

# 23<sup>rd</sup> ISCE Annual Meeting

INTERNATIONAL SOCIETY OF CHEMICAL ECOLOGY



Jena, Germany, 22-26 July 2007

International Society of Chemical Ecology

PROGRAM

## Sunday, July 22

Lecture Hall, Carl-Zeiss-Straße 3, HS 2, Ground Floor

### 13:00–18:00 Registration and Mounting of Posters

Foyer of the Lecture Hall  
Carl Zeiss Straße 3, Jena

17:30

### Official Welcome

(HS 2, Ground Floor)

#### Klaus Dicke

President of the Friedrich Schiller University, Jena, German

#### Wilhelm Boland

Meeting Host, MPI for Chemical Ecology, Jena, Germany

#### Gary Blomquist

ISCE President, University of Nevada, Reno, USA

18:00

### OPENING LECTURE

(HS 2, Ground Floor)

#### Jacques Pasteels

Université Libre de Bruxelles, Belgium

#### Evolution of chemical defenses

19:00

### Get-together / Grill-party

# Final Program

[www.gdch.de/isce2007](http://www.gdch.de/isce2007)



**Monday, July 23****Symposium on Insect Semiochemicals I**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

*Organizers and Chairs:* Wittko Francke, Bill Hansson

- 8.30-8.45 **Stefan Schulz**, Technical University of Braunschweig, Germany  
Pheromone communication in spiders
- 8.45-9.00 **Jocelyn Millar**, J.S. McElfresh, J. Moreira, and K.M. Daane., University of California, Riverside, USA  
Strange tales of terpenes: Pheromones of mealybug
- 9.00-9.15 **Manfred Ayasse**, University of Ulm, Germany  
Chemical ecology and eminence signals in Bumble Bees
- 9.15-9.30 **Konrad Dettner**, University of Bayreuth, Germany  
Chemical defense in Staphylinid beetles
- 9.30-9.45 **Francesca Dani**, University of Florence, Italy  
Chemical communication in Polistes paper wasps, a primitively eusocial genus
- 9.45-10.00 **Stefano Colazza**, University of Palermo, Italy  
The role of host cuticular hydrocarbons in mediating the host searching behaviour of an egg parasitoid
- 10.00-10.30 Coffee Break
- 10.30-11.05 **Jürgen Krieger**, University of Stuttgart, Germany  
Molecular basis of pheromone reception in moths
- 11.05-11.30 **Hong Lei**, University of Arizona, Tucson, USA  
Encoding odor plume dynamics – an approach from cellular manipulation to behavioral observation
- 11.30-11.45 **Bill Hansson**, MPI for Chemical Ecology, Jena, Germany  
Strain-specific pheromone processing in the European corn borer antennal lobe
- 11.45-12.00 **Angel Guerrero**, Consejo Superior de Investigaciones Científicas, Barcelona, Spain  
Esterase inhibitors as antagonists of insect sex pheromones.  
Prospects for practical utilization in the field
- 12:00-14:00 Lunch Break

**Monday, July 23****Symposium on Insect Semiochemicals I**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

*Organizers and Chairs:* Stefan Schulz, John Pickett

- 14:00-14.15 **Tetsu Ando**, Tokyo University of Agric. & Technol., Japan  
GC-MS and LC-MS analyses unravelling diversity of lepidopteran communication systems
- 14.15-14.30 **Ales Svatos**, MPI for Chemical Ecology, Jena, Germany  
MALDI-TOF MS imaging of semiochemicals in plant and insect tissues
- 14.30-14.45 **Linda Field**, Rothamsted Research, Harpenden, Great Britain  
Prospects for coupling new molecular approaches to chemical analysis
- 14.45-15.00 **Joachim Ruther**, Free University of Berlin, Germany  
Biosynthesis of 5-hydroxy-4-decanolide, the male sex pheromone of the parasitoid *Nasonia vitripennis*
- 15.00-15.15 **Marie Pettersson**, KTH – The Royal Institute of Technology, Stockholm, Sweden  
Volatile of the spruce shoot aphid and its host Norway spruce. A method to identify the diastereomers of nepetalactone by mass spectrometry
- 15.15-15.30 **Ylva Hillbur**, Swedish University of Agricultural Sciences, Alnarp, Sweden  
Identification of sex pheromone components of the Hessian fly
- 15.30-15.45 **Claude Wicker-Thomas**, Laboratoire NAMC, Université Paris Sud, Orsay, France  
Genes involved in pheromone biosynthesis and sexual isolation in *Drosophila*
- 15.45-16.00 **Jean-Luc Boevé**, Royal Belgian Institute of Natural Sciences, Bruxelles, Belgium  
Defence strategies in arid sawfly larvae
- 16:00-16:30 Coffee Break
- 16:30-17:30 **SILVERSTEIN-SIMEONE AWARD LECTURE**  
**Walter Leal**, University of California, Davis, USA  
Molecular Basis of Pheromone Reception
- 18:00-19:00 **Dinner Time**
- 19.00 **Thomas Hartmann**, Technical University of Braunschweig, Germany  
A seedling yields fruits: origin of chemical ecology 120 years ago in Jena
- 20:00-22:00 **POSTER SESSION I** (Beer and Pretzel)

