modelling of nitrogen uptake efficiency of faba beans. He further worked as a post-doc at the Potsdam-Institute of Climate Impact Research and as an assistant professor at Hannover University, Germany, in the area of vegetable cropping systems.

Ingeborg Brouwer

→ *Dietary fats and cardiovascular health*

Professor of Nutrition for Healthy Living, The Netherlands

Ingeborg A. Brouwer, MSc, PhD, FAHA is professor of Nutrition for Healthy Living at the Department of Health Sciences of the VU University Amsterdam, the Netherlands. Her work focuses on nutrition and health. Ingeborg Brouwer is trained as a nutrition scientist at Wageningen University (MSc), The Netherlands. She completed her PhD in Medical Sciences in 1999 at the Catholic University in Nijmegen, the Netherlands. As post-doc at the Wageningen Centre for Food Sciences she organized and coordinated a multi-centre clinical trial on effects of fish oil on cardiac arrhythmia endpoints. Between 2003 and 2006 she was project leader at the Wageningen Centre for Food Sciences where she led a project on 'N-3 fatty acids and cardiac arrhythmia'. In 2006 she was chosen to become assistant professor in the program of Academy professor Martijn B. Katan (Royal Netherlands Academy of Sciences) and therefore moved to the Department of Health Sciences VU University, Amsterdam, the Netherlands. She became associate professor at the VU University in January 2010 and full professor in 2014. She is co-coordinator and project manager of two large EU consortia (MooDFOOD and PROMISS) and supervises several PhD students. Her current work focuses on the role of nutrition in health and sustainability.

Curtis Rempel

→ *Increasing the usage value of canola meal*

Vice President of Canola Council of Canada

Curtis Rempel is the vice president of Crop Production and Innovation at Canola Council of Canada, and joined the Council in July 2012. He is responsible for directing the Crop Production team agronomists and staff with a mandate to optimize profitability for producers and the supply chains they serve while minimizing production risk. Curtis Rempel develops research priorities for canola production, oil and meal utilization and also guidelines for sustainability and production stewardship. In his function, he is liaising between producers, industry and academia in order to optimize extension activity. He is managing the coordination of the trials and budget for the Western Canada Canola/Rapeseed Recommending Committee and the Canola Performance Trials. Further, he is monitoring and managing issues related to domestic and global biotechnology acceptance and regulation. Mr. Rempel is representing Canadian canola's interests with industry and professional groups.

Caixia Gao

→ *Genome editing with programmable nucleases in crop plants*

Chinese Academy of Sciences, Beijing

Caixia Gao is Principal Investigator of the Institute of Genetics and Developmental Biology (IGDB), Chinese Academy of Sciences. Prior to joining IGDB in 2009, she served as Research Scientist of DLF's biotechnology group in Denmark, where she worked in plant genetic transformation and molecular biology. Professor Gao completed her Ph. D. in Plant Genetics at China Agricultural University, Beijing, and her M. Sc. and B. S. degrees in Agronomy at Gansu Agricultural University, Lanzhou. Her current research area mainly deals with developing a highly efficient and robust CRISPR platform in plant cells to enable targeted genome editing as well as employing the developed platform for targeted gene mutagenesis, addition, editing and transcriptional modulation to identify and modify plants traits for high quality, disease resistance and stress tolerance in crop species.

Program Overview and Schedule

Detailed Information About All Topics

The IRC 2019 especially springs to life with the contributions and insights given by its participants. We are looking forward to fascinating speeches, lively discussions, and valuable poster contributions. Following, you will find eight different topics in which contributions will be presented.

1. GENETICS, GENOMICS AND BREEDING

- Pan-genomic revolution in crucifer genetics and breeding (genome organisation, structural variation, plasticity
- New diversity, interspecific hybridization, wide crosses
- Improving plant development: plant architecture, phenology
- Genetics, physiological basis and improvement of resource use efficiency
- Genetics and breeding for improved seed composition for human and animal nutrition (oil, protein, minor components)
- Breeding for higher heterosis and hybrid yield in OSR/canola
- Transgenics and New Breeding Techniques (NBT) – applications in OSR/canola research and breeding
- Genomic selection in OSR/canola
- Breeding for abiotic stress tolerance in OSR/canola (cold, heat, drought, etc.)

2. DISEASES AND PESTS, PLANT PROTECTION AND WEEDS

- Major fungal and viral diseases, regional impact and measures of control (e.g. Blackleg, Clubroot, Sclerotinia, Verticillium, Alternaria, TuYV)
- Breeding for disease resistance
- Chemical protection against insect pests, safeguarding beneficials and non-target organisms (e.g. bees)
- Breeding for insect resistance or tolerance in OSR/canola
- Weed control in OSR/canola incl. herbicide resistance

3. AGRONOMY AND CROP SCIENCE

- International comparison of OSR/canola cultivation
- Optimizing crop rotations for/with OSR/canola
- NUE – Nutrient use efficiency (N, P, other)
- Requirements of OSR/canola cultivation in temperate regions
- Identifying suitable variety types adapted to adverse conditions

4. ANALYSIS, USE OF PRODUCTS

- Economy in gross quality of OSR/canola commodities (long-time trend)
- Seed chemistry and seed composition
- Oil quality (low sats, omega-3, HOLLI, HEAR)
- Meal quality – protein and antinutritives (fibre, glucosinolates, phytate, sinapin): Genetic vs technological approach
- OSR/canola oil as biofuel

5. RAPESEED/CANOLA FOR HUMAN NUTRITION

- OSR/canola oil for human nutrition
- Oil composition vs. stability and functionality – Quality requirements for oil from OSR/canola (minor components, sensoric aspects)
- "Fish oil" (EPA, DHA) from crucifers (OSR/canola)
- Protein for human nutrition
- Politics, markets, consumer affairs (e.g. GMO)

6. RAPESEED/CANOLA FOR ANIMAL NUTRITION

- Requirements for the use of OSR/canola cake and extraction meal: breeders' and nutritionists' view
- Improvement of meal/protein quality for ruminants, pigs, poulty, and aquaculture
- Politics, markets, environment, acceptance (e.g. GMO)

7. ECONOMY AND MARKET

- Global comparison of OSR/canola farm economy
- Optimizing farm economy with OSR/canola: Australia, Canada, China and Europe
- Global status of genetically modified or genome edited OSR/canola
- Global markets of OSR/canola oil (incl. biodiesel), meal and protein
- Sustainability of OSR/canola production

8. MUSTARD AND OTHER CRUCIFEROUS OILSEED CROPS

InVigor®

Did you know that BASF is now a seed company?

BASF has a new brand for oilseed rape winter and spring hybrids – InVigor®.
N°1 globally, InVigor® is recognised by European growers for winter hardiness, standing power and an attractive disease resistance package.
In addition, InVigor® Clearfield® hybrids offer a powerful, broad-spectrum weed control in the most flexible way, including brassica weeds and volunteer oilseed rape.

You'll be glad you planted it.

Clearfield®
Production System for Oilseed Rape

BASF
We create chemistry

SUNDAY
16|06|19

10:00 Registration desk open

11:30 Departure of Field Trip to Nauen

12:00 Guided city bus tour

12:00 + 14:00 + 16:00 Guided city walk

13:00 Workshop: Blackleg Disease – Resistance and Management

15:30 Workshop: Clubroot in Oilseed Rape – From Minor Disease to Major Challenge

18:00 – 21:00
Get-Together at bcc

MONDAY
17|06|19

presented by Bayer CropScience Deutschland GmbH

08:35 **Opening Ceremony**
Welcome note by Wolfgang Friedt, President of GCIRC

09:00 **Greetings**
- **Wolfgang Vogel, Chairman of UFOP**
- **Michael Stübgen, Parliamentary State Secretary, Federal Ministry of Food and Agriculture (BMEL)**

09:40 **Mark of Honor/ Bestowal of E.Sc. Award**

COFFEE BREAK
presented by Limagrain GmbH

10:30 **ADDRESS:** Challenges and prospects of oilseed rape production

11:00 **TALK 1:** Future markets of oilseeds, vegetable oils and proteins

11:40 **TALK 2:** Agronomical challenges to adapting canola into cropping systems of the world

12:20 **NOTE Sponsor of the Day: Bayer CropScience Deutschland GmbH**

LUNCH
presented by KWS SAAT SE

13:30 **Parallel Thematic Sessions**
- New crop diversity
- Animal Nutrition
- Crop management strategies
- Insect Pests
- 15:00 Genetics of Yield-related traits

COFFEE BREAK

15:30 **Parallel Thematic Sessions**
- Genomic Diversity
- Processing and new products
- Plant nutrition and abiotic stress
- Insect Pests (continued) + Pest Control
- 17:30 Clubroot

17:30 – 20:00
Poster Reception

TUESDAY
18|06|19

presented by BASF SE

08:00 **TALK 3:** Understanding and exploiting the dynamic *Brassica napus* genome

08:40 **TALK 4:** Devastating diseases and their control in oilseed rape

09:20 **TALK 5:** Ecologically-based Integrated Pest Management in rapeseed: a need not an option

10:00 **NOTE Sponsor of the Day: BASF SE**

COFFEE BREAK
presented by Pioneer Hi-Bred GmbH

10:40 **TALK 6:** Optimizing resource use efficiency and carbon footprint in oilseed rape production systems

11:20 **TALK 7:** Dietary fats and cardiovascular health

12:00 **TALK 8:** Increasing the usage value of canola meal

LUNCH
presented by R.A.G.T. Saaten Deutschland GmbH

13:45 **Parallel Thematic Sessions**
- Variety Breeding
- Protein for Human Nutrition
- Genomic Diversity (continued)
- Sclerotinia
- Economy & Market
- 15:15 Workshop: Agronomy – Managing Environment Stress

