Organised jointly by TERPNET and The Phytochemical Society of Europe

Terpnet is an international affiliation of researchers working on all aspects of terpenes and isoprenoids, including investigations spanning from biosynthetic mechanisms to assessing the biological activities of these chemicals. This affiliation hosts bi-annual meetings that have been held in Europe for the past decade. The 6th Terpnet meeting was held in Lexington, USA in May 2003. The 7th meeting will be held in Wageningen, The Netherlands.

Terpnet 2005 will be the 7th international meeting dedicated to reporting on the latest advances in the chemistry and biology of terpenes and isoprenoids. The meeting is being organised by Plant Research International, Wageningen University and Research Centre, Wageningen, The Netherlands and coordinated by Dr. Harro Bouwmeester (harro.bouwmeester@wur.nl).

Plant Research International is one of the strategic research institutes of Wageningen University and Research Centre. Plant Research International employs about 600 staff involved in many aspects of plant-related science. The institute has some of the most modern research facilities in the world and is combining leading-edge scientific research with innovation and an open mind for business (www.plant.wageningen-ur.nl).

Wageningen University and Research Centre (Wageningen UR), is a unique alliance between a university and market-oriented research institutes. Wageningen UR is a knowledge centre that combines fundamental and applied research with innovative education in the areas of food, agrotechnology, production systems, nature and the environment. The research and education activities of Wageningen UR focus on ensuring reliable supplies of safe, high-quality food while maintaining the biodiversity of natural habitats and conserving natural resources. About 6000 professionals are committed to the translation of technological knowledge into study programmes and practical applications (for more info see: www.wau.nl).

The scientific program will include presentations by invited speakers representing exciting frontiers in all areas of terpene/isoprenoid investigation and poster presentations by investigators from around the world. Additional speakers will be selected from submitted abstracts to assure complete coverage of the latest breakthroughs in terpene and isoprenoid chemistry, chemical engineering, biochemistry, structural biology and molecular genetics.

Local organising committee
Harro Bouwmeester, Plant Research International
Teris van Beek, Wageningen University
Raoul Bino, Plant Research International
Marcel Dicke, Wageningen University
Maurice Franssen, Wageningen University
Linus van der Plas, Wageningen University
Robert Schuurink, University of Amsterdam
Rob Verpoorte, Phytochemical Society of Europe, Leiden University
Support
Terpnet 2005 is sponsored by the following companies and organisations:

Centre for BioSystems Genomics
A Centre of Excellence of the Netherlands Genomics Initiative
www.cbsg.nl

Firmenich
www.firmenich.com

Taylor & Francis
Publisher of the new Journal of Plant Interactions
www.tandf.co.uk

Leco
www.leco.com/mass-spectrometers/separationscience.htm

DuPont
www.dupont.com

Netherlands Genomics Initiative
www.genomics.nl

Keygene NV
www.keygene.com
Programme

All sessions and registration will take place in the Wageningen International Conference Centre (WICC) (www.wicc-wir.nl)

Address: Lawickse Allee 9, 6701 AN Wageningen, The Netherlands
Phone: +31 317-490133
Fax: +31 317-426243
E-Mail: hotel.congres@wicc-wir.nl

Wednesday 20 April 2005

11.00 – 13.00 registration
13.00 opening

**13.30 Isoprenoids: recent developments**
Session chair: Thomas Bach and Rodney Croteau

*Invited speakers*

13.30 Manuel Rodríguez-Concepción - Early steps in isoprenoid biosynthesis: multilevel regulation of the supply of common precursors in plant cells
14.00 Pierre Broun - Isoprenoids and transcription factors
14.30 Gabriele König – Terpenoids from marine organisms: unique structures and their pharmacological potential

*Selected speakers*

15.00 Andréa Hemmerlin - Contribution of MEP-derived precursors for prenylation of an engineered Green Fluorescent Protein in tobacco BY-2 cells
15.20 Hiruyuki Kasahara - Agrobacterium modifies the MEP pathway of the host plant for cytokinin biosynthesis
15.40 Jens Göpfert - Cytological development, metabolite secretion and molecular identification of terpenoid cyclases in sunflower glandular trichomes

16.00 break

16.30 Natalia Dudareva - The regulatory role of the MEP pathway in rhythmic emission of monoterpene and sesquiterpenes in snapdragon flowers
16.50 Myriam Seemann - Isoprenoid biosynthesis via the methylerythritol phosphate pathway: GcpE and LytB, two Fe-S proteins
17.10 Paul O’Maille - Structural and energetic basis for product specificity control by sesquiterpene cyclases
17.30 Tanetoshi Koyama - Manipulation of prenyl chain length determination mechanism of cis-prenyltransferases
17.50 Shunji Takahashi - Molecular dissection of multi-functional sesquiterpene hydroxylases from plants: Identification of amino acids responsible for the successive hydroxylation of 5-epiaristolochene
18.10 Stéphane Richard - Biosynthesis of hybrid isoprenoid natural products: structural basis for promiscuous aromatic prenyltransferase activity