**Monday, July 23****Workshop on statistical methods for the analysis  
of complex metabolic profiles**

Lecture Hall, Carl Zeiss Straße 3, SR 207, 2. Floor

Organizer: Nicole van Dam

with contributions of

- 14.00-14.10 **Nicole van Dam**, Netherlands Institute of Ecology, Heteren, Netherlands  
Introduction to the topic
- 14.10-14.50 **Margit Leitner**, MPI for Chemical Ecology, Jena, Germany  
How to get a grip on volatile data: finding patterns in volatile blends
- 14.50-15.30 **Jeroen Jansen**, Netherlands Institute for Ecology, Heteren, Netherlands  
Going the distance: Multivariate data analysis for extracting phytochemically relevant information from complex metabolomics data
- 15.30-16.00 **Discussion by speakers and participants**  
Whether and how will metabolomic techniques and multivariate analyses advance the field of chemical ecology?

**Tuesday, July 24****Symposium on Induced Plant Defenses I**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

- Organizers and Chairs: Ian Baldwin, Junji Takabayashi
- 8.30-9.00 **Linda Walling**, University of California, Riverside, USA  
Silverleaf whiteflies induce salicylic acid defenses and suppress effectual jasmonic acid defenses
- 9.00-9.15 **Kenji Matsui**, University of Yamaguchi, Japan  
Molecular aspects of plant induced defense against insects and pathogen
- 9.15-9.30 **Marco D'Alessandro**, University of Neuchatel, Switzerland  
Endophytic bacteria and plant defence
- 9.30-9.45 **Massimo Maffei**, University of Turino, Italy  
Early events in plant-insect interactions
- 9.45-10.00 **Hans Alborn**, United States Department of Agriculture, Gainesville, USA  
Novel fatty acid-related compounds from the American bird grasshopper, *Schistocerca americana*, elicit plant volatiles
- 10.00-10.30 Coffee Break
- 10.30-10.45 **Monika Hilker**, Free University of Berlin, Germany  
Plant defense against insect egg deposition
- 10.45-11.00 **Roland Mumm**, Marcel Dicke, Wageningen University, Netherlands  
Insect-plant interactions: from genes to behaviour
- 11.00-11.15 **Martin Heil**, University of Duisburg-Essen, Germany  
Lima bean: Multiple interactions among direct and indirect defences
- 11.15-11.30 **Gen Arimura**, MPI for Chemical Ecology, Jena, Germany  
Nocturnal herbivore damage: jasmonate signaling, gene regulation and light-dependent ocimene emission
- 11.30-11.45 **Inga Mewis**, Humboldt University of Berlin, Germany  
Varying glucosinolate profiles in *Arabidopsis* influence plant defense against generalist and specialist insect herbivores differently
- 11.45-12.00 **Anke Steppuhn**, MPI for Chemical Ecology, Jena, Germany  
Defensive synergism – Nicotine prevents herbivores from compensating for plant protease inhibitors
- 12.00-14.00 Lunch Break