COFFEE BREAK / POSTER SESSION

Parallel Thematic Sessions
- 15:45 Workshop: Rapeseed/Canola Protein for Human Nutrition
- Workshop: Future-proofing insect pest control in a world with declining insecticidal options
- 16:15 Mustard
- Other diseases
- Seed Quality Traits
- 17:45 Sclerotinia (continued)

19:00
Congress Dinner, Tempelhof
supported by Syngenta Agro GmbH

WEDNESDAY
19|06|19

presented by RAPOOL-RING GmbH

08:30 **Parallel Thematic Sessions**
- Heterotic Pools
- Genetic of Root Traits + Breeding Methodology
- Integrated pest and crop management
- Blackleg
- 10:00 Workshop: Sclerotinia – Current and future breeding methods (End 10:45)

COFFEE BREAK
presented by Cargill Deutschland GmbH

10:30 **Parallel Thematic Sessions**
- Mutagenesis and Gene editing
- Blackleg (cont.) + Plant Protection
- Yield physiology and phenotyping
- Mustard (continued)
- 12:15 Other topics

LUNCH

13:15 **NOTE Sponsor of the Day: RAPOOL-RING GmbH**

13:25 **TALK 9:** Genome editing with programmable nucleases in crop plants

14:05 **Podium Discussion:** Global Future of Oilseed Rape/Canola
followed by Poster Awards

COFFEE BREAK

15:45 **Concluding Remarks**

16:00 **Invitation to IRC 2023 in Sydney**

16:15 **Farewell**

16:30 **End of Congress**

17:00 **Start Field Trip West (at the bcc)**

17|06|2019 – MONDAY

08:00 **Arrival of Congress Delegates**

08:35 C01 **Welcome Note** *Wolfgang Friedt, International Consultative Group of Research on Rapeseed (GCIRC)*

09:00 C01 **Greetings** *Wolfgang Vogel, UFOP, German Farmers' Association (Germany)*
Michael Stübgen, Parliamentary State Secretary, Federal Ministry of Food and Agriculture (BMEL) (Germany)

09:40 C01 **Mark of Honor - Bestowal of the Eminent Scientist Award: Wilf Keller** – *Laudation by Rod Mailer (GCIRC Board Member)*

10:00 **COFFEE BREAK,** *PRESENTED BY LIMAGRAIN GMBH*

10:30 C01 **Address – Challenges and prospects of oilseed rape production** *Hubertus Paetow, German Agricultural Society (Germany)*

11:00 C01 **Plenary Talk 1 – Future markets of oilseeds, vegetable oils and proteins** *Luc Ozanne, Sofiprotéol (France)*

11:40 C01 **Plenary Talk 2 – Agronomic challenges to adapting canola into cropping systems of the world** *John Kirkegaard, CSIRO (Australia)*

12:20 C01 **Note Sponsor of the Day: Bayer CropScience Deutschland GmbH** *Helmut Schramm, Bayer AG (Germany)*

12:30 **LUNCH,** *PRESENTED BY KWS SAAT SE*

13:30 Parallel Sessions

C01 NEW CROP DIVERSITY

Natural and induced genome structural variation in oilseed rape
- ***Z.He,*** I.Bancroft, L. Havlickova

Specific chromosome rearrangements and allelic variants influence fertility and genome stability in novel *Brassica allohexaploids*
- ***A. S. Mason,*** R. Gaebelein, S. V. Schiessl, B. Samans, J. Batley

Expanding a novel gene pool of *Brassica napus* with massive introgression of related oilseed species and exploring its intersubgenomic heterosis
- ***J. Zou,*** D. Hu, J. Jing, H. Qin, W. Zhang, Y. Zhang, J. Shen, J. Meng

Genome reshuffling revealed by mapping and genome sequencing of progenies from interspecific crosses involving *B. carinata, B. rapa* and *B. napus*
- ***Y. Zhang,*** X. He, H. Zhang, H. Xue, D. Hu, H. Qin, M. Wang, Q. Yang, J. Meng, J. Zou

Breeding *Brassica napus* canola by use of *B. oleracea*: Mapping flowering time and biomass traits in the C genome of *B. napus* using a population carrying genome content introgressed from *B. oleracea*
- ***H. Rahman,*** R. A. Bennett, B. Kebede

A08 ANIMAL NUTRITION

Canola meal for poultry – Recent studies and perspectives
- ***B. Slominski,*** A. Rogiewicz

Rapeseed feeds for swine – Recent studies and perspectives
- ***F. Schöne,*** A. Quinsac, M. Weber, G. Bellof

Increase of the protein content of rapeseed meal by sifting technology
- ***A. Quinsac,*** S. Dauguet, C. Peyronnet, M. Krouti, A. Gendron, P. Carré, F. Brionnet

Chemical composition and nutritional characteristics of rapeseed meal produced in France
- ***S. Dauguet,*** E. Tormo, A. Sicaire, M. Krouti, V. Jauvion, A. Quinsac

Pea and rapeseed meal in protein reduced diets for broilers
- ***P. N. Weindl,*** P. A. Weindl, G. Bellof

15:00 **COFFEE BREAK**

15:30 Parallel Sessions

C01 GENOMIC DIVERSITY

Uncovering the scope of fixed homoeologous recombination events in *Brassica napus* using long read sequence data
- ***I. Parkin,*** C. Koh, E. Higgins, A. Sharpe

Exploiting Long Read Sequence Technology to Resolve the Hidden Genomic Landscape of *Brassica* Species
- ***A. Sharpe,*** I. Parkin, S. Perumal, C. Koh, E. Higgins, L. Jin, M. Buchwald, T. Bender, S. Robinson

Long reads reveal small scale genome structural variations in *Brassica napus*
- ***H. Chawla,*** S. Chakrabarty, A. Welke, S. Tamilselvan-Nattar-Amutha, C. Obermeier, R. Snowdon

Cytoplasmic evolution of *Brassica* genus and its significance for developing novel *Brassica* crops
- ***J. Qiao,*** X. Zhang, B. Chen, Q. Hu and X. Wu

Methods to determine copy number variation in *Brassica* species
- ***S. Schiessl-Weidenweber,*** R. Snowdon, A. Mason

Gene expression patterns and RdDM-mediated epigenetic regulations of duplicated genes in *Brassica napus* subgenomes A and C
- ***C. Tong,*** X. Ge, Z. Li, S. Liu

A08 PROCESSING AND NEW PRODUCTS

Pilot Plant Concept "EthaNa" for Ethanolic Extraction of Dehulled Rape Seeds
- ***G. Börner,*** A. Pior, D. Pufky-Heinrich

New Processing Technology of High Quality and Fragrant Rapeseed Oil
- ***L. Wen-lin,*** H. Feng-hong, L. Chan-sheng, W. Chu-yun

Is profiling of volatile compounds from virgin rapeseed oil a promising tool for the assessment of the sensory quality?
- ***B. Matthäus,*** L. Brühl, A. Bonte

Metabolite profiling analysis and quantification of phenolic compounds between the yellow- and black-seeded rapeseed by HPLC-MS
- ***C. Qu,*** N. Yin, S. Wang, S. Shen, X. Chen, K. Lu, Z. Tang, X. Xu, Y. Liang, J. Li

Study on the biological activity of canolol in rapeseed oil
- ***M. Zheng,*** X. Xiang, X. Xia, Z. Zhang, L. Han, F. Huang

Requirements for Canola / Rapeseed Proteins for Use in Food and Feed
- ***R. Tressel,*** J. Palomino, C. Dawid

Taurine Production in *Brassica*: a New Marketable Trait
- ***F. Turano,*** M. Price, J. Thoguru, S. Cheepineeti, J. Shipp, K. Turano

17:30 *At the bcc* **Poster Reception** *(until 20:00)*

17:30 *At the same time as Poster Reception:* **GCIRC General Assembly** *(for members only)*

A03|A04 CROP MANAGEMENT STRATEGIES

Improving canola agronomy with third-party and farmer-run research
- ***C. Jurke,*** C. Rempel, M. Hartman, N. Philp

Tillage strategies to optimize rapeseed establishment: a method to support decision making
- ***S. Cadoux,*** A. Perrin, G. Sauzet, T. Inovia

Sowing companion plants with winter oilseed rape to reduce herbicide use. A survey
- ***A. Baux,*** X. Bousselin, P. Schumacher

Status of Clearfield Oilseed Rape and Prospects of Future Development in Europe
- ***J. Bessai,*** B. Gicquel, A. Schönhammer

A sensitivity analysis study for improving Sulphur management strategies in Winter Oilseed Rape
- ***S. Brunel-Muguet,*** E. Poisson, F. Kauffman, J. Trouverie, J.-C. Avice, A. Mollier

Strategies to optimize N fertilization of winter oilseed rape
- ***K. Sieling,*** H. Kage

B05|B06 INSECT PESTS

Breeding perspectives for pest control in rapeseed
- ***S. Rietz,*** S. Goertz, K. Lohaus, I. Vollhardt, B. Ulber, K. Feussner, K. Zienkiewicz, I. Feussner, N. Austel, T. Meiners, G. Leckband

Effect of hairiness in *Brassica* lines on flea beetle feeding behavior
- ***C. Olivier,*** T. Wist, D. Hegedus, Z. Heydarian, A. Jones

Development of molecular tools for identification and monitoring of main weevil pests and natural enemies in OSR
- ***C. Robert,*** S. Bothorel, S. Luce, A. Lauvernay, M. Leflon, G. Delvare, J. C. Streito, E. Pierre, P. Cruaud, M. Ollivier, G. Genson, A. Cruaud, J. Y. Rasplus

