

Molecular Mapping & Marker Assisted Selection in Plants
February 3 - 6, 2008, Vienna, Austria



The International Conference

" Molecular Mapping & Marker Assisted Selection in Plants"

Preliminary Programme

Vienna-Austria, February 3-6, 2008



Organizing Committee

International (Preliminary!)

Prof. Michael Freeling
Prof. Dani Zamir
Prof. John Snape
Dr. Jaroslav Dolezel
Dr. Rob Dirks
Prof. Peter Langridge
Prof. Steven Briggs

Local (Vienna University, Austria)

Prof. Alisher Touraev
Prof. Erwin Heberle-Bors
Dr. Alexandra Ribarits
Dr. Tatiana Aionesei
Ms. Julia Szederkenyi



PREFACE

Dear Colleagues,

Vienna is considered one of the most beautiful cities in the world situated in the heart of Europe. Due to its geographic and geopolitical location, Vienna has become a popular conference place in recent years. Today, Vienna offers a range of sights from old historical palaces, classical concerts and outstanding opera performances to typical Viennese coffee houses and restaurants – all brought together in incomparable Viennese harmony. The International and Local Organizing Committees have compiled a well-balanced agenda with state-of-the-art professional highlights and social events to be remembered.

The Scientific Program offers a wide range of interesting topics. Top quality presentations will cover the entire range of the disciplines, including basic and applied subject matters. The program is designed to offer professional state-of-the-art information for basic and applied scientists and plant breeders, and intends to bring together young and more experienced specialists, researchers and practitioners. The Scientific Program is organized in Plenary Lectures, Free Communications, and Poster Sessions. You can look forward to four professionally challenging days, meeting colleagues and experts from all over the world!

A fantastic city, Vienna is one of the best-preserved traditional European capitals, always offering new undiscovered sights and features to be explored! Come and see for yourself! Enjoy a beautiful "Opening Ceremony", a warm welcome reception, dance and sing in a humorous atmosphere, and spend your time visiting rich museums that are enlightened by wonderful opera and theatre performances. Surely, you will take back home some of the most pleasant memories of your life in this unique city in the heart of Europe!

The well-balanced blend of scientific challenges and tourist highlights will convince you to come to Vienna and be integrated in the International Conference "**Molecular Mapping & Marker Assisted Selection in Plants**"!

Alisher Touraev, Chair of the Organizing Committee

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Preliminary Programme includes following topics:

- 1. Plant Genome Organisation and Analysis**
- 2. Genome Mapping**
- 3. Molecular Markers for Genetic Mapping of Plant Genome**
- 4. Mapping of Quantitative Trait Loci (QTL)**
- 5. Marker-Assisted Selection**
- 6. Map-based Cloning & Chromosome Mapping**



PRELIMINARY PROGRAMME

FEBRUARY 3. (SUNDAY)

- 15.00 **REGISTRATION**
- 17.30 – 17.40 **Opening, Welcome address by Prof. Touraev, A.**
- 17.40 – 18.00 **Welcome address by Prof. Heberle-Bors, E.**
- 18.00 – 19.00 **Keynote lecture:**
- Briggs, S.** (USA): A Short History of Molecular Markers and a Glimpse of What May Come
- 19.00 – 21.00 **WELCOME RECEPTION**

FEBRUARY 4 (MONDAY)

- 08.00 **REGISTRATION**

SESSION I. **PLANT GENOME ORGANIZATION AND ANALYSIS**

Chairs: **Freeling, M., Hochholdinger, F.**

- 09.00 – 09.25 (+5) **Freeling, M.** (USA): The synteny of genes and CNSs on plant chromosomes, and why transpositions away from this synteny are particularly important
- 09.30 – 09.45 (+5) **Griffiths, I.**, Howarth, C., Jenkins, G. (UK): Dissecting the Components of Yield in Oats: Genetic Diversity of Sixteen Oat Lines
- 09.50 – 10.05 (+5) Berenyi, M., Mauleon, R.P., Kopecky, D., Wandl, S., Friedl, R., Fluch, S., **Burg, K.** (Austria): Establishment of Gene Space Representations of Plant Genomes with High C+G Patch (HCGP) Filtration: Model Study on Rice
- 10.10 – 10.25 (+5) Deleu, W., González, V., Roig, C., Esteras, C., González-To, M., Fernández-Silva, I., Blanca, J., Arús, P., Nuez, F., Aranda, M., Monforte, A., Puigdomènech, P., Picó, B., **García-Mas, J.** (Spain): Functional Genes for Melon Genetic and Physical Maps



10.30 – 11.00 **COFFEE BREAK**

11.00 – 11.20 (+5) Hoecker, N., Marcon, C. Paschold, A., **Hochholdinger, F.** (Germany): Molecular Dissection of Heterosis Manifestation during Early Maize (*Zea mays* L.) Root Development

11.25 – 11.45 (+5) **Keurentjes, J.J.** (The Netherlands): Opening Pandora's box: dissecting the regulatory circuitry underlying quantitative traits