**Tuesday, July 24**

**Lunch seminar on new tools to use  
on the LTQ Orbitrap Mass Spectrometer for small molecule analysis**

Lecture Hall, Carl Zeiss Straße 3, SR 127, 1. Floor

12.00-14.00 Organizer: Thermo Fisher Scientific

**Symposium on Animal Responses to Plant Secondary Metabolites I**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

Organizers and Chairs: David Heckel, Manfred Ayasse

- 14:00-14.15 **Thomas Eltz**, University of Düsseldorf, Germany  
Use of plant secondary compounds by male orchid bees (Euglossini): mechanistic and evolutionary aspects of perfume collection
- 14.15-14.30 **Robert Hodgkison**, Manfred Ayasse, Elisabeth E. K. V. Kalko, C. Häberlein, Stefan Schulz, Akbar Zubaid, Thomas H. Kunz, University of Ulm, Germany  
The chemical ecology of fruit bat foraging behaviour in relation to the fruit odours of bat-dispersed figs in the Palaeotropics
- 14.30-14.45 **Stefan Dötterl**, Irmgard Schäffler, University of Bayreuth, Germany  
Floral scent of oil-flowers as attractant for oil-bees
- 14.45-15.00 **Heiko Vogel**, MPI for Chemical Ecology, Jena, Germany  
Transcriptional responses of *Helicoverpa armigera*, a generalist herbivore, to environmental, chemical and plant-induced stress
- 15.00-15.15 **Shai Morin**, Hebrew University of Jerusalem, Israel  
Metabolic gene expression and polyphagy in *Bemisia tabaci*
- 15.15-15.30 **Magali Proffit**, Centre d'Ecologie Fonctionnelle et Evolutive, Montpellier, France  
Parasites escape a trap set for a mutualist: intersexual chemical mimicry in a dioecious fig deceives mutualists, but not a specific parasite of a mutualism
- 15:30-16:00 Coffee Break

**Tuesday, July 24**

**ISCE Travel Awards**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

Chair: Angel Guerrero

- 16:00-16.10 **Maud Ferrari**, University of Saskatchewan, Saskatoon, Canada  
Degradation of chemical alarm cues under natural conditions: risk assessment by larval woodfrogs
- 16.10-16.20 **Orkun Baris Kovanci**, Uludag University, Bursa, Turkey  
Applied chemical ecology of the oriental fruit moth: Optimizing the use of hand-applied dispensers for mating disruption
- 16.20-16.30 **Catalina Estrada**, University of Texas, Austin, USA  
The role of sex-specific pheromones in pupal-mating *Heliconius* butterflies
- 16.30-16.40 **Johannes Stökl**, University of Ulm, Germany  
Consequences of hybridization on the pollinator attracting odour, genetic variation, and radiation of three *Ophrys* species on Mallorca
- 16.40-16.50 **Jeroen Jansen**, Netherlands Institute for Ecology, Heteren, Netherlands  
From microscope to telescope: metabolomics to study aboveground and belowground induced responses and their ecological impact
- 16.50-17.00 **Flore Mas**, University of Basel, Switzerland  
Regulation of maternal care by chemical communication in insects
- 17.00-17.10 **Petra Matouskova**, Academy of Sciences of the Czech Republic, Prague, Czech Republic  
Do more with less: A complex pheromone blend in *Manduca sexta* is produced by a minimal number of desaturases
- 17.10-17.20 **Thorben Nawrath**, Technical University of Braunschweig, Germany  
The biosynthesis of 2-Methylisoborneol in bacteria
- 17.20-17.30 **Josef Vuts**, Hungarian Academy of Sciences, Budapest, Hungary  
Improving the field activity of the synthetic floral bait in *Cetonia a. aurata* and *Potosia cuprea* (Coleoptera: Scarabaeidae: Cetoniinae)
- 17.30-17.40 **Sandra Steiger**, University of Freiburg, Germany  
The smell of parents: breeding status influences cuticular hydrocarbon pattern in the burying beetle *Nicrophorus vespilloides*
- 17.40-17.50 **Kenneth Webster**, Plant Research International, Wageningen, Netherlands  
Exploiting the host-finding behaviour of thrips with colour and odour attractants: underlying principles
- 17.50-18.00 **Mohammad Mahier Uddin**, Humboldt University of Berlin, Germany  
Chemical implications of crucifer crop suitability to the specialist beetle *Phaedon cochleariae* (F.)
- 18:00-19:30 **Dinner Time**
- 19:30-22:00 **POSTER SESSION II** (Beer and Pretzel)