Damage from the brassica pod midge *Dasyneura brassicae* in relation to landscape factors and abundance of the midge and the seed pod weevil
- ***M. C. Larsson,*** A. Rösvik, E. Johansson, K. Henriksson, P. Anderson

Identification of plant traits related to the tolerance of WOSR to pollen beetle
- ***A. Jullien,*** A. Pinet, A. Mathieu, C. Richard-Molard, A. Fortineau

Non-targeted metabolome profiling of green flower buds in oilseed rape: Screening for resistance against the pollen beetle
- ***N. Austel,*** C. Böttcher, T. Meiners

A05|A06 GENETICS OF YIELD-RELATED TRAITS

Early Assessments on the Feasibility of Selection for Reduced Secondary Dormancy Potential in Annual *Brassica napus*
- ***S. Vail,*** C. Brown, R. H. Gulden, I. Parkin, S. Robinson, Steve Shirtliffe

Genetic characterization and fine mapping for multiple main inflorescence in *Brassica napus L.*
- ***W. Qian,*** Z. Liu, Y. Zhang, Q. Li, X. Wang, Y. Cui

Maternal control of seed weight in rapeseed *(Brassica napus L.)*: the causal link between the size of pod (mother, source) and seed (offspring, sink)
- ***J. Shi,*** N. Li, J. Zhan, X. Wang, G. Liu, H. Wang

Exploiting Natural Variation in Pod Shatter Resistance Genes for Rapeseed *(Brassica napus)* Improvement
- ***H. Cheng,*** J. Liu, R. Zhou, W. Wang, W.Chu, D. Mei, H. Cheng, C. Li, R.Raman, H.Raman, Q. Hu

Genetic variation and QTLs for transpiration efficiency and yield related traits under low rainfall environments in canola
- ***H. Raman,*** R. Raman, Y. Qiu, S. Diffey, L. Borg, B. McVittie, S. Rogiers, N. Shamaya, A. Easton, D. Tabah

Regulation of STM and CUC2 genes on apical meristem of cold-resistant winter *Brassica rapa*
- ***W. Sun,*** Y. Zhao, L. Ma, Y. Chang, J. Bai, Y. Pu, Z. Niu, J. Jin, L. Liu, J. Wu, Y. Fang, X. Li

Genome Editing for Rapeseed Genetic Improvement
- ***H. Cheng,*** C. Li, J. Liu , R. Zhou, W. Wang, Q. U. Zaman, H.Wang, D. Mei, Q. Hu

A03|A04 PLANT NUTRITION AND ABIOTIC STRESS

Genotypic Diversity and Plasticity of Root System Architecture in response to Nitrogen Availability in Winter Oilseed Rape *(Brassica napus)*
- ***C. Lecarpentier,*** L. Pagès, C. Richard-Molard

Deciphering the response of winter oilseed rape to nitrogen inputs: fine roots do matter in Nitrogen Use Efficiency!
- ***V. Vazquez-Carrasquer,*** C. Bissuel-Bélaygue, A. Laperche, M. Chelle, C. Richard-Molard

Deciphering the genetic diversity of WOSR seed yield elaboration and NUE in the field: what is the relative contribution of plant growth, leaf area dynamics, N uptake and N use efficiencies during the crop cycle?
- ***C. Bissuel-Bélaygue,*** M. Kutelmach, C. Richard-Molard, A. Tolleneare, J. M. Allirand, A. Laperche

A Review of Heat Stress in Spring and Winter Canola *(Brassica napus L.)*
- ***T. Feike,*** D. Sabboura, S. F. El Habbasha, T. Kautz

Effect of heat stress on canola yield and quality
- ***R. K. Uppal,*** R. Brill, J. Bromfield

Water shortages during flowering impact seed qualities in oilseed rape
- ***G. Bianchetti,*** F. Le Cahérec, A. Bouchet, A. Carrillo, C. Baron, B. Ly Vu, L. Leport, J. Buitink, N. Nesi

Temperature and radiation stresses explain most of the environmental variation of seed yield across a French network, and allow to tackle GxE interaction in winter oilseed rape cultivars
- ***E. Corlouer,*** A. Bouchet, A. Gauffreteau, C. Bissuel-Belaygue, N. Nesi, A. Laperche

B05|B06 INSECT PESTS (CONTINUED) + PEST CONTROL

Effect of migration time on population dynamics and damage potential of cabbage stem flea beetle *(Psylliodes chrysocephala L.)*
- ***N. Conrad,*** M. Brandes, B. Ulber, U. Heimbach

Pyrethroid resistance of insect pests of oilseed rape in Germany
- ***M. Brandes,*** U. Heimbach

Use of agronomical techniques to manage rape winter stem weevil *(Ceutorhynchus picitarsis)* and cabbage stem flea beetle *(Psylliodes chrysocephala)* populations in winter oilseed rape.
- ***C. Robert,*** C. Legall, C. Pontet, V. Lecomte, M. Geloen, S. Cadoux, G. Sauzet, L. Ruck

Neonicotinoid insecticide presence in flowing water and wetlands across Canada, impact on pollinators and aquatic invertebrates and risk mitigation with emphasis on canola production
- ***C. Rempel,*** K. Sapsford, S. Cook, A. Kalischuk, D. Feindel, R. Wilkins, G. McMaster, P. Bajracharya, D. Rheault, G. Robertson, P. Badiou, L. Mesones, M Walker, C. Harrington, D. Dyer

Integrated control of establishment pests in canola: an Australian perspective
- ***M. A. Nash***

Dropleg-technique against insect pests in flowering oilseed rape
- ***J. Hausmann,*** M. Brandes

Monitoring the number of offspring of some insect pests in oilseed rape in Germany
- ***U.Heimbach,*** M. Brandes

A05|A06 CLUBROOT

International initiative on the nomenclature and curation of clubroot resistance loci
- ***E. Diederichsen,*** R. Fredua-Agyeman, K. Hatakeyama, N. Hayashida, Y. P. Lim, K. Okazaki, H. Rahman, Z. Y. Piao, F. Yu, G. Peng

Genomic tools for the management of clubroot of canola *(Brassica napus)*
- ***L. Galindo-González,*** H. Askarian, H. Tso, M. Holtz ,S-F. Hwang ,S.E. Strelkov

QTL analysis identifies genomic regions associated with clubroot disease in *Brassica* rape seed
- ***Y. P. Lim,*** S. R. Choi, S. Heon Oh, S. Hong, J. Jeevan Rameneni

Genome-wide association mapping of resistance to clubroot in *Brassica napus*
- ***G. Peng,*** F. Yu, A. Dakouri, M. Lamara, M. Karim, J. Wang, Q. Chen, S. E. Strelkov , S. Hwang, B. D. Gossen

The mechanism and durability of intermediate resistance to *Plasmodiophora brassicae* pathotype X conferred by two resistance genes
- ***G. Peng,*** R. Wen, T. Song, N. Tonu, J. Lee, K. Hornaday, J. Bush, F. Yu

Influence of inoculum density, virulence of *P. brassicae* isolates and cultivar resistance on clubroot development and build-up of resting spores in oilseed rape cultivars
- ***N. Zamani-Noor,*** I. Krohne, B. Koopmann

Hormonal Responses to *Plasmodiophora brassicae* Infection in *Brassica napus* Cultivars Differing in Their Pathogen Resistance
- ***V. Konradyova,*** S. Prerostova, P. I. Dobrev, V. Knirsch, A. Gaudinova, B. Kramna, J. Kazda, J. Ludwig-Müller, R. Vankova

Multilevel analysis of the clubroot disease and its biological control by an endophytic fungus
- ***J. Ludwig-Müller,*** S. Auer, M. Cerny, B. Brzobohaty

18|06|2019 – TUESDAY

08:00 C01 **Plenary Talk 3 – Understanding and exploiting the dynamic *Brassica napus* genome** *Rod Snowdon, University of Giessen (Germany)*

08:40 C01 **Plenary Talk 4 – Biotic constraints in rapeseed production – a global survey on pests and diseases and the options of control**
Andreas von Tiedemann, University of Göttingen (Germany)

09:20 C01 **Plenary Talk 5 – Ecologically-based Integrated Pest Management in rapeseed: a need not an option**
Samantha Cook, Biointeractions and Crop Protection, Rothamsted Research, Harpenden (United Kingdom)

10:00 C01 **Note Sponsor of the Day: BASF SE** *Jörn-Fried Johannsen, BASF SE (Gemany)*

10:10 **COFFEE BREAK,** *PRESENTED BY PIONEER HI-BRED GMBH*

10:40 C01 **Plenary Talk 6 – Optimizing resource use efficiency and carbon footprint in oilseed rape production systems**
Henning Kage, University of Kiel (Germany)

11:20 C01 **Plenary Talk 7 – Dietary fats and cardiovascular health**
Ingeborg Brouwer, Department of Health Sciences of the VU University Amsterdam (The Netherlands)

12:00 C01 **Plenary Talk 8 – Increasing the usage value of canola meal** *Curtis Rempel, Canola Council of Canada (Canada)*