11.50 – 12.05 (+5) **Hackauf, B.**, Wortmann, H., and Wehling, P. (Germany): Approaching the Restorer Gene *Rfp1* in Rye via Comparative Genetics

12.10 – 12.25 (+5) **Matthies, I.**, Weise, S., Scholz, U., Förster, J., Röder, M. (Germany): Association Genetics for Malting Quality in Barley

12.30 – 14.00. **LUNCH BREAK + POSTER SESSION I**

SESSION II. GENOME MAPPING

Chairs: **Dirks, R., Copenhaver, G.P**

14.00 – 14.25 (+5) **Copenhaver, G.P.** (USA): Using Fluorescent Pollen Tetrads to Measure Meiotic Phenotypes

14.30 – 14.55 (+5) **White, J.** (UK): Methods for Linkage Disequilibrium Mapping in Crops

15.00 – 15.15 (+5) **Röder, M.S.**, Huang X.Q. (Germany): Fine Mapping of a QTL for Grain Weight in Wheat

15.20 – 15.35 (+5) **Kumari, A.A.M.**, van der Linden, C.G., Visser, R.G.F. (The Netherlands): Mapping of Potential Drought Related Markers in Potato by Motif-Directed Profiling

15.40 – 15.55 (+5) **Hu, X.**, Sullivan-Gilbert, M., Kubik, T., Danielson, J., Hnatiuk, N., Marchione, W., Gupta, M., Armstrong, K., Greene, T., Thompson, S. (USA): Molecular Mapping of the Ogura Fertility Restorer Gene *Rfo* in Canola (*Brassica napus* L.)

16.00 – 16.30 **Coffee break**

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- 16.30 – 17.00 (+5)** **Dirks, R.** (The Netherlands): The use of regenerants from unreduced spores (SDR type) for mapping purposes
- 17.05 – 17.20 (+5)** **De Storme N.** and Geelen D. (Belgium): Formation of Unreduced Pollen in *Arabidopsis thaliana*
- 17.25 – 17.40 (+5)** **Pagnotta M.A.** (Italy): Hitchhiking Phenomenon: A Method to Identify Selective Sweep and Analysing Direct and Indirect Genetics Responses to Selection Pressures
- 17.45 – 18.00 (+5)** **Bagheri, H.**, Del Carpio, D.P., Bonnema, G., Koornneef, M., Aarts, M.G.M. (The Netherlands): Construction of a Molecular Marker Based Genetic Linkage Map for a *Brassica rapa* Caixin x Spring Oilseed F2 Population
- 18.05 – 18.20 (+5)** **Vezzulli, S.**, Troggio, M., Coppola, G., Jermakow, A., Cartwright, D.A., Zharkikh, A., Stefanini, M., Grando, M.S., Viola, R., Adam-Blondon, A.-F., Thomas, M.R., This, P., Velasco, R. (Italy): A Functional Integrated Map for Cultivated Grapevine (*Vitis vinifera* L.) from Three Pedigrees, based on 283 SSR and 501 SNP-based Markers
- 18.30 – 20.30** ***Poster session + Dinner in the Poster Area (provided free)***

FEBRUARY 5 (TUESDAY)

08.00 ***REGISTRATION***

SESSION III. MOLECULAR MARKERS FOR GENETIC MAPPING

Chairs: **Briggs, S., Snape, J.W. .**

- 09.00 - 09.25 (+5)** **Snape, J. W.** (UK): Dissecting Gene X Environmental Effects on Wheat Yields via QTL and Physiological Analysis
- 09.30 – 09.45 (+5)** Li, G., **Lelley, T.** (Austria): Mapping the *Cucurbita* genome using SSR markers
- 09.50 – 10.05 (+5)** **Chen, Q.**, Xu, Y., Yang, J.L. , Li, H.Y. , Nandy, S., Beasley, D. , Goettel, M., Platt, H.W. , De Koeper, D. (Canada): Molecular Tagging a New Locus of Late Blight Resistance Genes in *Solanum Pinnatisectum*



10.10 - 10.25 (+5) **Havey, M.J.** (USA): Molecular genotyping of onion reduces time required to identify CMS-maintainer lines from years to hours

10.30 – 11.00 ***Coffee break***

11.00 – 11.15 (+5) **Kumpatla, S.P.**, Shah, M.R., Marchione, W.A., Mukhopadhyay, S., Thompson, S.A., Greene, T.W. (USA): A Multipronged Approach for Rapid Development of Molecular Markers: Towards Marker Assisted Selection (MAS) in Plants

11.20 – 11.35 (+5) **Bilyeu, K.**, Dierking, E. (USA): Navigating without a Map: Using Candidate Genes for Development of Perfect Molecular Markers

11.40 – 11.55 (+5) Jüngling, R., Carvalho, R., Cobos, M-R., Seres, A., Kiss, G., Millan, T., Kahl, G., **Winter, P.** (Germany): Cross-Genome and Expression Markers for Comparative Mapping in Legumes

