

PSEUDOMONAS 2005

PROGRAM

Saturday, August 27

13.30-18.00 : Registration (Palais des Congrès)

18.00-18.30 : Meeting opening (Alain Filloux)

18.30-19.30 Keynote lecture by Professor **Andrée LAZDUNSKI** (CNRS, Marseille, France)
« *A key to the adaptative potential of Pseudomonas aeruginosa : global regulatory networks, quorum sensing and two-components signal transduction pathways* »

20.00-23.00 : Reception at Palais des Congrès

Sunday, August 28

Session I : GENOMICS

(Stephen LORY)

8.45 - 9.15: **Roberto KOLTER** (Harvard Medical School, Boston, USA)
« *Insights into the evolution of Pseudomonas aeruginosa gained from comparative genomic studies* ».

9.15 - 9.45: **Burkhard TUMMLER** (Medizinische Hochschule Hannover, Germany)
« *Genome diversity of Pseudomonas* ».

9.45 - 10.15: **Michael GIVSKOV** (Technical University of Denmark, Lyngby, Denmark)
« *Cross-talk between Pseudomonas aeruginosa and the PMN's* ».

10.15 - 10.30: **Joyce LOPER** (U.S.D.A., Corvallis, Oregon, USA)
« *Complete genome sequence of the plant commensal Pseudomonas fluorescens Pf-5: insights into the biological control of plant disease* ».

10.30 - 11.00: *Coffee Pause*

11.00 - 11.30: **Ingyu HWANG** (Seoul National University, Korea)
« *Pathogenomics of Burkholderia glumae : the causative agent of bacterial grain rot in rice* ».

11.30 - 12.00: **Peter GREENBERG** (University of Iowa, Iowa city, USA)
« *Quorum Sensing and Multi-Input Control Modules, a Transcriptome Analysis: Delays in Pseudomonas aeruginosa Quorum-Controlled Gene Expression are Conditional* ».

12.00 - 12.30: **Ildelfonso CASES** (Centro Nacional de Biotecnología, Madrid, Spain)
« *Biodegradation Networks: Regulation and Evolution* ».

12.30 - 12.45: **Fiona BRINKMAN** (Department of Molecular Biology and Biochemistry, Simon Fraser University, Canada).
« *Pseudomonas Genome Database 2: Improving multi-genome comparisons, functional genomics annotation, and protein localization analysis* ».

12.45 - 14.00: **Lunch & Posters**



Session II : TRANSPORT & SECRETION

(Jan TOMMASSEN)

14.00 - 14.30 : **Dara FRANK** (Medical College of Wisconsin, USA)
« *Unique structural and functional properties of ExoU, a potent P. aeruginosa-encoded cytotoxin with phospholipase activity* ».

14.30 – 15.00: **Vassilis KORONAKIS** (University of Cambridge, UK)
« *Bypassing the periplasm" . Mechanism and structural studies of the tripartite Type I engines for drug efflux and protein export* ».

15.00 - 15.15: **Ame RIETSCH** (Dept. of Microbiology and Molecular Genetics, Harvard Medical School, Boston, USA).
« *ExsE, a secreted regulator of type III secretion genes in Pseudomonas aeruginosa* ».

15.15 - 15.30: **Eric DURAND** (CNRS, LISM, Marseille, France)
« *Structural and functional studies of the type II secretion apparatus (Xcp) in Pseudomonas aeruginosa: The pseudopilus architecture, a fibrillar and adhesive structure* ».

15.30 - 17.30: **Posters - SESSION 1**



SESSION III : CHEMOTAXIS & MOBILITY

(Reuben RAMPHAL)

- 17.30 - 18.00: **Reuben RAMPHAL** (University of Florida, Gainesville, USA)
« *The role of the Pseudomonas aeruginosa flagellum in pathogenesis.* ».
- 18.00 - 18.30: **Cynthia WHITCHURCH** (Monash University, Clayton, Australia)
« *The Chp chemosensory system of Pseudomonas aeruginosa* ».
- 18.30 - 19.00: **Shin-Ichi AIZAWA** (Prefectural University of Hiroshima, Japan)
« *Control of the Flagellar number in Pseudomonas* ».
- 19.00 - 19:15: **Inga SARAND** (Estonia Biocenter, Riia 23a, 51010 Tartu, Estonia)
« *Signal transduction proteins involved in metabolism-dependent taxis of Pseudomonas putida towards (methyl)phenols* ».