12:40 **LUNCH,** *PRESENTED BY R.A.G.T. SAATEN DEUTSCHLAND GMBH*

13:45 Parallel Sessions

B05|B06 VARIETY BREEDING	A05 PROTEIN FOR HUMAN NUTRITION	C01 GENOMIC DIVERSITY (CONTINUED)
An international breeding program in spring canola ▪ ***W. A. Cowling,*** J. Vuksic, R. Ezzy, J. Duguid, E. Gillis, O. Sass	**Opportunities and challenges for the production of canola / rapeseed protein for human nutrition** ▪ ***S. Garringer,*** M. Rass	**Quantitative disease resistance and structural genome variation** ▪ ***C. Obermeier,*** I. Gabur, H. S. Chawla, P. Vollrath, R. Snowdon
Maintaining Blackleg Resistance in a Commercial Breeding Program ▪ ***J. Christianson,*** X. Zhang, D. Leforestier, R. Fouquet	**CanolaPro: Feeding a growing population** ▪ ***G. Smolders***	**Resequencing and multi-environmental phenotyping of 1650 accessions of Rapeseed *(Brassica napus L.)*** ▪ ***X. Wu,*** G. Gao, T. Xie, X. Cheng, G. Yan, Bi. Chen, L. Li, H. Li, S. Chen, F. Chen, Y. Tu, M. Wang, Y. Xiang, M. Fu, Z. Huang, H. Wang
Official DUS Test and Plant Breeders Rights Protection of Winter Oilseed Rape in Germany ▪ ***E. Thiemt***	**"Native" rape seed protein product** ▪ ***S. Hruschka***	**Whole-genome resequencing reveals *Brassica napus* origin and genetic loci involved in its domestication and improvement** ▪ ***K. Lu,*** L. Wei, X. Li, X. Wang, A. H. Paterson, J. Li
Official VCU Test of Winter Oilseed Rape in Germany ▪ ***R. Manthey***	**Cruciferin subunit composition affects oil-water interface stabilization and heat-induced structure development** ▪ ***J. P. D. Wanasundara,*** T. S. Withana-Gamage, T. C. McIntosh, X. Qiu, D. D. Hegedus	**Resequencing 991 rapeseed genomes from a world-wide collection reveals genetic basis of ecotype divergence: A powerful platform for GWAS on agronomic and quality traits** ▪ ***Q. Wang,*** L. Jiang, D. Wu, Z. Liang, T. Yan, Y. Xu, L. Shen, H. Yu
Are bzh semi-dwarf hybrids deprived with regard to plot front-border effects in yield trials? ▪ ***K. Holzenkamp,*** A. Gertz, G. P. Bienert, H. C. Becker, A. Schierholt	**Amino Acid Content and Genetic Control in *Brassica napus L.*** ▪ D. L. W. Swaenepoel, C. McCartney, J. D. House, ***R. W. Duncan***	**Population Genomic Analyses Identify Signatures of Selection and Loci Associated with Agronomic Traits in *Brassica Napus*** ▪ ***Y. Zhang,*** M. Tang, Y. Liu, J. Huang, M. Hu, C. Tong, Y. Zhou, X. Cheng, L. Yang, L. Yang, S. Liu
Two decades of rapeseed and mustard cyto-genetic and breeding research at ARS, Mandor, Jodhpur ▪ ***B. R. Choudhary,*** S. R. Kumhar	**Tracing the bitter off-taste compounds in rapeseed protein isolates** ▪ ***C. Hald,*** C. Dawid, R. Tressel, T. Hofmann	**Computational Prediction and Characterization of 3D Genome Organization in *Brassica napus*** ▪ ***K. MacKay,*** T. Bender, I. Parkin, A. Kusalik, S. Robinson

15:15 **COFFEE BREAK & POSTER SESSION (60 MIN)**

16:15 Parallel Sessions

A03|A04 SCLEROTINIA (CONTINUED)	C01 SEED QUALITY TRAITS	A08 MUSTARD
Receptor-like kinases BAK1 and SOBIR1 are required for necrotizing activity of *Sclerotinia sclerotiorum* necrosis-inducing effectors ▪ ***D. Hegedus,*** S. Seifbarghi, M. H. Borhan, Y. Wei, L. Ma, C. Coutu, D. Bekkaoui	**Breeding for Long Chain Omega-3 Oil Canola** ▪ ***X. Deng,*** J. Hasan, K. Gray	**Exploring the genetic variation of the mustard *Sinapis alba* using a new reference genome** ▪ ***I. Parkin,*** L. Tang, S. Perumal, L. Jin, C. Shin Koh, V. Roslinsky, E. Higgins, D. Williams, B. Cheng
Detection of ascospore release of *Sclerotinia sclerotiorum* with real time PCR an important tool in understanding disease development in winter OSR ▪ ***A. C. Wallenhammar,*** M. Algerin	**Dissecting the genetic loci accounting for seed oil content of *Brassica napus* with reciprocal introgression mapping populations** ▪ ***M. Wang,*** Graham J King, Ruiyuan Li, Yan Long, Lei Shi, Jinxing Tu, Jinling Meng, Jun Zou	**Expression profiling of transporter genes in relation to glucosinolate accumulation in vegetative and reproductive sinks of *Brassica juncea*** ▪ ***G. Kaur,*** S. Sharma, H. Rani, R. Nagra, S.S. Banga
Fungicide sensitivity of *Sclerotinia sclerotiorum* and consequences for stem-rot control in oilseed-rape ▪ ***J. Derpmann,*** A. Mehl	**Rapid delineation of the potential candidate genes underlying fatty acid-associated loci via combining gene co-expression network analysis and QTL and GWAS in *Brassica napus L.*** ▪ ***Y. Cui,*** X. Zeng, H. Dong, J. Liao, S. Gongbu, H. Wang, D. Wei, Q. Xiong, W. Qian	**Antixenosis and antibiosis mechanisms of resistance to turnip aphid, *Lipaphis erysimi* in *Brassica juncea-fruticulosa* introgression lines** ▪ ***S. Kumar,*** S. Palial, C. Atri, S. S. Banga
Next generation molecular fungicides: control of *Sclerotinia sclerotiorum* using RNA interference technologies ▪ ***M. F. Belmonte,*** S. Whyard, P. Walker, N. Wytinck	**Investigation into the emerging problem of elevated erucic acid content in double-low oilseed rape crops in the UK** ▪ ***S. Kightley,*** H.Appleyard, L. Maile, T. Wood	**Hybrid speciation via genome merger** ▪ ***E.Katche,*** A.S. Mason
Reconsideration of disease cycle of Rapeseed stem rot caused by *Sclerotinia sclerotiorum* and management with biological agents ▪ ***D. Jiang,*** J. Xie	**The International Life Sciences Institute Crop Composition Database: An Open Resource for High Quality Compositional Data** ▪ ***V. J. Barthet,*** A. Edwards, A. F. Roberts, B. Bajaj, B. Fast, D. W. Roberts, J. R. Srinivasan, J. Helm, J. McDonald, M. Bedair, N. Gillikin, T. Sult	**Exploring diversity of *Brassica juncea* genomes to improve *B. napus* varieties** ▪ ***Z. Liu,*** L. Kang, L. Qian, H. Chen, L. Yang, W. Hua, M. Zheng
A Biosensor for *Sclerotinia* Stem Rot Forecasting ▪ ***X. S. Li,*** J. Yang, J. Chen, L. Shoute, S. MacKay		

17:45 **End of Parallel Sessions**

19:00 *Followed by* **Official Congress Dinner (supported by Syngenta) – Location: Tempelhof Airport (main hall)**
Bus shuttle service (17:30–18:30 from bcc to Tempelhof / 22:30–24:00 from Tempelhof to bcc)

A03|A04 SCLEROTINIA

Lectin genes, concanavalin, curculin and hevein, enhances resistance to the fungal pathogen *Sclerotinia sclerotiorum* in *Brassica napus*
- ***L. Buchwaldt***, D. Hegedus, D. Bekkaoui, J. Durkin, J. Nettleton, E. Dzananovic

Synchronous improvement of subgenomes in rapeseed for *Sclerotinia* resistance
- ***Y. Ding,*** J. Mei, W. Yang, B. Yan, H. Wan, W. Qian

Identification of *Brassica juncea* germplasm resistant to *Sclerotinia sclerotiorum* and study of inheritance in early generations
- ***P. Sharma,*** V. V. Singh, N. C. Gupta, P. D. Meena, P. K. Rai

Genome-wide association study to dissect the genetic regulation of metabolism and resistance to *Sclerotinia sclerotiorum* in *Brassica napus*
- ***Y. Zhang,*** M. Tang, Y. He, J. Huang, Y. Liu, X. Cheng, J. Liu, L. Liu, C. Tong, S. Liu

A critical role for AtGDSL1 lipase gene in *Sclerotinia sclerotiorum* resistance and functional identification of its rapeseed homologue that underwent selection during breeding
- ***X. Tan,*** L. Ding, M. Li, X. Guo, M. Tang, J. Cao, Z. Wang, K. Zhu, L. Guo, S. Liu

A08 ECONOMY & MARKET

Global rapeseed production – how do key players perform economically?
- ***Y. Zimmer***

Economics of open pollinating vs. hybrid rapeseed varieties
- ***P. Boczar***

Russian rapeseed – evolution and economic perspective
- ***S. Tuchin***

Western Australian seed options in rapeseed: prerequisites and economic implications
- ***J. Bucat,*** M. Seymour, M. Harries, B. French

Positioning Oilseed Rape in the High Oleic Oils Market
- ***F. Turon***

General Discussion

A06

WORKSHOP*

AGRONOMY – MANAGING ENVIRONMENT STRESS

A06 OTHER DISEASES

Turnip yellows virus-resistant rapeseed varieties as a possible solution against aphid-borne virus disease
- ***L. Ruck,*** E. Jacquot, E. Pichon, M. Souquet, A. Van Boxsom

Turnip Yellows Virus (TuYV): Incidence and impact on yield in European winter oilseed rape
- ***S. Abel,*** L. Hanneton, V. Gegas

The influence of different isolates of Turnip yellows virus (TuYVI and biotypes of *Myzus persicae* on rapeseed infection
- ***T. Will,*** H. Ziebell, R. Kölzsch, M. Kern, J. Hartrick, T. Thieme

