Meeting COST 853
Agricultural Biomarkers for Array-Technology

WG 4 Chip production and analysis
and
WG 5 Environmental monitoring

November 29-30, 2005 **Lyon, France**

Meeting site:
Villeurbanne, Campus scientifique de La Doua
INSA Bâtiment La Rotonde

Organizers:

Dr. Xavier Nesme	Dr Christine Oger	Pr Dr Dietmar Blohm
Ecologie Microbienne / UMR CNRS 5557 USC INRA 1193 Universite Claude Bernard - Lyon 1 Bâtiment Gregor Mendel 16, rue Dubois F-69622 Villeurbanne Cedex, France Tel: 33 4 72 44 82 89 Fax:33 4 72 43 12 23 E-mail: nesme@biomserv.univ-lyon1.fr	DTAMB Universite Claude Bernard - Lyon 1 Bâtiment Gregor Mendel 16, rue Dubois F-69622 Villeurbanne Cedex, France Tel: 33 4 72 43 29 52 Fax:33 4 72 43 12 23 E-mail: oger@biomserv.univ-lyon1.fr	Universität Bremen, FB2-UFT Centre of Applied Gensensorik (CAG) Leobener Strasse 28359 Bremen Tel : 49 421 218 4780 Fax :49 421 218 7578 Email : dhb@biotec.uni-bremen.de

Tuesday, November 29

13:30 Registration

14:00 Welcome address: **Philippe Normand**

Working Group 5 "Environmental Monitoring"

Introduction **Xavier Nesme**

Genomic diversity

14:30 **O-01** Alice Guidot, Stéphane Genin, Philippe Prior, **Christian Boucher**
DNA chips and comparative genomics reveal evolution of the plant pathogenic bacterium *Ralstonia solanacearum.*

15:00 **O-02** Philippe Marullo, Gaël Yvert, Denis Dubourdieu,**Michel Aigle**
Use of CGH with microarray to analyze functional QTL in wild *Saccharomyces cerevisiae.*

15:30 – 16:00 Coffee Break

16:00 **O-03** Xavier Bailly, Gilles Béna, Vanina Lenief, Philippe de Lajudie, **Jean-Christophe Avarre**
"Lab-made" macroarrays for genotype analysis of bacterial populations of *Sinorhizobium.*

16:15 **O-04** **Zewdu Terefework**, Petri Penttinen, Dario Greco, Lars Paulin, Petri Auvinen, Kristina Lindström
CGH on *Sinorhizobium meliloti* microarrays to show inter- and intra-specific genetic variation

16:30 **O-05** **Denis Costechareyre**, Perrine Portier, David Chapulliot, Catherine Lerondelle, Vincent Daubin, Tim Vogel, Xavier Nesme
AFLP, MLSA and pangenomic microarrays to study the genome divergence between and within species in *Agrobacterium* spp.

16:45 **O-06** **Christian Oste**
CGS: a two-step approach to characterizing genomic variability in prokaryots

17:15 – 18:30 Discussion & Poster session

20:00 Dinner. A taste of Lyonnaise specialities

Wednesday, November 30

Working Group 5 "Environmental Monitoring" (continued)

Meta-genome fingerprinting, marker functions and metagenomics

8:30 **O-07** **Alexander Loy**
Isotopic labeling and PhyloChips: Exploring ecophysiology of microbial communities.

9:00 **O-08** **Benoît Remenant**, Hervé Sanguin, Timothy M. Vogel, Geneviève L. Grundmann
Use of a taxonomic microarray for bacterial diversity assessment in soil at the microscale**.**

9:15 **O-09** **Nina Silkenbeumer**, Kristina Kappel and Dietmar Blohm
The fish-chip as a first step for measuring fish biodiversity in the marine environment

9:30 **O-10** **Nancy Stralis-Pavese**, Angela Sessitsch, Andrea Watzinger, Thomas Reichenauer, Alexandra Weilharter, Levente Bodrossy
High-throughput analysis of methanotroph diversity and community structure using a microbial diagnostic microarray.

9:45 **O-11** **Arjen Speksnijder**
Recovery and real time analysis of functional genes in antagonistic soils.

10:00 **O-12** **Angela van Hoek**

Detection of antibiotic resistance genes by oligonucleotide microarray analysis

10:15 – 10:45 Coffee Break

10:45 **O-13** Cyrille Jarrin, **Aurélien Ginolhac**, Renaud Nalin
Development of molecular markers for the identification of novel biosynthetic pathways by HTS of metagenomic libraries.

Bio-marker expression

11:05 **O-14** Aurélie Darchis, Arnaud Lagorce, Fabien Munier, Jean-Benoit Morel, Rick De Rose, Roland Beffa, **Marc-Henri Lebrun**
Transcriptional Analysis of genes from the Pathogenic Fungus *Magnaporthe grisea* during rice infection using genome wide DNA arrays.