Monday, August 29

Session IV : GLOBAL GENE REGULATION

(Victoria SHINGLER)

- 8.45 - 9.15: **Paul WILLIAMS** (University of Nottingham, UK)
« *Quinolone signalling in Pseudomonas and Burkholderia: who's talking to whom?* »
- 9.15 - 9.45: **Vittorio VENTURI** (International Centre for Genetic Engineering and Biotechnology, Trieste, Italy)
« *Integration of N-acyl homoserine lactone quorum sensing with other global regulators in Pseudomonas* ».
- 9.45 - 10.15: **Daniel HASSETT** (University of Cincinnati College of Medicine, USA)
« *Tails, Hairs, and Speech in Pseudomonas aeruginosa* ».
- 10.15 - 10.30: **Simon L. DOVE** (Division of Infectious Diseases, Children's Hospital, Harvard Medical School, Boston, USA).
« *Control of phase-variable gene expression in Pseudomonas aeruginosa* ».
- 10.30 - 11.00 : Coffee Pause**
- 11.00 - 11.30: **Dieter HAAS** (Lausanne University, Switzerland)
« *Small RNAs in global gene regulation of Pseudomonas spp* ».
- 11.30 - 12.00: **Barbara IGLEWSKI** (University of Rochester, USA)
« *Global Gene regulation of Virulence Factors in Pseudomonas aeruginosa* ».

12.00 - 12.30: **Michael VASIL** (University of Colorado Health Sciences Center, Denver, USA)
« *Four Remarkable Phospholipases of Pseudomonas aeruginosa: More than just chewing the fat!* ».

12.30 - 12.45: **Paolo VISCA** (Microbiologia Molecolare, INMI “L Spallanzani”, Dipartimento di Biologia, Università “Roma Tre”, Roma, Italia)
« *Pyoverdine regulation: a matter of competition between sigma and antisigma factors* ».

12.45 - 14.00: **Lunch & Posters**



Session V : PHYSIOLOGY & METABOLIC VERSATILITY

(Juan Luis RAMOS)

14.00 - 14.30: **Fernando ROJO** (Centro Nacional de Biotecnología, Madrid, Spain)
« *Analysis of global regulation in Pseudomonas putida through functional genomics* ».

14.30 - 15.00: **Jan Roelof Van der MEER** (Lausanne University, Switzerland)
« *Genomic islands and metabolic flexibility in Pseudomonads* ».

15.00 - 15.30: **Lindsay ELTIS** (University of British Columbia, Vancouver, Canada)
« *The enzymology of PCB degradation: general insights into catabolic enzymes* ».

15.30 - 15.45: **Edmund MASER** (Institute of Toxicology and Pharmacology for Natural Scientists, University Medical School Schleswig-Holstein, Kiel, Germany)
« *3 α -Hydroxysteroid dehydrogenase/carbonyl reductase from Comamonas (Pseudomonas) testosteroni: biological significance, three-dimensional structure and gene regulation* ».

15.45 - 16.00: **Nick WIERCKX** (TNO Quality of Life, Business Unit Bioconversion, PO Box 342, 7300 AH Apeldoorn, The Netherlands)
« *Optimization of the solvent tolerant Pseudomonas putida S12 as a host for the sustainable production of phenol* ».

16.00 - 18.00 : **Posters - SESSION 2**



Session VI : GENETIC ADAPTATION

(Maia KIVISAAR)

- 18.00 - 18.30: **Maia KIVISAAR** (Tartu University, Estonia)
« *Molecular mechanisms of stationary-phase mutagenesis in *Pseudomonas putida** ».
- 18.30 - 19.00: **George W. SUNDIN** (Michigan State University, USA)
« *Mutagenic DNA Repair: Transient Mutability and the Potential for Adaptive Evolution* ».
- 19.00 - 19.15: **Jesus BLAZQUEZ** (Departamento de Biotecnología Microbiana. Centro Nacional de Biotecnología. Madrid, Spain.)
« *Effect of antibiotics on stable and transient hypermutation in *Pseudomonas aeruginosa** ».
- 19.15 - 19.30: **Rafael RIVILLA** (Departamento de Biología. Universidad Autónoma de Madrid. Spain).
« *Genetic diversification in *Pseudomonas fluorescens* during rhizosphere colonization is mediated by site-specific recombinases and affects the Gac system and motility* ».
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Tuesday, August 30