Effector-triggered defence of brassicas against extracellular fungal pathogens
- ***H. U. Stotz,*** K. Noel, J. Stone, B. D. L. Fitt

Course of colonization and potential for seed transmission of *Verticillium longisporum* in winter and spring type oilseed rape *(Brassica napus L.)* under field conditions and the role of soil temperature
- ***X. Zheng***, A. Eseola, A. Pfordt, D. Lopisso, B. Koopmann, A. von Tiedemann

Integrating Control strategies Against soil-borne *Rhizoctonia solani* in OilSeed rape (ICAROS)
- ***R. Ray,*** D. Jayaweera, B. Ajigboye, M. Tait

A05 Begin 15:45

WORKSHOP*

RAPESEED/CANOLA PROTEIN FOR HUMAN NUTRITION

B05|B06 Begin 15:45

WORKSHOP*

FUTURE-PROOFING INSECT PEST CONTROL IN A WORLD WITH DECLINING INSECTICIDAL OPTIONS

MONDAY TUESDAY WEDNESDAY

* More detailed information can be found online at www.irc2019-berlin.com

19|06|2019 – WEDNESDAY

08:30

Parallel Sessions

C01 HETEROTIC POOLS	B05|B06 GENETIC OF ROOT TRAITS + BREEDING METHODOLOGY
Progress in Predictive Breeding in Oilseed Rape: A Path to Heterotic Pools and Beyond ▪ ***A. Abbadi,*** C. Flachenecker, J. Ahlemeyer, S. Möller, G. Leckband	**Understanding root traits – genetics, genomics and transcriptomic approaches in rapeseed/ canola** ▪ ***M. Rahman,*** M. Arifuzzaman
Whole genome predictions provide flexibility in the utilization of costly phenotypic data across environments with varying temperatures ▪ ***C. Koscielny,*** Stuart W. Gardner, Frank Technow, Robert W. Duncan	**Genomic analyses of rapeseed dissect selective signatures and genetic networks underlying plant architecture and yield traits** ▪ ***X. Wu,*** J. Hu, T. Xie, J. Zhao, G. Gao, J. C. Pires, J. Batley, H. An, B. Chen, G. Yan, F. Zhang, L. Li, H. Li, X. Cheng, J. Ma, K. Xu, M. Zhang, X. Xiao, Y. Luo, J. C. Pires, H. Li, Q. Huang, Y. Hui, X. Zhou, R. Li, S. Tian
Genomic and epigenomic patterns in novel heterotic pools of winter rapeseed *(Brassica napus)* ▪ ***H. Lee,*** A. Abbadi, R. Snowdon	**Temporal genetic patterns of root growth in *Brassica napus L*** ▪ ***X. Dun,*** J. Wang, L. Kuang, X. Wang, G. Liu, H. Wang
Evaluation of transcriptome and DNA methylation data for the prediction of hybrid performance in oilseed rape. ▪ ***S. Scholten,*** F. Seifert, S. Edelmann, C. Werner, C. Rockmann, H. Pospisil, R. Snowdon, B. Usadel, A. Abbadi, G. Leckband	**Genetic diversity of oilseed rape root morphology in response to nitrogen supply** ▪ ***C. Hermans,*** J. Louvieaux, L. Haelterman, L. Kupcsik, J. Xu, I. Bancroft, A. Stahl, R. Snowdon, S. Faure, A. Boucher, A. Laperche, N. Nesi
Potential of rutabaga *(Brassica napus var. napobrassica)* gene pool for use in the breeding of *B. napus* canola ▪ ***H. Rahman,*** B. Shiranifar, N. Hobson, B. Kebede, R. Yang	**Development and In-Field Validation of Genomic and Optimal Haploid Value Selection for Disease Resistance, Agronomic, and Seed Quality Traits in Canola** ▪ ***H.D. Daetwyler,*** M. Fikere, D.M. Barbulescu, M. M. Malmberg, F. Shi, J. C. O. Koh, S. Norton, P.A. Salisbury, S. Kant, P. Maharian, J. Panozzo, G. C. Spangenberg, N. O. I. Cogan
Early establishment of photosynthesis plays a key role in early biomass heterosis in *Brassica napus* (canola) hybrids ▪ ***A. Zhu,*** A. Wang, Y. Zhang, L. Dennis, J. Peacock, I. Greaves	**Analysis of training population effects on genomic selection in *Brassica napus L.*** ▪ ***R. W. Duncan,*** J. Sun, E. E. Higgins

10:00 COFFEE BREAK *PRESENTED BY CARGILL DEUTSCHLAND GMBH*

10:30

Parallel Sessions

C01 MUTAGENESIS AND GENE EDITING	A08 BLACKLEG (CONTINUED) + PLANT PROTECTION	A03|A04 YIELD PHYSIOLOGY AND PHENOTYPING
EMS- and CRISPR-Cas9 mediated mutagenesis in oilseed rape *(Brassica napus)* ▪ ***H. Harloff,*** J. Braatz, N. Sashidhar, N. Karunarathna, S. Jinghan, C. Jung	**Adaptive dynamics of populations of *Leptosphaeria maculans* under resistance selection pressure: insights from two decades of surveys in France** ▪ ***M. Balesdent,*** F. Carpentier, L. Coudard, S. Touzeau, T. Rouxel	**Prediction and Modeling of Hybrid Performance and Yield Gain in Oilseed Rape by Systems Biology** ▪ ***M. Kupisch,*** M. Langensiepen, S. Scholten, R. Snowdon, B. Usadel, A. Abbadi, G. Leckband
Discovering novel phytic acid mutants in oilseed rape for future breeding ▪ ***N. Sashidhar,*** H. Harloff, C. Jung	**Improving blackleg resistance durability through rotation of major-gene resistance groups in commercial canola fields on the Canadian prairies.** ▪ ***J. Cornelsen,*** Z. Zou, D. Fernando	**Canola yield and its association with phenological, architectural and physiological traits across the rainfall zones of southwestern Australia** ▪ ***H. Zhang,*** J. Berger, C. Herrmann, A. Brown, S. Flottmann
Development and validation of an effective CRISPR/Cas9 vector for efficiently creates specific mutations at multiple loci using one sgRNA and transgene-free mutants in a wide range of plant species ▪ ***C. Dai,*** H. Yang, Ti. Tang, J. Wu, C. Ma	**The amount of *Leptosphaeria maculans*-contaminated dockage in canola seed shipments is not related to blackleg disease transmission in seed spillage piles.** ▪ ***R. M. Lange,*** W. D. Dmytriw, A. El-mezawy, R. Werezuk, R. Ramarathnam, C. Rempel	**Leaf nitrogen content strongly affects dynamic photosynthesis, but does not affect the steady-state photosynthesis of canola *(Brassica napus L.)*** ▪ ***J. Liu,*** Kangkang Zhang, Fang Chen, Liyong Hu
Gene knock-out by CRISPR-Cas9 and EMS-induced point mutations on SEED FATTY ACID REDUCERS increase the seed oil content in rapeseed *(Brassica napus)* ▪ ***N. L. Karunarathna,*** H. Harloff, C. Jung	**Complexity of *Leptosphaeria-Brassica* interaction revealed by a novel class of disease resistance genes against blackleg disease** ▪ ***N. Larkan,*** L. Ma, P. Haddadi, I. Parkin, H. Borhan	**Grain oil concentration of rapeseed under different source-sink ratios affecting grain weight** ▪ ***D. Calderini,*** J. Verdejo, M. Labra
Knockout of two BnaSM1s generated by CRISPR/Cas9-targeted mutagenesis improves plant architecture and increases yield in rapeseed *(Brassica napus L.)* ▪ ***M. Zheng,*** L. Zhang, M. Tang, J. Liu, X. Li, H. Yang, S. Fan, Z. Hu, H. Wang, W. Hua	**Seed Applied Technology to help Canadian Producers Manage Blackleg in Canola** ▪ ***D. Fernando,*** T. Labun, F. Brandl	**Drone-based assessment of autumnal winter oilseed rape growth** ▪ ***I. Bukowiecki,*** H. Kage
Transgene-free targeted mutation in rapeseed *(Brassica napus L.)* via transient CRISPR-Cas9 expression in protoplasts ▪ ***R. Luehrs,*** J. Schondelmaier, D. Becker, J. Falk	**Integral® Pro – A new Generation of Seed Treatment in Oil Seed Rape** ▪ ***E. Noirtin,*** P. Cavell, M. Benninger	**Phenovia a field experimental platform in Burgundy for WOSR phenotyping under low chemical inputs.** ▪ ***X. Pinochet,*** F. Kazemipour-Ricci, P. Marget, V. Deytieux, F. Salvi, L. Thiery , J. L. Lucas
Genomics-led radiation mutagenesis in rapeseed ▪ ***Z. He,*** L. Havlickova, I. Bancroft	**Innovations in fungicide and insecticide seed treatments in Europe: SCENICgold and BUTEOstart** ▪ ***S. Kretschmann***	**Effects of integrated crop management on the soil fertility, physiological mechanisms and yield of winter oilseed rape in the paddy field** ▪ ***N. Ma,*** L. Wan, L. Liu, C. Zhang

12:15 LUNCH

13:15 C01 **Note Sponsor of the Day: RAPOOL-RING GmbH** *Dietmar Brauer, RAPOOL-RING GmbH (Germany)*

13:25 C01 **Plenary Talk 9 – Genome editing with programmable nucleases in crop plants** *Caixia Gao, Chinese Academy of Science (China)*

