

# AMP2016 Scientific Program

June 6-8, 2016 | Le Corum, Montpellier, France

## June 6, 2016

- 8h00 - 9h00      **REGISTRATION**
- 9h00 - 9h20      **WELCOME TALKS**  
Dr. **Delphine Destoumieux-Garzón** - CNRS - IHPE - Montpellier, France  
Dr. **Philippe Bulet** - University Grenoble Alpes - Grenoble - Archamps, France  
“Towards an integrated view of AMP diversity, functions and applications”
- 9h20 - 9h55      **KEYNOTE LECTURE**  
Prof. **Nita Salzman** - Medical College of Wisconsin - Milwaukee, WI, USA  
“Two sides to intestinal homeostasis: Roles for both host and microbial AMPs”
- 9h55**              **SESSION A. Discovery of novel AMPs through rational design, genome mining and exploration of the biodiversity**  
*Chairs: Dr. Yanyan Li & Dr. Stéphane Cociancich - Prof. Alain Dufour & Prof. Jörn Piel*
- 9h55 - 10h25      Prof. **Jörn Piel** - ETH Zürich - Institute of Microbiology - Zürich, Switzerland  
“Peptide-hypermodifying enzymes from an uncultured bacterium”
- 10h25 - 10h45      Prof. **Oscar P. Kuipers** - University of Groningen - Groningen, Netherlands  
“Developing novel antimicrobials by synthetic biology, biochemistry and biosensor-based screening”
- 10h45 - 11h15**      **Coffee Break**
- 11h15 - 11h35      Dr. **Andrius Buivydas** - University of Groningen - Groningen, Netherlands  
“Cycling with lantibiotics”
- 11h35 - 11h55      Dr. **Tamis Darbre** - University of Bern - Bern, Switzerland  
“Potent antimicrobial peptide dendrimers against multi-drug resistant *Pseudomonas aeruginosa* and *Acinetobacter baumannii*”
- 11h55 - 12h15      Dr. **Agnès Delmas** - CNRS - Centre de Biophysique Moléculaire - Orléans, France  
“Native chemical ligation simplifies the access to multidomain antimicrobial peptides: application to the study of big-defensins”
- 12h15 - 12h35      Dr. **Aishwarya Korgaonkar** - Hhmi-Janelia Research Campus - Ashburn, VA, USA  
“Antimicrobial potential of novel peptides produced by aphids”
- 12h35 - 14h00**      **LUNCH**
- 14h00 - 14h30      Dr. **Stéphane Cociancich** - UMR BGPI - CIRAD - Montpellier, France  
“Multidisciplinary approaches shed light on biosynthesis and unusual structural features of the antimicrobial hybrid NRPS/PKS-synthesized albicidin”
- 14h30 - 14h50      Dr. **Valérie Leclère** - Institut Charles Viollette - University of Lille 1 - Lille, France  
“Florine and Norine: powerful tools for *in silico* genome mining leading to discovery of novel nonribosomal peptides”
- 14h50 - 15h10      Dr. **Marco Gerdol** - University of Trieste - Trieste, Italy  
“Identification of myticalins, a novel family of linear cationic AMPs by bioinformatics transcriptome mining in the Mediterranean mussel *Mytilus galloprovincialis*”

**15h10**                    **SESSION B. Linking AMP structures and mechanisms of action to microbial resistance**

*Chairs: Dr. Laurence Marques & Dr. Axel Innis*

15h10 - 15h40        Dr. **Axel Innis** - University of Bordeaux - Bordeaux, France  
"Antimicrobial peptides and the ribosome: mode of action and perspectives for drug design"

15h40 - 16h00        Dr. **Margitta Dathe**- Leibniz Institut für Molekulare Pharmakologie - Berlin, Germany  
"A novel antimicrobial mechanism of action based on reduction of membrane fluidity and lipid domain formation"

16h00 - 16h20        Prof. **Kornelius Zeth** - Roskilde University - Roskilde, Denmark  
"The onset of membrane permeabilization by antimicrobial peptides – lessons from studies of human cathelicidin LL-37 peptide channel formation"

**16h20 - 18h00**        **POSTER SESSION & Coffee Break**

**June 7, 2016**

**8h30**                    **SESSION B. Linking AMP structures and mechanisms of action to microbial resistance**

*Chairs: Dr. Katy Jeannot & Prof. William M. Shafer*

8h30 - 9h00            Prof. **William M. Shafer** - Emory University - Atlanta, GA, USA  
"Clinical and biological implications of AMP resistance mechanisms expressed by *Neisseria gonorrhoeae*"

9h00 - 9h20            Prof. **José Martins** - Dept. Organic and Macromolecular Chemistry - Ghent, Belgium  
"Understanding biological activity and self-assembly of antimicrobial cyclic lipopeptides using a molecular approach"

9h20 – 9h40            Prof. **Xiumin Wang** - Chinese Academy of Agricultural Sciences - Beijing, China  
"Mechanism of action of the NZ17074-derived peptides on pathogenic *Escherichia coli* and *Salmonella enteritidis*"