Session VII : BIOFILMS & LIFESTYLES

(Soeren MOLIN)

- 8.45 - 9.15: **Soeren MOLIN** (Technical University of Denmark, Lyngby, Denmark).
« *Adaptive evolution of *Pseudomonas putida* in a multi-species biofilm setting* ».
- 9.15 - 9.45: **George O'TOOLE** (Dartmouth medical school, USA).
« *To Build a Biofilm* ».
- 9.45 - 10.15: **Marvin WHITELEY** (University of Oklahoma, Norman, USA).
« *Struggle for power in a model polymicrobial biofilm* ».
- 10.15 - 10.30: **Eliana DRENKARD** (Department of Genetics, Harvard Medical School and Department of Molecular Biology, Massachusetts General Hospital, Boston, MA, USA).
« *Role of *Pseudomonas aeruginosa* phenotypic variants in biofilm resistance* ».

10.30 - 11.00: Coffee Pause

11.00 - 11.30: **Alain FILLOUX** (CNRS, Marseille, France)
« *Two-component systems involved in the control of biofilm formation in *Pseudomonas aeruginosa** ».

11.30 - 12.00: **Staffan KJELLEBERG** (School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, Australia)
« *Differentiation and dispersal of *Pseudomonas aeruginosa* biofilms* ».

12.00 - 12.30: **Guido BLOEMBERG** (Leiden University, The Netherlands)
« *Biofilm formation by *Pseudomonas* strains from the rhizosphere* ».

12.30 - 12.45: **Alejandro PENALOZA-VAZQUEZ** (Oklahoma State University, Stillwater, USA).
« *Characterization of a *hrpM* mutant indicates that osmoregulated periplasmic glucans are essential for initiation of biofilm formation in *Pseudomonas syringae** ».



12.45 - 14.00: Lunch & Posters

Session VIII : CYSTIC FIBROSIS

(Sophie de BENTZMANN)

14.00 - 14.30: **Gerald PIER** (Harvard Medical School, Boston, USA)
« *CFTR-dependent activation of innate immune effectors critical for resistance to lung infection with *Pseudomonas aeruginosa** ».

14.30 - 15.00: **Erich GULBINS** (University of Duisburg-Essen, Essen, Germany)
« *Membrane domains in cystic fibrosis and *Pseudomonas aeruginosa* infections* ».

15.00 - 15.30: **Joanna GOLDBERG** (University of Virginia, Charlottesville, USA)
« *Novel delivery of *Pseudomonas aeruginosa* polysaccharide antigens for vaccine development* ».

15.30 - 15.45: **Michael HOGARDT** (Max von Pettenkofer-Institut für Medizinische Mikrobiologie und Hygiene, LMU- München. München, Germany)
« *Adaptation of *Pseudomonas aeruginosa mutS* mutators during chronic infection of the cystic fibrosis lung: a combined proteome and transcriptome analysis* ».



15.45 - 17.00: Posters - SESSION 3

Session IX : ENZYMES

(Karl-Erich JAEGER)

- 17.00 - 17.30:** **Wim QUAX** (University of Groningen, The Netherlands)
« *Pseudomonas acylases: for antibiotics and antibiosis* ».
- 17.30 - 18.00:** **Gloria SOBERON-CHAVEZ** (Universidad Nacional Autonoma de Mexico, Cuernavaca, Morelos, Mexico)
« *Rhamnolipid biosynthesis by Pseudomonas aeruginosa* ».
- 18.00 - 18.15:** **Thomas WOOD** (Department of Chemical Engineering, University of Connecticut, Storrs, CT, USA).
« *Chemotaxis toward TNT and protein engineering of Burkholderia and Ralstonia dioxygenases for enhanced dinitro- & aminonitro-toluene degradation* ».
- 18.15 - 18.30:** **Rolf MUELLER** (Pharmaceutical Biotechnology, Saarland. University, Im Stadtwald, 66041 Saarbrücken, Germany)
« *Production of myxobacterial secondary metabolites in pseudomonads baon recombiogenic cloning* ».
- 20.00 - 1.00 : CONFERENCE DINNER (Palais du Pharo, Salon Eugénie)**
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Wednesday, August 31