14:05 C01 **Podium Discussion: Global Future of Oilseed Rape/Canola – followed by Poster Awards**
Moderation: Rod Snowdon – Participants: Andreas von Tiedemann, Philippe Dusser, Curtis Rempel, John Kirkegaard, Samantha Cook

15:15 COFFEE BREAK

15:45 C01 **Concluding Remarks** *Wolfgang Friedt, International Consultative Group of Research on Rapeseed (GCIRC)*

16:00 C01 **Invitation to IRC 2023 in Sydney**

16:15 C01 **Farewell:** *Dietmar Brauer, Vice-Chairman UFOP*

16:30 C01 *Last congress day:* **End of Congress**

17:00 *Followed by* **Field Trip West (if booked, additional costs)**

A03|A04 INTEGRATED PEST AND CROP MANAGEMENT

Integrated pest and disease management to optimise yield in winter oilseed rape
- ***J. Smith,*** C. Tucker, P. Berry

VIBRANCE OSR: a Novel Seed Treatment Solution for Control of Soilborne Diseases in Oilseed Rape
- ***B. Slaats,*** M. Joss, F. Brandl, L. Gobert

Technologies for pesticide applications in OSR/Canola
- ***W. Mayer,*** R. Heinkel

Oilseed rape production and the use of neonicotinoids in Poland
- ***K. Gawęcki***

Promoting Biodiversity in Canola Cropping Systems: Ecosystem Services on the Canadian Prairies
- ***G. Sekulic***

Winter Canola Requires Unique Adaptation to the U. S. Southern Great Plains
- ***M. Stamm,*** S. Dooley

A08 BLACKLEG

Integrative genomics and metabolomics approaches to decipher mechanisms underlying quantitative resistance to blackleg in oilseed rape
- ***R. Delourme,*** A. Gravot, A. Levrel, Y. Abu-Ahmad, J. Vernadet, F. Legeai, J. Lemoine, A. Missinou, P. Duffé, F. Dutreux, J. Aury, C. Cruaud, M. Lagarrigue-Reboutier, R. Lavigne, M. Manzanares-Dauleux, M. Balesdent, T. Rouxel

Blackleg control in climate-adaptive Australian farming systems
- ***S. J. Sprague,*** R. Brill, J. A. Kirkegaard

Host resistance affects coexistence of two related fungal pathogens *Leptosphaeria maculans* and *L. biglobosa*
- ***Y. Huang,*** A. Javaid, L. H. Gajula, C. S. Karandeni-Dewage, G. K. Mitrousia, B. D. L. Fitt

Effects of model parameter uncertainty in predicting severity of phoma stem canker epidemics in UK winter oilseed rape crops
- ***B. Fitt,*** .F. Newbery, M. W. Shaw, A. Qi

Genetic Mapping and Characterisation of the Novel Blackleg Resistance Genes LepR5 and LepR6
- ***N. Larkan,*** I. A. P. Parkin, M. H. Borhan

Genome-wide histone map of the blackleg fungus *Leptosphaeria maculans*
- ***J. L. Soyer,*** C. Clairet, E. Gay, F. Blaise, E. H. Stukenbrock, I. Fudal

A06

WORKSHOP*

SCLEROTINIA – CURRENT AND FUTURE BREEDING METHODS

B05|B06 MUSTARD (CONTINUED)

Genome wide association study for oil content under terminal heat stress in Indian mustard *(Brassica juncea)*
- ***S. K. Sandhu,*** Lalit, J. Kaur , D. Bhatia, S. S. Banga

Physiological and Biochemical Basis of Salinity Tolerance in Indian mustard *(B. juncea)*
- ***P. Sharma,*** K. Priya, V. Sardana, P. Choudhary, S. S. Banga

Genetics of flowering and maturity in *Brassica juncea (L.)*
- ***J. Akhatar,*** Anna Goyal, Navneet Kaur, Meenakshi Mittal, Chhaya Atri, Mohini Prabha Singh, Ravinder Kumar, V. K. Sardana, Baudh Bharti, S. S. Banga

Enhancing parental lines for oil and meal quality to develop CMS based canola hybrids in Indian mustard *(Brassica juncea L.)*
- ***G. Kaur,*** S. S. Banga

A05 OTHER TOPICS

Oilseed rape and pre-cropping effects from grain legumes – nitrogen fluxes and productivity
- ***D. Gouache,*** A. Schneider, F. Flénet

GIS and Remote sensing approaches toward sustainable management and production of rapeseed *(Brassica napus L.)* in Tunisia
- ***R. Naddari,*** O. Mourad, M. BelHaj, M. S. Jalouli, W. Feryeni, Salah Rabiaa B., M. C. Hamzaoui, A. Sahli Ali

Discovery and applications of double haploid inducing lines in rapeseed
- ***Y. Li,*** S. Fu, L. Yin, J. Shen, J. Wang, Q. Zou, B. Yi, J. Wen, T. Fu, L. Tao, Z. Kang, R. Tang, J. Yang

Novel industrial rapeseed oils as bio-base stocks for lubricant production.
- ***N. Stawniak,*** R. Sloan, H. Kaur, I. Bancroft

Utilization of Chinese woad to develop the antiviral rapeseed
- ***L. Kang,*** A. Wang, P. Li, X. Ge, Z. Li

Establishment and application of biotechnologies in *Camelina sativa*
- ***B. Rezaeva,*** I. Otto, J. Kumlehn

Identification of genetic factors related to human health promoting functional compounds in Chinese Cabbage
- ***Y. P. Lim,*** S. R. Choi, J. J. Rameneni, S. S. Chhapekar, S. H. Oh

A06

WORKSHOP*

SCLEROTINIA – CURRENT AND FUTURE BREEDING METHODS (CONTINUED)

End 10:45

* More detailed information can be found online at www.irc2019-berlin.com

Address

#000 **Challenges and prospects of oilseed rape production**
- ***Hubertus Paetow***

Plenary Talks

#001 **Future markets of oilseeds, vegetable oils and proteins**
- ***Luc Ozanne***

#002 **Agronomic challenges to adapting canola into cropping systems of the world**
- ***John Kirkegaard,*** Julianne Lilley. Rohan Brill, Andrew Ware, Therese McBeath, Jeremy Whish

#003 **Understanding and exploiting the dynamic *Brassica napus* genome**
- ***Rod Snowdon***

#004 **Biotic constraints in rapeseed production – a global survey on pests and diseases and the options of control**
- ***Andreas von Tiedemann***

#005 **Ecologically-based Integrated Pest Management in rapeseed: a need not an option**
- ***Samantha Cook***

#006 **Optimizing resource use efficiency and carbon footprint in oilseed rape production systems**
- ***Henning Kage,*** Thomas Räbiger, Josephine Bukowiecki, Klaus Sieling, Ingo Pahlmann

#007 **Dietary fats and cardiovascular health**
- ***Ingeborg Brouwer***

#008 **Increasing the usage value of canola meal**
- ***Curtis Rempel***

#009 **Genome editing with programmable nucleases in crop plants**
- ***Caixia Gao***

Orals

GENETICS, GENOMICS AND BREEDING

#010 **Progress in Predictive Breeding in Oilseed Rape: A Path to Heterotic Pools and Beyond**
- ***Amine Abbadi,*** Christian Flachenecker, Jutta Ahlemeyer, Sina Möller, Gunhild Leckband

#011 **Natural and induced genome structural variation in oilseed rape**
- ***Z.He,*** I.Bancroft, L. Havlickova

#012 **The International Life Sciences Institute Crop Composition Database: An Open Resource for High Quality Compositional Data**
- ***Véronique J. Barthet,*** Alison Edwards, Andrew F. Roberts, Bhavneet Bajaj, Brandon Fast, David W. Roberts, Jannavi R. Srinivasan, Jennifer Helm, Justin McDonald, Mohamed Bedair, Nancy Gillikin, Theresa Sult

#013 **Investigation into the emerging problem of elevated erucic acid content in double-low oilseed rape crops in the UK**
- ***Simon Kightley,*** Helen Appleyard, Linda Maile, Thomas Wood

#014 **Long reads reveal small scale genome structural variations in *Brassica napus***
- ***HARMEET SINGH CHAWLA,*** Subhadra Chakrabarty, Andreas Welke, Suriya Tamilselvan-Nattar-Amutha, Christian Obermeier, Rod Snowdon

#015 **Two decades of rapeseed and mustard cyto-genetic and breeding research at ARS, Mandor, Jodhpur**
- ***B. R. Choudhary,*** S. R. Kumhar

#016 **An international breeding program in spring canola**
- ***Wallace Cowling,*** J. Vuksic, R. Ezzy, J. Duguid, E. Gillis, O. Sass

#017 **Rapid delineation of the potential candidate genes underlying fatty acid-associated loci via combining gene co-expression network analysis and QTL and GWAS in *Brassica napus L.***
- ***Yixin Cui,*** Xiao Zeng, Hongli Dong, Jinghang Liao, Suolang Gongbu, Huafang Wang, Dayong Wei, Qing Xiong, Wei Qian

#018 **Development and In-Field Validation of Genomic and Optimal Haploid Value Selection for Disease Resistance, Agronomic, and Seed Quality Traits in Canola**
- ***H.D. Daetwyler,*** M. Fikere, D.M. Barbulescu, M. M. Malmberg, F. Shi, J. C. O. Koh, S. Norton, P.A. Salisbury, S. Kant, P. Maharian, J. Panozzo, G. C. Spangenberg, N. O. I. Cogan

#019 **Development and validation of an effective CRISPR/Cas9 vector for efficiently creates specific mutations at multiple loci using one sgRNA and transgene-free mutants in a wide range of plant species**
- ***Cheng Dai,*** Hong Yang, Ting Tang, Jia-Jing Wu, Chao-Zhi Ma