**Wednesday, July 25****Symposium on Microbial Interactions**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

Organizers and Chairs: Leo Eberl, Axel Brakhage

- 8:30-8.45 **Christian Hertweck**, Hans Knöll Institute, Jena, Germany  
Phytopathogenic alliance of a fungus and its bacterial endosymbionts
- 8.45-9.00 **Ying Zeng**, Kunming Institute of Botany, Kunming, China  
The metagenome of plant-associated microbes
- 9.00-9.15 **Md. Tofazzal Islam**, University of Göttingen, Germany  
Chemical ecology of the phytopathogenic Peronosporomycete zoospores
- 9.15-9.30 **Jennifer Dean**, Penn State University, University Park, USA  
Effects of the legume-rhizobia mutualism on herbivore-plant interactions
- 9.30-9.45 **Birgit Piechulla**, University of Rostock, Germany  
Rhizobacterial volatiles affect the growth of fungi
- 9.45-10.00 **Elisabeth Gross**, University of Konstanz, Germany  
Microbial interference with allelochemical interactions of the aquatic angiosperm *Myriophyllum spicatum* (Haloragaceae)
- 10:00 Coffee Break
- 10:30-10:45 **Anton Hartmann**, GSF – Research Center, Munich, Germany  
*N*-Acylhomoserine lactone signaling within rhizosphere bacterial communities and signal uptake and perception by plants
- 10:45-11.00 **Barbara Schellenberg**, University of Zürich, Switzerland  
Action of Syringolin A, a *P. syringae* elicitor, on plants
- 11.00-11.15 **Carsten Matz**, Technical University of Braunschweig, Germany  
Microscopical battlefields: chemical defense of biofilm bacteria against eukaryotic predation
- 11.15-11.30 **Doris Engelmeier**, University of Vienna, Austria  
Leaf epicuticular waxes and their host specificity to fire blight (*Erwinia amylovora*)
- 11.30-11.45 **Jürgen Gross**, University of Gießen, Germany  
Phytoplasma engineer its insect vector by altering behavior and host plant odor

**Wednesday, July 25****Symposium on Semiochemicals II**

Lecture Hall, Carl Zeiss Straße 3, HS 8, 1. Floor

Chair: Gunnar Bergström

- 8.30-8.45 **Jeffrey Aldrich**, USDA-ARS, Beltsville, USA  
A case of pheromonal eavesdropping in true bugs?
- 8.45-9.00 **Till Tolasch**, University of Hohenheim, Stuttgart, Germany  
New taxonomical insights from the identification of new click beetle pheromones (Coleoptera: Elateridae)
- 9.00-9.30 **Gary Blomquist**, University of Nevada, Reno, USA  
Myrcene synthase, myrcene hydroxylase (cytochrome P450) and oxidoreductases in the terminal steps in ipsdienol biosynthesis in the pine bark beetles *Ips pini* and *I. confusus*
- 9.30-9.45 **Vincent Harraca**, University of Neuchâtel, Switzerland  
Sensing resources in tsetse flies
- 9.45-10.00 **Claude Everaerts**, Université de Bourgogne, Dijon, France  
Taste perception and discrimination of pheromones in *Drosophila melanogaster*
- 10:00-10.30 Coffee Break

**Symposium on Evolution and Adaptation I**

Lecture Hall, Carl Zeiss Straße 3, HS 8, 1. Floor

Chair: Thomas Hartmann

- 10.30-11.00 **Eran Pichersky**, University of Michigan, Ann Arbor, USA  
Biochemistry of plant volatiles, or how plants evolve the ability to make so many scent compounds
- 11.00-11.15 **Monika Frey**, Technical University of Munich, Germany  
Indole-3-glycerol phosphate lyase: Recruitment of an enzyme of primary metabolism for secondary purposes
- 11.15-11.30 **Jan-Willem de Kraker**, MPI for Chemical Ecology, Jena, Germany  
From primary to secondary metabolism: amino acid to glucosinolate biosynthesis
- 11.30-11.45 **Johannes Steidle**, University of Hohenheim, Stuttgart, Germany  
Infochemical use by parastoids of seed feeding insects: A test for the reliability-detectability concept?