Session X : HOST-BACTERIUM INTERACTIONS

(Carol BENDER)

- 8.45 - 9.15:** **Carol BENDER** (Oklahoma State University, Stillwater OK, USA)
« *Pseudomonas syringae virulence factors and plant pathogenesis* ».
- 9.15 - 9.45:** **Laurence RAHME** (Massachusetts General Hospital, Boston, USA)
« *Profiling Early Infection Responses to Pseudomonas aeruginosa* ».
- 9.45 - 10.00:** **Michael SHAPIRA** (Department of Genetics, Developmental Biology, and Molecular Pharmacology, Stanford University School of Medicine, Stanford CA, USA)
« *Large scale transcriptional and functional analyses reveal central roles for a GATA transcription factor in Caenorhabditis elegans innate immune responses toward Pseudomonas aeruginosa infection* ».

10.00 - 10.15 : **Anne IMBERTY** (CERMAV-CNRS, BP53, 38041 Grenoble cedex 09, France)
« *Pseudomonas aeruginosa* lectins and recognition of host glycans: structures, thermodynamics and search for competitors with anti-adhesive properties ».

10.15 - 10.45: Coffee Pause

10.45 - 11.15: **Frederic BOCCARD** (Centre de Génétique Moléculaire, CNRS UPR2167, Gif sur Yvette, F-91198, France)
« *Genetics and genomics of Drosophila infection by Pseudomonas species* ».

11.15 - 11.45: **Roger LEVESQUE** (Université Laval, Québec, Canada)
« *In vivo functional genomics in Pseudomonas aeruginosa* ».

11.45 - 12.15: **Gail PRESTON** (University of Oxford, UK)
« *Innovation and adaptation in plant-associated Pseudomonas* ».

12.15 - 12.30: **Nicole LIBERATI** (Department of Molecular Biology, Massachusetts General Hospital, Department of Genetics, Harvard Medical School, Boston, MA, USA).
« *Use of the PA14 Non-Redundant Transposon Insertion Library to Identify Genes Essential for Virulence* ».

12.30 - 14.00: Lunch & Posters



Session XI : BACTERIAL CELL SURFACES

(Pierre CORNELIS)

14.00 - 14.30: Robert E. W. HANCOCK (University of British Columbia, Vancouver, Canada)
« *Regulation of antibiotic resistance and virulence in Pseudomonas aeruginosa with special emphasis on 2-component regulators* ».

14.30 - 15.00: **Patrick PLESIAT** (Hopital Jean-Minjoz, Besancon, France)
« *Antibiotic resistance by efflux mechanisms in clinical Pseudomonas aeruginosa* ».

15.00 - 15.15: **Marian LLAMAS - LORENTE** (Department of Medical Microbiology, VU Medical Center, van der Boechorststraat 7, 1081 BT, Amsterdam, The Netherlands)
« *Trans-cell envelope signalling pathways in Pseudomonas aeruginosa* ».

15.15 - 15.30: **Christine BAYSSE** (BIOMERIT Research Centre, Microbiology Department, National University of Ireland, Cork, Ireland).
« *Alteration of membrane composition as a stress signal in *Pseudomonas aeruginosa** ».

15.30 - 16.00: **Iain LAMONT** (University of Otago, Dunedin, New Zealand)
« *Regulation of iron uptake in *Pseudomonas aeruginosa** ».

16.00 - 16.30: **Joseph S. LAM** (University of Guelph, Canada)
« *Functional roles of Wzy and WaaL in the biosynthesis of B-band LPS in *Pseudomonas aeruginosa** ».

16.30 - 17.30 : **CONCLUDING REMARKS**

17.30 ***END OF MEETING***