18.30 posters/welcome reception (sponsored by Centre for BioSystems Genomics)
20.00 diner
**Thursday 21 April 2005**

**8.30 Workshop: human health and biotechnology**  
Session chair: Joe Chappell and Peter Brodelius

*Invited speakers:*
8.30 Claudia Schmidt-Dannert – Bioengineering carotenoid biosynthesis  
9.00 Belinda Townsend – Glycosyltransferases in cereals

*Selected speakers*
9.30 Russell Kerr - Diterpene biosynthesis in the gorgonian corals *Pseudopterogorgia elisabethae* and *Eunicea fusca*.  
9.50 Alain Rahier - Identification of the oxygenase components of the sterol-C4 demethylation complex in plants: a VIGS approach  
10.10 Mylavarapu Venkatramesh - Current trends in bulk paclitaxel supply: a business model suitable for metabolic engineering of paclitaxel biosynthetic pathway

10.30 break

11.00 Werner Knöss - Monoclonal antibodies to triterpene saponins – tools in natural product research  
11.20 Douglas Pitera - Optimizing a heterologous pathway for the production of terpenoids in *Escherichia coli*  
11.40 Jens Schrader - Microbial oxyfunctionalization of monoterpenes in tailored bioprocesses  
12.00 PSE – Pierre Fabre prize: Dr Deniz Tasdemir – New approaches in anti-malarial drug discovery

13.00 lunch  
13.30 – 14.30 Annual General Meeting of the PSE

**14.30 Thirty years of plant terpenoid biochemistry**  
Session chair: Jonathan Gershenzon and Joerg Bohlmann

*Invited speakers*
14.30 Dale Poulter – Construction of carbon skeletons in the isoprenoid pathway  
15.15 Rodney Croteau – Taxol biosynthesis and molecular genetics

16.00 break

16.30 Joe Chappell – Terpene synthase gene evolution  
17.15 Jonathan Gershenzon – Taking control of terpene metabolism in plants: From endogenous regulation to bioengineering

18.00 posters  
20.00 conference diner
Friday 22 April 2005

8.30 Isoprenoids in arabidopsis, medicago, tomato, rice and other models
Session chair: Albert Boronat and Michael Beale

Invited speakers:
8.30 Shinjiro Yamaguchi – Gibberellin biosynthesis in Arabidopsis
9.00 Peter Bramley – Genetic engineering of carotenoid formation in tomato
9.30 Seiichi Matsuda – Triterpene biosynthesis in models
10.00 Asaph Aharoni – Metabolic engineering of terpenoid biosynthesis in plants

10.30 break

Selected speakers
11.00 Reuben Peeters - Two rings in them all: Elucidating the complex diterpenoid metabolism of rice
11.20 David Hallahan - Unexpected developmental effects of cis-prenyltransferase overexpression in arabidopsis
11.40 Eva Vranova - Characterization of Arabidopsis fps1 and fps2 mutants: the FPS branch-point isozymes have highly overlapping but still distinct functions
12.00 Michael Walter - Ancient and recent duplication events in 1-deoxy-D-xylulose 5-phosphate synthase (DXS) gene evolution
12.20 Markus Lange - Dissecting the coordination of isoprenoid and other biochemical pathways during photomorphogenesis using oligonucleotide microarrays, metabolite profiling and pathway map visualization tools
12.40 Dorothea Tholl - Constitutive and induced terpene volatile biosynthesis in the model plant Arabidopsis thaliana
13.00 Lahoucine Achnine - Genomics-based elucidation of triterpene saponin biosynthesis in the model legume Medicago truncatula

13.20 lunch
**14.30 Chemical ecology workshop: ecological function of isoprenoids**
Session chair: Marcel Dicke and Natalia Dudareva

*Invited speakers*
14.30 Steven Seybold – Pines, monoterpenoids, and pine bark beetles: A marriage of convenience for defense and chemical communication
15.00 Joerg Degenhardt – The role of maize sesquiterpene hydrocarbons as signals in multitrophic interactions

*Selected speakers*
15.30 Joerg Bohlmann - Insect induced terpenoid defenses in spruce
15.50 Radoslava Matusova - The strigolactone germination stimulants of the plant-parasitic *Striga* and *Orobanche* spp are derived from the carotenoid pathway