**Wednesday, July 25**11.45-12.30 **Business meeting**

12:30-13:30 Lunch

14:00-18:00 **Excursions into the surroundings of Jena**19:00-24:00 **Symposium Dinner**  
Volkshaus Jena**SOCIAL LECTURE****Wittko Francke**, University of Hamburg, Germany  
How things developed over time**AWARDS****ELECTIONS****Thursday, July 26**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

8:30 – 9:30 **SILVER MEDAL AWARD LECTURE**  
**Koji Nakanishi**, Columbia University New York, USA**Symposium on Evolution and Adaptation II**

Lecture Hall, Carl Zeiss Straße 3, HS 2, Ground Floor

Organizers and Chairs: *Dietrich Ober, Jonathan Gershenson*9:30-10:00 **May Berenbaum**, University of Illinois, Morrill Hall; USA  
Wild parsnips and parsnip webworms on three continents;  
when interactions go international10.00-10.15 **Susanne Dobler**, University of Hamburg, Germany  
Coping with cardenolides in host-plants – multiple ways  
of achieving resistance by amino-acid substitutions in  
the Na<sup>+</sup>/K<sup>+</sup>-ATPase10.15-10.30 **Kotaro Konno**, National Institute of Agrobiological Sciences  
Tsukuba, Ibaraki, Japan  
Defense chemicals and proteins in mulberry latex and  
enzyme level counter-adaptation of the silkworm, *Bombyx*  
*mori*, a mulberry specialist

10:30-11:00 Coffee Break

11:00-11.15 **Astrid Groot**, MPI for Chemical Ecology, Jena, Germany  
Geographic and temporal variation in premating cues of  
two noctuid moths11.15-11.30 **Doug Chivers**, University of Saskatchewan, Saskatoon,  
Canada  
Manipulating predation risk, pathogens, parasites and heavy  
metal exposure to understand the ecology and evolution of  
fish fear substances11.30-11.45 **Christer Löfstedt**, Lund University, Sweden  
Sex pheromone communication in caddisflies (Trichoptera):  
analytical problems and phylogenetic perspectives11.45-12.00 **Thomas Schmitt**, University of Freiburg, Germany  
Evolution of specific cuticular hydrocarbon profiles in  
solitary Hymenoptera

## PROGRAM

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Thursday, July 26

## Symposium on Induced Plant Defenses II

Lecture Hall, Carl Zeiss Straße 3, HS 8, 1. Floor

Chair: Jocelyn Millar

- 9.30-9.45 **Peter Spiteller**, Technical University of Munich, Germany  
Chemical defence mechanisms of higher fungi
- 9.45-10.00 **Carsten Thoms**, University of Guam, USA  
Activated chemical defense in sponges
- 10.00-10.15 **Naoko Yoshinaga**, University of Kyoto, Japan  
Importance of glutamine moiety in volicitin
- 10.15-10.30 **Daniel Hare**, University of California, Riverside, USA  
Induced volatile organic compounds produced by trichome phenotypes of *Datura wrightii*
- 10:30-11:00 Coffee Break

## Symposium on Animal Responses to Plant Secondary Metabolites II

Lecture Hall, Carl Zeiss Straße 3, HS 8, 1. Floor

Chair: Jim Tumlinson

- 11.00-11.15 **Torsten Meiners**, Free University of Berlin, Germany  
Opposing signals: How parasitoids deal with conflicting environmental information
- 11.15-11.30 **Rob van Tol**, Plant Research International, Wageningen, Netherlands  
Female aphid-induced plant volatiles trigger specific attraction of male *Dysaphis* spp. to the sex pheromone
- 11.30-11.45 **Andreas Jürgens**, Hort Research, Lincoln, New Zealand  
Floral volatiles in Apocynaceae-Asclepiadoideae adapted to carrion flies, bees and moths as pollinators
- 11.45-12.00 **Claus Tittiger**, University of Nevada, Reno, USA  
Resin Detoxification and Pheromone Production by cytochromes P450 in Pine Bark Beetles
- 12.00-12.15 **Farewell**
- 12.30 Lunch