12.00 – 12.15 (+5) **Humphreys M. W.**, Turner L. B., Binley A., Hawkins S. L., Price Z., Skøt L., Macleod C. J. A. , Whalley W. R., Papadopoulos A., Haygarth P. M. (UK): Selecting Genes in *Lolium x Festuca* Hybrids for Root Growth to Improve Soil Hydrology

12.20 – 14.00. ***Lunch break***

Free tour

18.30 – 20.30 ***Poster session + Dinner in the Poster Area (provided free)***

FEBRUARY 6 (WEDNESDAY)

08.00 ***REGISTRATION***

SESSION IV. QUANTITATIVE TRAIT LOCI (QTL)

Chairs: Zamir, D., Price, A.H.

09.00 - 09.25 (+5) **Zamir, D.** (Israel): Where Have All The QTL Gone?

09.30 – 09.50 (+5) **Price, A.H.** (UK): Believe it or not, QTLs are accurate!

09.55 – 10.10 (+5) **Budahn H.**, Struckmeyer T., Lohwasser U., Ulrich D., Krüger H., Marthe F. (Germany): Distance Analysis of 220 Parsley Genotypes (*Petroselinum crispum* (Mill.) Nyman) Using RAPD-, dpRAPD- and SRAP-Markers

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10.15 – 10.25 (+5) Herrmann D., Studer B., Boller B., Widmer F., **Kölliker R.** (Switzerland): QTL Mapping of Complex Traits in Open Pollinated Forage Species - A Case Study in Red Clover

10.30 – 11.00 ***Coffee break***

11.00 – 11.20 (+5) **Somers, D.J.** (Canada): Mapping yield and agronomically important QTLs in wheat

11.25 – 12.45 (+5) **Tuberosa, R.** (Italy): Mapping QTLs for Root Traits in Maize Using a Gaspé Flint x B73 Introgression Library

11.50 – 12.05 (+5) **Bürstmayr, H.**, Steiner, B., Salameh, A., Lemmens, M. (Austria): Molecular Breeding for Improving Fusarium Resistance and Reducing Mycotoxin Contamination in Wheat

12.10 - 12.25 (+5) **Whan, A.P.**, Robinson N., Aitken K.S., Lakshmanan P., Schmidt S. (Australia): Understanding Nitrogen Use Efficiency in Sugarcane: A Quantitative Genetics Approach

12.30 – 14.00. ***Lunch break***

SESSION V. MARKER-ASSISTED SELECTION

Chairs: **Somers, D.J., Buntjer, J.**

14.00 – 14.20 (+5) **Buntjer, J.** (The Netherlands): Walk This Way: Insight in Optimal Marker-Assisted Breeding Routes using Decision Support Systems

14.25 – 14.40 (+5) **Moulet, O.**, Schori, A. (Switzerland): Introduction of Marker-Assisted Selection (MAS) for Wheat Improvement

14.45 – 15.00 (+5) **Biradar, S.K.**, Stamp, P., Leipner, J. (Switzerland): Marker Assisted Introgression of a Major QTL for Chilling Tolerance of Photosynthesis in Maize

15.05 – 15.20 (+5) **Zou J.**, Fu D., Gong H., Huang S., Zhang C., Meng J. (China): Great Changes on Genomic Structure Contributed to Intersubgenomic Heterosis of *Brassica napus*

15.25 – 15.40 (+5) **King J.**, Armstead I., Harper J., James C., Roberts L., Thomas A., Gasior D., Skøt K., Kelly R., King I. (UK): The Establishment and Application of a Forward Genetic Resource for the Development of Efficient Breeding Strategies in Grass and the Cereals



15.45 – 15.55 (+5) **Thienpont C.-N.** (Belgium): A Few Steps towards Implementation of MAS for Root Morphology in Chicory Breeding

16.00 – 16.30 ***Coffee break***

SESSION VI. MAP-BASED CLONING & CHROMOSOME MAPPING

Chairs: **Dolezel, J., De Jong, H.**

16.30 – 16.55 (+5) **Dolezel, J.** (Czech Rep.): Chromosome Genomics in the Cereals

17.00 – 17.25 (+5) **De Jong, H.** (The Netherlands): BAC-FISH mapping in the Tomato and Potato Genome Projects

17.30 – 17.45 (+5) **Pánková, K.**, Milec, Z., Prášil, I.T., Prášilová, P., Snape, J.W. (Czech Republic): A New Flowering Time Gene on Wheat Chromosome 3B: Characterization and Genetic Mapping

17.50 – 18.05 (+5) **Boudehri K.**, Cardinet G., Capdeville G., Belka M.-A., Caboche M., Bendahmane A., Dirlewanger E. (France): From the Fine Mapping to the Cloning of the *D* Gene Involved in Quantitative Traits in Peach Fruit Quality

18.10 – 22.30 ***Closing, Farewell Party***