16.10 break

16.40 Kai Ament - Regulation of terpene biosynthesis in tomato by spider mites and defense hormones
17.00 Reinhard Jetter - Chemical ecology of plant surfaces: Chemical structure, biosynthesis, and biological function of pentacyclic triterpenoids
17.20 Gen-ichiro Arimura - A manifold signalling network associated with herbivory-induced, indirect defence in a legume
17.50 Robert Fischbach - Daily and seasonal expression rates of isoprene biosynthesis-related genes in poplar (*Populus x canescens*) and its relation to isoprene formation
18.10 Ursula Roese - The source of IPP for volatile terpene biosynthesis in cotton
18.30 Iris Kappers - Towards the identification of key compounds in tritrophic interactions – combined transcript and metabolite analysis reveals genes involved in spidermite induced volatile formation and manipulating release of terpenoid volatiles results in altered predator attraction

19.00 end of session, evening free

**Saturday 23 April 2005**
9.00 excursion to old fishing town Elburg and Kröller-Müller museum (a.o. Van Gogh paintings)
Registration

Registration deadline: April 13, 2005

Deadlines
Register by March 1, 2005 at the latest, to have your abstract considered for possible oral presentation. In order to ensure that your congress materials will be ready for you when you arrive in Wageningen, your completed registration form must be received no later than April 6, 2005. All abstracts received before April 6, 2005 will be included in the abstract book.

Registration Form Instructions
Complete the entire Registration Form and submit the Registration Form online. Send cheque or proof of payment to:
Jannie Kramp
Plant Research International
"Terpnet 2005"
P.O. Box 16
6700 AA WAGENINGEN
The Netherlands
Fax.: +31 317 423110
E-Mail: jannie.kramp@wur.nl

Registration Form
- Complete the entire Registration Form.
- You will receive a copy for your own records by e-mail

Registration Fees
The registration fee includes admission to all workshop sessions and poster exhibition, coffee/tea, 2 lunches and 2 dinners, conference materials and a copy of the abstracts book. The registration fee is depending on the time of registration. Select the type of registration which applies to you, according to the table below:

<table>
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<th>Paid before March 20, 2005</th>
<th>Paid after March 20, 2005</th>
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<tbody>
<tr>
<td>Standard registration</td>
<td>€ 350</td>
<td>€ 450</td>
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Excursion
We offer you the possibility to attend an excursion to the old Dutch fishing town, Elburg (old town centre, old herb garden), and the Kröller-Müller museum (works of Vincent van Gogh) on Saturday April 23, 2005. The extra costs for this trip will amount to € 35.

PhD Students
To PhD students we can offer 5 fellowships of 250€ sponsored by the Phytochemical Society of Europe. In addition, we offer up to 20 conditional fellowships of 500€ (depending on the financial result of the meeting). To apply for one of these fellowships send an e-mail to Jannie.Kramp@wur.nl.
Payment details

► Registration will not be processed before (proof of) payment has been received.
► Payment in Euros can be made by bank transfer (if you join the tour on Saturday, please include € 35 extra)
► Please give reference "Terpnet 2005" and your name
► Make your cheque or money order payable to: Stichting Plant Congress

Method of Payment

► Bank transfer to: (make sure that bank transfer costs are paid by you)
  • RABO Bank, P.O. Box 114, 6700 AC Wageningen, The Netherlands
  • IBAN (International Bank Account Number): NL10RABO0397011466
  • BIC (Bank Identifier Code): Rabo NL 2 U
  • Name of Account holder: Stichting Plant Congress
► Cheque (payable to Stichting Plant Congress)

Confirmation

You will receive a confirmation of registration and a registration number after online registration and by e-mail. A final confirmation of registration will be sent by e-mail within 15 days of receipt of payment.

Executive committee of TERPNET

Thomas Bach, Dept. of Isoprenoids, University of Strasbourg, France
Albert Boronat, Dept. of Biochemistry and Molecular Biology, University of Barcelona, Spain
Harro Bouwmeester, Plant Research International, Wageningen, The Netherlands
Peter Brodelius, Dept of Chemistry and Biomedical Sciences, University of Kalmar, Sweden
Bilal Camera, Institut de Biologie Moléculaire des Plantes, CNRS, Strasbourg, France
Joe Chappell, Plant Physiology Program, University of Kentucky, KY, USA
Katrina Cornish, Yulex Corporation, CA, USA
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John Goad, School of Biological Sciences, University of Liverpool, England
Seiichi Matsuda, Department of Chemistry, Rice University, Houston, TE, USA
Phil Proteau, Chemistry Dept, Oregon State University, OR, USA
Michel Rohmer, Chemistry Dept, University of Strasbourg, France
Thomas Sharkey, Botany Dept, University of Wisconsin, WI, USA
Ramesh Venkatramesh, Exelixis, USA
Accommodation

Wageningen International Conference Centre (WICC/WIR ***)

We have taken options for the participants at the WICC/WIR hotels. Prices range from about € 45 to € 90 per person including breakfast. You can make your reservation online through the WICC/WIR website. WICC is located in the centre of Wageningen and is in the congress building. Rooms are recently renovated and equipped with shower, toilet and television. WIR (Wageningen International Residence), which belongs to WICC, is at 200 meters from the conference centre. The rooms and apartments are more spacious and equipped with kitchenette, shower or bath and television.