#020 **Exploiting Natural Variation in Pod Shatter Resistance Genes for Rapeseed *(Brassica napus)* Improvement**
- ***H. Cheng***, J. Liu, R. Zhou, W. Wang, W.Chu, D. Mei, H. Cheng, C. Li, R.Raman, H.Raman, Q. Hu

#021 **Breeding for Long Chain Omega-3 Oil Canola**
- ***Xinmin Deng,*** Jakir Hasan, Kristin Gray

#022 **Temporal genetic patterns of root growth in *Brassica napus L***
- ***Xiaoling Dun,*** Jie Wang, Lieqiong Kuang, Xinfa Wang, Guihua Liu, Hanzhong Wang

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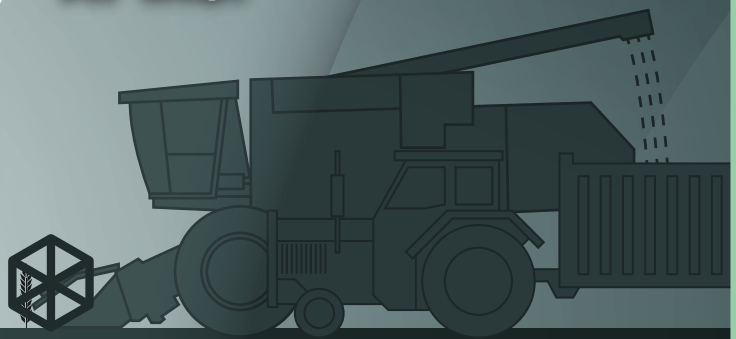

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Interbranch association for vegetable oils and proteins

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3 COLLEGES IN ITS BOARD
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5 ACTIONS AREAS
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- ***Mingming Zheng,*** Haiping Zhang, Zhe Dong, Fenghong Huang

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#507 **Influence of rapeseed cake, linseed cake and hemp seed cake on laying performance of hens and fatty acid composition of egg yolk**
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#508 **Shear-Stress Dehulling of Canola for Production of Low Fibre Meal**
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- ***Alain Quinsac,*** Laurine Bogaert, Houcine Mhemdi, Eugène Vorobiev

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MUSTARD AND OTHER CRUCIFEROUS OILSEED CROPS

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#559 **Stem canker is expanding to East Europe**
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#560 **Status of blackleg caused by *Leptosphaeria maculans* on spring canola in the United States of America.**
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#577 **DroughtSpotter XXL: Collection of high-resolution transpiration data across the life-cycle of oilseed rape under semi-controlled conditions**
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#578 **Effect of water stress on transpiration efficiency in canola**
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#580 **CanolaPro:Feeding a growing population**
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#583 **Tracing the bitter off-taste compounds in rapeseed protein isolates**
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#584 **Amino Acid Content and Genetic Control in *Brassica napus L.***
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Future-proofing insect pest control in a world with decling insecticidal options

#585 **Insecticide resistance in major pests of oilseed rape on the move**
- ***Ralf Nauen***

#586 **Breeding perspectives for pest control in rapeseed**
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#587 **The application of insect pest surveillance programs in canola agroecosystems on the Canadian Prairies**
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#588 **Future-proofing monitoring methods**
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#589 **Growing spring oilseed rape without insecticide seed treatments: the Swedish experience**
- ***Ola Lundin,*** Riccardo Bommarco

#590 **Host plant and land use influence cabbage seed weevil infestation and its parasitoids**
- ***Eve Veromann,*** Gabriella Kovacs, Riina Kaasik

#591 **Natural biocontrol of oilseed rape pests by parasitoids in Integrated Management in Europe**
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#592 **The potential of beneficial fungi for controlling oilseed rape pest**
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Sclerotinia – Current and future breeding methods

#593 **Molecular mapping of QTLs associated with field resistance to Sclerotinia Stem Rot in Spring Canola *Brassica napus***
- ***Igor Falak,*** Xiuqiang Huang, Scott McClinchey

#594 **The mechanism and durability of intermediate resistance to *Plasmodiophora brassicae* pathotype X conferred by two resistance genes**
- ***Gary Peng,*** R. WEN, T. SONG, N. TONU, J. LEE, K. HORNADAY, J. BUSH, F. YU

#595 **Transfer of *Sclerotinia sclerotiorum* resistance from *Brassica napus* germplasm to canola**
- ***Sally Vail,*** Lone Buchwaldt, Vicky Roslinsky, Neha Verma, Jackie Nettleton, Brad Hope

#596 **Small RNAs from the plant pathogenic fungus *Sclerotinia sclerotiorum* highlight candidate host target genes associated with quantitative disease resistance**
- ***Mark Derbyshire,*** Malick Mbengue, Marielle Barascud, Olivier Navaud, Sylvain Raffaele

#597 **Improve resistance to *Sclerotinia sclerotiorum* via host-induced gene silencing on crucial pathogen genes involved in pathogenicity**
- ***Jiaqin Mei,*** Yijuan Ding, Wei Qian

#598 **Knockdown of *Sclerotinia sclerotiorum* Thioredoxin (Ss-TRX1) gene by RNAi and HIGS to enhance disease resistance in *Brassica napus***
- ***Kusum Rana,*** Yijuan Ding, Haojing Shen, Wenjing Yang, Yaru Chai, Junhu Yuan, Wei Qian

Official Congress Dinner at Tempelhof Airport

(included in conference fee)

The congress will be rounded off with an official Congress Dinner on June 18th, from 19:00 to 24:00 hrs, in what used to be the departure hall at Tempelhof Airport. "We are delighted to have an opportunity to offer all congress participants, who will be coming to Berlin from all over the world, this special historical venue for the dinner, in a location that is so extremely important for Berlin," says Wolfgang Vogel, Chairman of the Union for the Promotion of Oil and Protein Plants (UFOP). The Official Congress Dinner will be a unique opportunity for all participants of the IRC 2019 to come together, indulge in an exclusive dinner, and enjoy the special evening program. **Let yourself be surprised!** Please note: Your Congress Badge is your admission ticket! Shuttle busses will be available from and back to the bcc building.

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SHUTTLE

TUESDAY

Shuttle to Tempelhof, starting at 17:30

Shuttle back to bcc, starting at 22:30

IRC Field Trips (if booked)

SHUTTLE

SUNDAY

11:30

On-the-spot Rapeseed Visits Across Germany

The field trips organized after the congress give participants a chance to get to know the practical side of German rapeseed breeding, too. They provide a glimpse behind the scenes of modern rapeseed cultivation, as well as offering participants an opportunity to build their professional networks. There will be visits to institutes, enterprises and rapeseed cultivation areas in Brandenburg, Saxony-Anhalt, Saxony, Hesse and Mecklenburg-Western Pomerania.

EXCURSION NAUEN (16th June)

An excursion to Bayer CropScience AGRO-FARM GmbH in Nauen, just outside Berlin, is offered the day before the congress begins. In addition to the trip to the farm, a visit to Schloss Ribbeck (Ribbeck Castle) is also planned.

→ *Bayer ForwardFarm in Nauen*

WEDNESDAY

17:00

FIELD TRIP WEST (19th to 21st June)

On this first field trip, participants will head westward. During the trip, the participants will visit research facilities in Quedlinburg (Saxony-Anhalt) and Giessen (Hesse).

→ *JKI Quedlinburg, Experimental Farm University of Giessen*

SHUTTLE

FIELD TRIP NORTH (20th to 21st June)

THURSDAY

07:30

The field trip north takes the participants to the Baltic Sea. In addition to a field visit to Wariner Pflanzenbau e. G. in Trams and the two NPZ facilities in Malchow/Poel and Groß-Luesewitz, a visit to the Julius Kühn Institute for Breeding Research on Agricultural Crops is scheduled.

→ *Wariner Pflanzenbau e.G. in Trams, NPZ Breeding Station in Malchow/Poel, NPZ Innovation GmbH in Groß-Luesewitz, JKI Institute in Groß-Luesewitz*

FIELD TRIP SOUTH (20th to 21st June)

THURSDAY

07:00

This tour starts on 20th June 2019 and will head south, with stops in DSV-Breeding Station Leutewitz in Käbschütztal and Nossen. Participants will have a chance to visit BASF experimental fields Groitzsch and the Federal Plant Variety Office (Bundessortenamt) in Nassen (Saxony).

→ *DSV breedingstation in Leutewitz in Käbschütztal, BASF experimental fields Groitzsch, Federal Plant Variety Office in Nossen*

DLG – German Agricultural Society

The open network and professional voice of agriculture, agribusiness and the food sector

Founded by engineer Max Eyth in 1885 and with over 30,000 members, DLG is today one of the leading organizations in agriculture, agribusiness and the food sector.

DLG is a politically independent body with an extensive international network. It is open to anyone with an interest in the fields of agriculture and food production.

What we do

Knowledge and expertise:
DLG's networks of experts develop solutions for the challenges facing agriculture, agribusiness and the food sector.

Tests and certificates:
DLG develops test methods and sets quality standards. It tests products, promotes and communicates quality and quality standards to create market transparency.

Trade fairs and exhibitions:
DLG's shows and events provide a platform for innovation and industry dialogue.

Trade fairs and exhibitions – Platforms for progress

Trade fairs and shows 'made by DLG' serve as forums for ideas, innovation and networking and are held in great esteem by international, national and regional exhibitors and visitors. Leading fairs of international repute such as AGRITECHNICA and EuroTier and more than 30 shows in many countries provide campuses where information is shared on current trends and issues in the agricultural and food industries.

AGRI TECHNICA® THE WORLD'S NO.

