Program – version June 2nd, 2014

Wednesday, June 4th

08:00 Check-in and poster setup

09:00 Welcome talks: Virginie Dupont (Vice-President of the Université de Bretagne-Sud), Djamel Drider (President of the French Antimicrobial Peptide Society) and Alain Dufour (AMP2014 chairman)

09:15 **Opening lectures**

Chairmen: R. Hancock and H.G. Sahl

09:15 – 09:40 Michael Zasloff (USA) Antimicrobial peptides in human health and disease

09:40 – 10:05 Sylvie Rebuffat (France) Bacterial antimicrobial peptides: bioinspired strategies for antibiotic engineering

10:05 Coffee break

10:35 **Session A: Novel sources of antimicrobial peptides**

Chairmen: M. Zasloff and Y. Fleury

10:35 – 11:00 Lecture Alessandro Tossi (Italy) Something old, something new – on the enduring quest for novel AMPs

11:00 – 11:20 Klara Stensvåg (Norway) Exploring the bioactive peptide space of arctic marine invertebrates

11:20 – 11:40 Lorena Carro (France) Alnus glutinosa antimicrobial peptides implicated in actinorhizal symbiosis

11:40 – 11:55 Dumitrita Iftime (YR - Germany) Characterization of Streptocollin, the first isolated type IV lanthipeptide produced by the actinomycete Streptomyces collinus Tü 365


12:10 – 12:25 Liu Yufang (YR - Germany) A new approach to identify antimicrobial peptides in milk

12:30 Lunch

14:00 **Session A: Novel sources of antimicrobial peptides (continued)**

Chairmen: A. Tossi and P. Jacques

14:00 – 14:20 Nils Metzler-Nolte (Germany) Conjugation of organometallic complexes to short AMPs enhances their activity and helps elucidate their mode of action
14:20 – 14:40 Giuseppe Maccari (Italy) AMP in silico design by evolutionary multiobjective optimization
14:40 – 15:00 Michel Treilhou (France) Bicarinalin, a new broad spectrum antimicrobial peptide from the venom of the ant Tetramorium bicarinatum
15:00 – 15:15 Tânia Shishido (YR, Finland) Antifungal compounds from cyanobacteria
15:15 – 15:30 Alberto Oddo (YR - Germany) Design and synthesis of flexible cyclic antimicrobial heptapeptides
15:30 – 15:45 K. S. Sruthy (YR, India) Molecular characterization of an antilipopolysaccharide factor from Mantis shrimp, Oratosquilla nepa
15:45 V. Leclere (France) Flash presentation to introduce the poster “Become a curator and participate to the Norine database up-date”

15:45 Poster session 1 and coffee break

17:30 Session B: Biosynthesis, mechanisms of action and resistance
Chairmen: A.M. Revol-Junelles and J. Verdon
17:30 – 17:55 Lecture Hans-Georg Sahl (Germany) Molecular activities of AMPs from all kingdoms - Membranes and more
17:55 – 18:15 Burkhard Bechinger (France) How many models do we need to explain the action of linear cationic antimicrobial peptides?
18:15 – 18:30 Yoshimitsu Masuda (YR - Netherlands) Leaderless leading: introducing post-translational modifications into leaderless bacteriocins
18:30 – 18:45 Rosemary Isioma Adaba (YR - UK) Isolation of biosynthetic patellamides

19:00 Cocktail ceremony at the City Hall of Lorient

Thursday, June 5th

08:30 Session B: Biosynthesis, mechanisms of action and resistance (continued)
Chairmen: H.G. Sahl and A.M. Revol-Junelles
08:30 – 08:55 Lecture Takeshi Zendo (Japan) Characterization of biosynthetic enzymes and antibacterial action of lantibiotic nukacin ISK-1
08:55 – 09:15 Camilla Oppegård (Norway) Genome sequencing of lactococcin G-resistant strains identified UppP, an enzyme involved in cell wall synthesis, as a putative bacteriocin receptor
09:15 – 09:35 Philippe Jacques (France) Synthetic biology for the overproduction of antimicrobial lipopeptides in Bacillus subtilis
09:35 – 09:50 Roberta Pozzi (YR - Germany) Self-immunity in the lantibiotic producer strain Microbispora ATCC PTA-5024
09:50 – 10:05 **Aurélie Nogues** (YR - France) The *arn* operon is essential to the development of stable AMP resistance in *Pseudomonas aeruginosa*

10:05 Coffee break and poster changes

10:45 **Session B: Biosynthesis, mechanisms of action and resistance (continued)**

Chairmen: S. Rebuffat and J. Verdon

10:45 – 11:05 **Roderich Süssmuth** (Germany) Ribosomal peptide synthesis of lantibiotics - nature's inventory for synthesis of bioactive molecules