11:25 **O-15** Gaël Le Trionnaire, Beatriz Sabater-Muñoz, Fabrice Legeai, Alessandra Benedetto, Joël Bonhomme, Jean-Pierre Gauthier, Stéphanie Jaubert, Nathalie Leterme, Carole Dossat, Patrick Wincker, Jean-Christophe Simon, **Denis Tagu**
A pea aphid cDNA array to study phenotypic plasticity

11:45 **O-16** **Hubert Charles,** Federica Calevro, José Viñuelas
Transcriptional responses of *Buchnera aphidicola* to combined amino acid and osmotic stress in the diet of its symbiotic partner, *Acyrthosiphon pisum*.

12:05 – 12:30 Discussion

12:30 – 14:00 Lunch

Working Group 4 "DNA Chip technology"

14:00 **O-17** **Dietmar Blohm**
A worldwide microarray co-operation network offered by the CAG of the University of Bremen

14:30 **O-18** **Georg Nies,** Diethard Tautz
Implementation of a DNA-Taxonomy concept on Microarrays

15:00 **O-19** **Catherine Hänni**
Identification of vertebrate species using microarrays

15:20 **O-20** **Carole Vachon**
AQUAGEN project: a full process for controlling microbiological quality of drinking water using a high-density microarray

15:40 – 16:10 Coffee Break

16:15 **O-21** **Florence Hommais** , Sabrina Pereira, Cécile Acquaviva, Patricia Escobar-Páramo, and Erick Denamur
Single Nucleotide Polymorphism Phylotyping in bacteria

16:30 **O-22** **Richard Thwaites, Christine Henry**
Advantages and disadvantages of using microarrays for specific sequence detection.

16:45 **O-23** **Mojca Milavec,** Katja Cankar, Drago Kuzman, Peter Juvan, Kristina Gruden
How to prepare custom potato microarray.

17:00 **O-24** **Ingrid H. Franke-Whittle,** Susanne H. Klammer, Sabine Mayrhofer, Heribert Insam
Comparison of different labeling methods for the production of labeled target DNA for microarray hybridisation.

17:15 **O-25** **Sascha Todt**, Dietmar Blohm
Considering hybridisation efficiency as a necessity for quantifying of microarray analyses

17:30 **O-26** Marianna Szemes, Ronald van Doorn, Els Nijhuis, Annette Dullemans, Peter Bonants, Marjanne de Weerdt, **Cor D. Schoen**
Diagnostic application of padlock probes - multiplex detection of plant pathogens using universal microarrays.

17:45 – 18:00 Discussion

18:00 Closing

Posters (WG4 & WG5)

P-01 **Arjen Speksnijder**
Metagenomics of antagonistic soils

P-02 **Martine Maes**, Baeyen S., Van Bost M.A., Cottyn B.
Influence of soil treatments on the bacterial community structure of strawberry rhizosphere.

P-03 B. Scherm, M.A. Demontis, S. Ghignone, M. Schmoll, C. P. Kubicek, **Quirico Migheli**
A rapid substraction hybridization approach for identifying and cloning differentially expressed genes during the interaction between *Trichoderma harzianum* and *Rhizoctonia solani.*

P-04 Quarta A., Felis G., Dellaglio F., Morea M., **Palmiro Poltronieri**
Comparison between *tuf* and *recA*-based primers for Identification of *Lactobacillus* communities using oligonucleotide arrays

P-05 **Hervé Sanguin** , Benoit Remenant, Arnaud Dechesne , Pascal Simonet, Tim M. Vogel, Philippe Normand, Xavier Nesme, Yvan Moënne-Loccoz Y, Geneviève L. Grundmann
Application of a 16S taxonomic microarray to assess bacterial community diversity in the environment.

P-06 **Aleksandra Trzewik,** Kasia Wiejacha, L.B. Orlikowski
An occurrence of *Phytophthora spp.* in natural stands of *Alnus spp.* in Poland

P-07 **José Viñuelas**, Federica Calevro, Jacques Bernillon,Yvan Rahbe, Gérard Febvay, Jean-Michel Fayard, Hubert Charles
Genomic DNA: an attractive candidate for microarray data normalization

P-08 **Dietmar Blohm**, Doris Meyerdierks
The EU-project “Gensensor-Nanoparts”

P-09 **Nina Silkenbeumer**, Mark Kochzius, Dietmar Blohm
The EU-project “Fish-and-Chips”

P-10 **Almira Ramanaviciene**, Irena Vitkauskien, Arunas Ramanavicius
Immobilization methods for electrochemical DNA chip technology.

P-11 **Arunas Ramanavicius**, Jurgita Kapciunaite, Almira Ramanaviciene
Alternative DNA detection methods.

P-12 C. Schoen, **Arjen Speksnijder,** A. Dullemans, E. Nijhuis, M. Szemes, R. van Doorn, P. Bonants.
Padlock probe technology, vision of a universal, multiplex diagnostic system for versatile applications.

P-13 **Emmanuel Prestat, Christine Oger-Desfeux**, Benoît Remenant, Hervé Sanguin, Geneviève Grundmann, Timothy M. Vogel, Christian Gautier
Interactive Microarray Data Management System : A tool to help with the design and analysis of phylogenetic microarrays for the study of bacterial communitie.