- P 001 A male-produced sex pheromone from the neotropical redbanded stink bug, *Piezodorus guildinii* (Westwood.) (Hemiptera: Pentatomidae)  
Moraes, M. C. B., Brasilia/BR, Millar, J. G., Riverside/USA, Laumann, R. A., Brasilia/BR, Borges, M., Brasilia/BR
- P 002 Influence of apple genotypes on leaf chemistry  
Vogler, U., Zürich/CH, Rott, A. S., Zürich/CH, Dorn, S., Zürich/CH
- P 003 Changes in the volatile profile of soybean after herbivory and oviposition damage caused by *Euschistus heros*, and influence on the behaviour of the parasitoid *Telenomus podisi*.  
Borges, M., Brasilia/BR, Laumann, R. A., Brasilia/BR, Pareja, M., Brasilia/BR, Moraes, M. C. B., Brasilia/BR
- P 004 Inter- and intraspecific variation in defensive compounds produced by five Neotropical stink bug species (Hemiptera: Pentatomidae)  
Borges, M., Brasilia/BR, Pareja, M., Brasilia/BR, Moraes, M. C. B., Brasilia/BR, Laumann, R. A., Brasilia/BR
- P 005 Exploitation of Sex Pheromone in Monitoring Browntail Moth  
Khrimian, A., Beltsville/USA, Lance, D. R., Otis/USA, Mastro, V. C., Otis/USA
- P 006 Autogenous synthesis of defensive compounds in *Chrysomela lapponica* from Kazakhstan  
Tolzin-Banasch, K., Jena/D, Boland, W., Jena/D, Pasteels, J. M., Brussels/B
- P 007 cis-Jasmone induces accumulation of defence compounds in wheat, *Triticum aestivum*  
Moraes, M. C. B., Brasilia/BR, Birkett, M. A, Haperden/UK, Bromilow, R., Haperden/UK, Dufour, S., Haperden/UK, Picket, J. A., Haperden/UK
- P 008 Chemical Mimicry and Host Entering Behavior of the Social Parasitic Bumble Bee *Bombus vestalis*  
Sramkova, A., Ulm/D, Schröder, S., Bonn/D, Wittmann, D., Bonn/D, Ibarra, F., Hamburg/D, Francke, W., Hamburg/D, Ayasse, M., Ulm/D
- P 009 Impact of UV radiation on crop plants and their pests  
Kuhlmann, F., Würzburg/D, Müller, C., Bielefeld/D
- P 010 Pollinator attracting scent of the wasp-flower *Epipactis helleborine* (Orchidaceae)  
Brodmann, J., Ulm/D, Twele, R., Hamburg/D, Francke, W., Hamburg/D, Ayasse, M., Ulm/D
- P 011 Sympatric Speciation in the Sexually Deceptive Orchids *Ophrys chestermanii*, *O. normanii* and *O. tenthredinifera*  
Gögl, J., Ulm/D, Stökl, J., Ulm/D, Sramkova, A., Ulm/D, Twele, R., Hamburg/D, Francke, W., Hamburg/D, Cozzolino, S., Napoli/I, Ayasse, M., Ulm/D