9h40 - 10h00          Prof. **Klaus Brandenburg** - Forschungszentrum Borstel - Borstel, Germany  
"Novel antiseptic polypeptides (Aspidasept®) neutralizing susceptible and resistant bacteria and their toxins"

**10h00 – 10h30**        **Coffee break**

10h30 - 10h50        Mr. **Sohaib Zafar Malik** - Uppsala University - Uppsala, Sweden  
"Resistance development to cyclic antimicrobial peptides in *Salmonella enterica*"

10h50 - 11h10        Mr. **Arnaud Bolard** - University of Franche-Comté - Besançon, France  
"Cross-resistance to polymyxins and aminoglycosides in *Pseudomonas aeruginosa* mutants"

**11h10**                    **SESSION C. Evolution of AMPs: from sequence and structural diversity to functional divergence**

*Chairs : Dr. Nicolas Bierne & Dr. Lluis Quintana-Murci*

11h10 - 11h40        Dr. **Robert Unckless** - Cornell University - Ithaca, NY, USA  
"Convergent evolution in insect antimicrobial peptides"

11h40 – 12h00        Ms. **Claire Papot** - Université Lille 1 - Lille, France  
"Antagonistic evolution of an AMP and its associated molecular chaperon (BRICHOS) or how maintaining a vital ectosymbiosis in an extreme fluctuating habitat"

- 12h00 - 12h20 Dr. **Francoise Gosti** - CNRS - Montpellier, France  
“Evolutionary insight on plant defensin type 1 (PDF1)”
- 12h20 – 14h00 LUNCH**
- 14h00 – 14h30 Dr. **Lluis Quintana-Murci** - Pasteur Institute - Paris, France  
“Evolutionary genetics dissection of innate immunity in humans”
- 14h30 - 14h50 Dr. **Nicolas Bierne** - CNRS - ISEM - Montpellier, France  
“The subtle footprint of balancing selection on AMPs as identified from a genome scan of interspecific gene flow among partially isolated mussel backgrounds”
- 14h50** **SESSION D. Multiple functions of AMPs and novel applications**  
*Chairs: Prof. Nita Salzman & Prof. Jean-Marc Berjeaud*
- 14h50 - 15h20 Dr. **Philippe Normand** - University of Lyon - Lyon, France  
“Physiological effects of *Alnus glutinosa* defensins on the actinorhizal symbiont *Frankia*”
- 15h20 - 15h40 Prof. Dr. **Henk P. Haagsman**- Faculty of Veterinary Medicine, Utrecht University - Utrecht, Netherlands  
“Sensible sensing - cathelicidins inhibit TLR2 and TLR4 activation by Gram-negatives only when bacterial viability is lost”
- 15h40 - 16h00 Dr. **Thanh Kha Phan** - La Trobe University - Melbourne, Australia  
“Human  $\beta$ -defensin 3 contains a conserved cationic motif that binds phosphoinositides to mediate tumour cell permeabilisation and immune regulation”
- 16h00 - 16h20 Prof. **Octavio Franco** - Universidade Católica Dom Bosco - Campo Grande, Brazil  
“Controlling resistant bacteria with novel designed multifunctional peptide compounds”
- 16h20 - 18h00 POSTER SESSION & Coffee Break**

**June 8, 2016**

- 8h30** **SESSION D. Multiple functions of AMPs and novel applications**  
*Chairs: Dr. Karin Thevissen & Prof. Djamel Drider*
- 8h30 - 9h10 KEYNOTE LECTURE**  
Dr. **Karin Thevissen** - KU Leuven - Leuven, Belgium  
“Mode of action of antifungal plant defensins and their synergy with conventional antimycotics”
- 9h10 - 9h30 Ms. **Kathryn Geldart** - University of Minnesota - Minneapolis, MN, USA  
“Engineering probiotics for the delivery of AMPs targeting vancomycin-resistant *Enterococcus*”
- 9h30 - 9h50 Dr. **Vincent Humblot** - Université Pierre et Marie Curie - Paris, France  
“Engineering of antimicrobial surfaces by using temporin analogues to tune the biocidal or antiadhesive effect”
- 9h50 - 10h10 Dr. **Yoann Roupioz** - CEA - Grenoble, France  
“Wide spectrum sensing systems based on antimicrobial peptide microarrays and label-free detection”
- 10h10 - 10h40 Coffee break**

- 10h40 - 11h00 Mr. **Thibaut Thery** - University College Cork - Cork, Ireland  
“Antifungal activity of defensins from different organisms and potential applications in cereal-based products”
- 11h00 - 11h20 Dr. **Mohammad Rahnamaeian** - Justus Liebig University of Giessen - Giessen, Germany  
“The potential of insect antimicrobial peptides against Gram-negative bacteria is maximized by functional interactions”
- 11h20 - 11h40 Mr. **Geoffrey Bailleul** - INRA Val de Loire - Nouzilly, France  
“Therapeutic potential of avian beta-defensins in experimental murine salmonellosis”
- 11h40 - 12h00 AWARDS (Poster prizes awarded by MUFOPAM and SFPAM society)**
- 12h00 LUNCH BAG**
- 14h00 Departure for excursion and Gala dinner**