11:05 – 11:25 **Jean-Marc Berjeaud** (France) Effect of amino acid substitution in the staphylococcal peptides warnericin RK and PSMalpha on their anti-*Legionella* and hemolytic activities

11:25 – 11:45 **Benoït Odaert** (France) Mechanism of action on membrane models of Clausin, a lantibiotic peptide from *Bacillus clausii*

11:45 – 12:00 **Kathi Scheinpflug** (YR - Germany) The X marks the spot: investigations on the site of action of a cyclic antimicrobial peptide

12:00 Lunch

13:45 **Session C: Multifunctionality of antimicrobial peptides**

Chairmen: C. Landon, M. Amiche and R. Hancock

13:45 – 14:10 Lecture **Robert Hancock** (Canada) New host defence peptide therapies for antibiotic resistant infections

14:10 – 14:30 **Laurence Marquès** (France) Outside/inside roles of a multifunctional plant defensin

14:30 – 14:45 **Maarten Coorens** (YR – The Netherlands) Chicken Cathelicidin-2 (CATH2) amplifies CpG-DNA-induced macrophage activation

14:45 – 15:00 **Pierre-Marie Andrault** (YR - France) The Janus face of LL-37: both an inhibitor and a substrate of cysteine cathepsins

15:00 – 15:15 **Fany Reffuveille** (YR - Canada) Broad spectrum synergistic interactions between an anti-biofilm peptide and conventional antibiotics

15:15 **Poster session 2** and coffee break

17:00 **Session C: Multifunctionality of antimicrobial peptides (continued)**

Chairmen: R. Hancock and M. Amiche

17:00 – 17:20 **Oscar Kuipers** (The Netherlands) Potentiating lantibiotics, either against Gram-negatives or against pathogens with different membrane thicknesses, by modular engineering

17:20 – 17:40 **Peter Nielsen** (Denmark) Antimicrobial peptide nucleic acids (PNA). Genetic antibiotics, synergy of two worlds
Session D: Antimicrobial peptides in microbial ecology, microbiome shaping and biofilm formation
Chairmen: M. Polz and D. Destoumieux-Garzon
17:40 – 18:00 Delphine Debois (Belgium) MALDI Mass Spectrometry Imaging: a new tool to decipher the antibiome of Bacillus amyloliquefaciens
18:00 – 18:20 Emmanuelle Arias-Roth (Switzerland) Study of interaction between Marinilactibacillus psychrotolerans and Listeria spp. in situ on cheese surface
18:20 – 18:35 Marjolaine Simon (YR - France) A marine antibiofilm peptide to fight against Pseudomonas aeruginosa chronic infections?
19:00 Boat cruise and gala dinner – Quai Ouest restaurant

Friday, June 6th
08:30 Session D: Antimicrobial peptides in microbial ecology, microbiome shaping and biofilm formation (continued)
Chairmen: D. Destoumieux-Garzon and A. Dufour
08:30 – 08:55 Lecture Martin Polz (USA) The secret social life of bacteria in the wild
08:55 – 09:10 Florie Desriac (YR - France) Cyclolipopeptides produced by the marine bacterium Pseudoalteromonas hCg-6

Session E: Current and future applications
Chairmen: E. de Pauw and T. Jouenne
09:10 – 09:25 Wael Houssen (YR - UK) An efficient method for the in vitro production ofazole-based cyclic peptides
09:25 – 09:40 Ghosh Chandradhish (YR - India) Development of simplest small-molecular mimics of antimicrobial peptides
09:40 – 09:55 Alexandre Back (YR - France) Export optimization by N-terminus functionalization of recombinant pediocin expressed in Lactococcus lactis
09:55 – 10:10 Margot Schlusselhuber (YR - France) Anti-Legionella activity of surfactin, a lipopeptide from Bacillus subtilis AM1
10:10 Coffee break
10:45 Session E: Current and future applications (continued)
Chairmen: J.M. Berjeaud, D. Drider and T. Jouenne
10:45 – 11:05 Lecture Edwin de Pauw (Belgium) Combined activation methods coupled to Ion Mobility Mass for the structural analysis of constrained peptides
11:05 – 11:25 Lecture Thierry Jouenne (France) Surface functionalization by antimicrobial peptides: an original bio-inspired strategy to elaborate antimicrobial materials
11:25 – 11:45 **Kamaljit Kaur** (Canada) Antimicrobial peptide-based platforms as biosensors for pathogenic bacteria

11:45 – 12:05 **Jeanna Klinth** (Sweden) Impairment of the biomechanical compliance of bacterial adhesion organelles

12:05 – 12:25 Lecture **Djamel Drider** (France) Nisin-colistin: a promising combination for applications in veterinary medicine

**12:25 Young researcher awards: best posters and oral communications**

12:45 Lunch

14:00 End of the Symposium