WICC
Lawickse Allee 9
6701 AN WAGENINGEN
The Netherlands
Tel No: +31 317-490133
Fax No: +31 317-426243

WIR
Stadsbrink 1
6707 AA WAGENINGEN
The Netherlands
Tel No: +31 317-490122
Fax No: +31 317-424332

Travel and maps

From Amsterdam Schiphol Airport (by public transport):

Take train direction Hilversum/Utrecht CS stopping at Duivendrecht (travelling time approx. 15 min), change trains at Duivendrecht. At Duivendrecht railway station (WATCH YOUR LUGGAGE in the train and railway station!) change platforms and take the train direction Utrecht CS/Nijmegen stopping at Ede-Wageningen (travelling time approx. 45 min). From Ede-Wageningen railway station take a TAXI or take the bus at the bus terminal, to go to your hotel in Wageningen (lines 83, 84 and 86). The Wageningen International Conference Centre (WICC) is at a few minutes walking distance from Wageningen bus terminal (about 250 m in the direction Rhenen, on the left side of the road). The Wageningen International Residence (WIR) is next to the bus terminal.

Train information

You can find a travel planner on the website of the Dutch railways.
Travel by car to the WICC/WIR

Coming from Arnhem/Nijmegen (=Motorway A50):
Take exit "Renkum/Wageningen/Oosterbeek". At the traffic lights take direction Renkum/Wageningen (N225). Go straight on till you come to a roundabout. At the roundabout go straight on, and you will enter Wageningen.

For WICC:
At the 4th traffic lights turn left (="Stationstraat"). Take the first turn to the right (="Plantsoen"). At the end of this road follow the curve and at the crossing (without traffic lights) turn right. At the traffic lights turn right again (= direction Renkum (N 225): "Lawickse Allee"). After 10 meter take the road parallel to the main one. After 75 meter at your right hand you will see the parking of WICC.

For WIR:
At the 4th traffic lights turn right (="Rooseveltweg"). Take the first road right (="Stadsbrink"). On your right hand side you will see the parking of the WIR hotel.
Coming from Utrecht/Ede/Apeldoorn (=Motorway A12):
Take exit "Wageningen/Ede/Bennekom". At the end of the exit go direction Wageningen (="Dr. Dreeslaan"). In Wageningen turn right at the first traffic lights (="Nijenoord Allee") follow this ring road direction Rhenen. At the 3rd traffic lights (you will see the Agro Business Park in front of you) turn left (="Kortenoord Allee"). At the 1st traffic lights turn left (N225), direction Renkum (="Lawickse Allee").

For WICC :
After 10 meter take the road parallel to the main one. After 75 meter at your right hand you will see the parking lot of the WICC.

For WIR:
At the next traffic lights turn left (="Rooseveltweg") and take the fist road right (="Stadsbrink"). On your right hand side you will see the parking of the WIR hotel.

Coming from Rotterdam/Breda (=Motorway A15)
Take exit "Ochten/Kesteren". Immediately after the exit turn left (follow N233, Rhenen). After the bridge at Rhenen (river Rhine) turn right (follow N225, direction Wageningen/Renkum). After about 6 km at the roundabout go straight on (N225).

For WICC :
After the roundabout and the traffic lights, take the road parallel to the main one. After 75 meter at your right hand side you will see the parking lot of the WICC.

For WIR :
At the 2nd traffic lights, turn to the left (="Rooseveltweg"), and take the first street right (="Stadsbrink"). On you right hand side you will see the parking of the WIR hotel.

Tourist information
For a detailed map of Wageningen click here
www.holland.com

Interesting links
Have a look at the following links for interesting meetings:

- The Centre for BioSystems Genomics organises the congres "Plant GEMs 4", 20 - 23 September 2005 in Amsterdam. For more information: http://www.plantgems.org

- Taylor & Francis publish a new journal called Journal of Plant Interactions. See http://www.tandf.co.uk/journals/titles/17429145.asp for details

- Keygene organises a congres 'Genomics in Business', 2-4 October 2005. Check this out at www.genomicsinbusiness.nl