## LIST OF POSTERS

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- P 012 **Composition of frontal gland secretion in *Prorhinotermes simplex* (Isoptera: Rhinotermitidae): natural castes and artificial intercastes**  
Sobotník, J., Prague/CZ, Piskorski, R., Prague/CZ, Hanus, R., Prague/CZ, Vasickova, S., Prague/CZ, Cvacka, J., Prague/CZ, Svatos, A., Jena/D, Valterová, I., Prague/CZ
- P 013 **A female sex pheromone mediates mate finding of the European hornet**  
Ruther, J., Berlin/D, Spiewok, S., Berlin/D, Schmolz, E., Berlin/D
- P 014 **AOP gene expression in *Arabidopsis thaliana* (L.) – Impact on glucosinolate profile and insect resistance**  
Rohr, F., Berlin/D, Ulrichs, C., Berlin/D, Gershenzon, J., Jena/D, Mewis, I., Berlin/D
- P 015 **Phenolics in the bark of Norway spruce (*Picea abies*): Chemical identification, cellular localization, and function in antifungal defense**  
Li, S.-H., Jena/D, Niu, X.-M., Jena/D, Schneider, B., Jena/D, Gershenzon, J., Jena/D
- P 016 **Terpenoid accumulation in the foliage of cotton after mechanical damage and herbivory**  
Opitz, S., Jena/D, Gershenzon, J., Jena/D
- P 017 **Cuticular hydrocarbons as chemical tools to identify Calliphoridae (Diptera) of forensic importance**  
Trigo, J. R., Campinas/BR, Ropelli, A., Campinas/BR, Thyssen, P. J., Campinas/BR, Linhares, A. X., Campinas/BR
- P 018 **A convenient and highly efficient preparative GC system using short sections of megabore column as sample collection traps**  
Nojima, S., Raleigh/USA, Schal, C., Raleigh/USA, Apperson, C., Raleigh/USA
- P 020 **Identification and Synthesis of the Sex Pheromone of the Pacific Mealybug, *Planococcus minor* (MASKELL)**  
Ho, H. Y., Taipei/RC, Chuang, T. H., Taipei/RC, Hung, C. C., Taichung/RC, Wang, W. L., Taichung/RC
- P 021 **Age-Dependent Changes in the Exocrine Glands Secretions of *Bombus terrestris* Queens (Hymenoptera: Apidae, Bombini)**  
Urbanová, K., Prague/CZ, Cahliková, L., Prague/CZ, Hovorka, O., Prague/CZ, Ptáček, V., Brno/CZ, Valterová, I., Prague/CZ
- P 022 **Changes in the composition of the labial gland secretion during the life of *Bombus lucorum* males**  
Zacek, P., Prague/CZ, Jiri, K., Prague/CZ, Blanka, K., Prague/CZ, Irena, V., Prague/CZ
- P 023 **Matching plant defence syndromes with performance of a specialist herbivore**  
Müller, C., Bielefeld/D, Travers-Martin, N., Würzburg/D
- P 024 **Fatty acids as precursors of aliphatic compounds in bumblebees pheromone**  
Krafkova, E., Prague/CZ, Cvacka, J., Prague/CZ, Hovorka, O., Prague/CZ, Kindl, J., Prague/CZ, Jiros, P., Prague/CZ, Nekola, A., Prague/CZ, Valterová, I., Prague/CZ
- P 025 **Iridoid biosynthesis in leaf beetle larvae – regulation of HMG-CoA-reductase by biosynthesis metabolites and plant derived compounds**  
Frick, S., Jena/D, Schmidt, A., Jena/D, Kuhnert, M., Jena/D, Büchler, R., Jena/D, Boland, W., Jena/D, Burse, A., Jena/D
- P 026 **Reinvestigation of the sex pheromone of the beet armyworm *Spodoptera exigua***  
Quero, C., Barcelona/E, Acín, P., Barcelona/E, Guerrero, A., Barcelona/E, Rosell, G., Barcelona/E
- P 027 **Triacylglycerols Extracted from Fat Bodies of Bumblebees – Aspect of the Age**  
Jiros, P., Prague/CZ, Cvacka, J., Prague/CZ, Krafková, E., Prague/CZ, Kindl, J., Prague/CZ, Valterová, I., Prague/CZ
- P 028 **NMR-based metabolomic analysis of *Arabidopsis thaliana* Col. transformed with a polyketide synthase type III from *Wachendorfia thyrsiflora***  
Brand, S., Jena/D, Lenz, A., Jena/D, Schneider, B., Jena/D
- P 029 **The fragrance of Cabbage White butterflies**  
Yıldızhan, S., Braunschweig/D, Schulz, S., Braunschweig/D, Ayasse, M., Ulm/D, van Loon, J., Wageningen/NL
- P 030 **Parasitoid Response to Progressive Mechanical Plant Wounding**  
Connor, E. C., Zurich/CH, Rott, A. S., Zurich/CH, Samietz, J., Zurich/CH, Dorn, S., Zurich/CH
- P 031 **Innate orientation of European corn borer neonate larvae towards host and non-host plants odors**  
Piesik, D., Bydgoszcz/PL, Marion-Poll, F., Versailles/F, Rochat, D., Versailles/F
- P 032 **Description and characterization of channel-forming compounds from the regurgitate of lepidopteran larvae**  
Maischak, H., Jena/D, Grigoriev, P. A., Pushino/RUS, Mithöfer, A., Jena/D, Boland, W., Jena/D
- P 033 **Different 'dialects' in different zygomycetes?**  
Richter, M., Jena/D, Schachtschabel, D., Jena/D, Boland, W., Jena/D
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