10 – 16 November 2019
Hannover, Germany
Preview days 10/11 November

DLG Feldtage® Meet the crop professionals

16 – 18 June 2020
Gut Brockhof, Erwitte/Lippstadt
Germany

Perfect organization, innovative services and relevant topics are the hallmarks of our events. Our international network of experts as well as our agricultural and food test centers make us a competent partner for all key issues in the various sectors of agriculture and food production. DLG is known for its internationally experienced team, highest quality standards and understanding of relevant issues and regional differences. Our operating subsidiaries in many different countries develop new markets and provide tailor-made business platforms.

Co-located exhibition supported by DLG-Feldtage

DLG-Feldtage – meet the crop professionals. Three days where the whole range of modern crop production will be exhibited under practice-orientated, hands-on conditions. A large area of the DLG-Feldtage are the trial fields where new varieties, farm inputs and services are demonstrated. This outdoor-exhibition brings together technology, research, industry and practical farming in one place. The guiding theme of DLG-Feldtage 2020 – *Your Location. Your Crop Production* – aims to offer possible solutions for individual cultivation conditions while taking the soil, climate and structure into account.

DLG – exclusive partner

For the first time, the International Rapeseed Congress will include an extended co-located exhibition, organized by DLG.

Exhibitors will present innovative technology and solutions of the rapeseed sector that is coming together in Berlin.

Participants of the co-located exhibition:

Company	City, Country	Product Index
Amphasys AG	Root, SWITZERLAND	Safety, Analytics, Quality Management, Field Trial Equipment
Corteva AgriScience	Versoix, SWITZERLAND	Crop Protection
DLG Service GmbH	Frankfurt am Main, GERMANY	Service Providers, Organizations
Euralis Semences	Lescar, FRANCE	Genetics and Varieties
Harvestmaster Europe GmbH	Wels, AUSTRIA	Rapeseed Cultivation and Harvest, Field Trial Equipment
Syngenta Crop Protection AG	Basel, SWITZERLAND	Crop Protection, Genetics and Varieties
ST Equipment & Technology	Needham, USA	Process Technology and Rapeseed Processing
Thermo Fisher Scientific	Austin, USA	Genetics and Varieties

If you are interested in an exhibitor or its products and services, you can find more information as well as your contact person in the enclosed brochure.

For any information and questions about DLG or an exhibition, please feel free to contact us.

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Notes

Imprint

Please excuse any misspelling or grammatical errors that may occur in the congress book. The congress book contains data from diverse sources. The IRC-Team has requested clearance for all presentations.

The program within the conference book reproduces the status of the date of print. For any changes that may occur we recommend checking the program online:
www.irc2019-berlin.com/program

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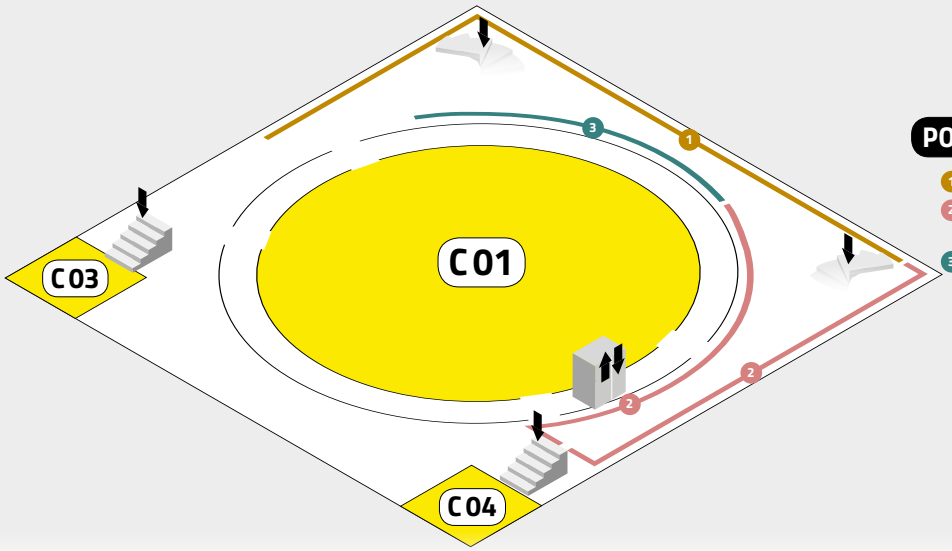
Floor plan

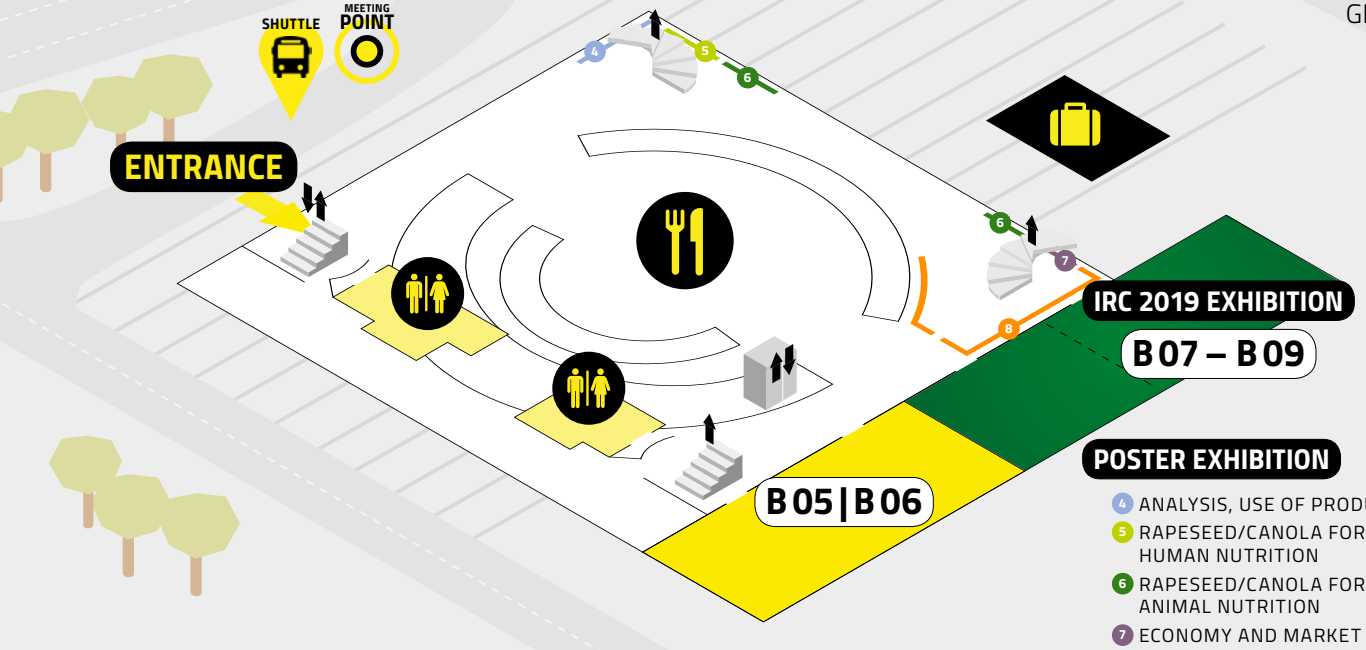
LEVEL C
UPPER LEVEL



POSTER EXHIBITION

1. GENETICS, GENOMICS AND BREEDING
2. DISEASES AND PESTS, PLANT PROTECTION
3. AGRONOMY AND CROP SCIENCE

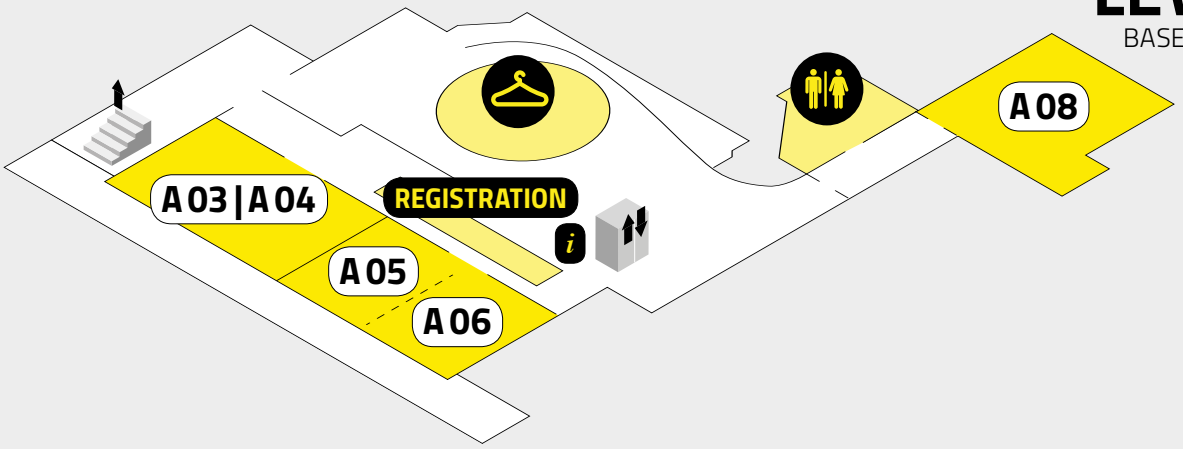
LEVEL B
GROUND LEVEL



POSTER EXHIBITION

4. ANALYSIS, USE OF PRODUCTS
5. RAPESEED/CANOLA FOR HUMAN NUTRITION
6. RAPESEED/CANOLA FOR ANIMAL NUTRITION
7. ECONOMY AND MARKET
8. MUSTARD AND OTHER CRUCIFEROUS OILSEED CROPS

LEVEL A
BASEMENT LEVEL



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