



**SECOND INTERNATIONAL SYMPOSIUM ON ANTIMICROBIAL PEPTIDES:
FOOD, VETERINARY, MEDICAL AND NOVEL APPLICATIONS**

Palais du Grand Large, Saint-Malo (France)

Scientific programme

WEDNESDAY 17TH JUNE 2009

- 09:00. Arrival, check-in, poster setup
- 11:00-11:30. [Introductory conference by Professor Ingolf NES \(Norway\)](#) "Antimicrobial peptides (bacteriocins): History, current knowledge, and future direction"
- 11:30-12:00. Social hour
- 12:30-14:00. Cocktail

Poster session: 14h00-15h00.

SESSION I

Food safety and biocontrol: The lesson of today and picture of tomorrow

Discussion leader

Dr. Monique Zagorec (INRA, Jouy en Josas, France)

1. 15:00-15:20. *Dr. Gilles Salvat (French Agency for Food Safety, Ploufragan, France)*. Food pathogens: what are European perspective and resolution?
2. 15:20-15:40. *Dr. Anne-Christine Lalmanch (INRA, Tours, France)*. Avian beta-defensins in the control of bacterial pathogens of chicken digestive tract
3. 15:40-16:00. *Dr. Norman Stern (ARS-USDA, Athens, USA)*. Inducer bacteria, unique signal peptides and nutrient limitation stimulate *in-vitro* bacteriocin production
4. 16:00-16:20. *Prof. Antonio Galvez and or Dr. Hakmate Abriouel (University of Jaen, Spain)*. Enterocin AS-48: an interesting antimicrobial peptide for biopreservation of vegetable foods and beverages
5. 16:20-16:40. *Prof. Luc De Vuyst and/or Frédéric Ravyts (Vrije Universiteit Brussel, Belgium)*. Competiveness and efficacy of bacteriocin-producing starter cultures in fermented sausage production

Debate/questions: 16:40-17:00

Coffee Break & poster session: 17:00-18:00

SESSION II

Emerging scientists (PhD Students and post-doctoral fellows)

Discussion leader

Dr. Bruce Seal (ARS, USDA, Athens, USA)

1. 18:00-18:10. *Vanessa Butler (New castle, University, England)*. Investigation of antimicrobial peptides (AMPs) in commercial broilers chicken.
2. 18:10-18:20. *Julien Verdon. Detergent-like activity of warnericin RK, a specific anti-*Legionella* peptide. (University of Poitiers, France)*. Natural antimicrobials for vaginal health: squeeze your Bacilli.
3. 18:20-18:30. *Dr. Maira Goytia. (Emory University School of Medicine, Georgia, USA)*. Polyamine uptake in *Neisseria gonorrhoeae* modifies growth and antibiotic resistance.

4. 18:30-18:40. *Alessandro Pini* (University of Siena, Italy). A novel antibacterial peptide specific for Gram-negative bacteria. Biochemical characterization and strong *in vivo* activity
5. 18:40-18:50. *Mohammad R Islam* (Kyushu University, Japan). Evaluation of essential and variable residues of nukacin ISK-1 by NNK scanning

18:50-19:00: Questions/debate

19:00-20:00: Poster session

THURSDAY 18TH JUNE 2009

SESSION III

Clinical microbiology: threat of multi-resistance & clinical considerations

This session is supported by the National Veterinary School of Nantes

Discussion leader

Prof. Roland Leclercq (School of Medicine of University of Caen, France)

1. 08:30-08:50. *Prof. Roland Leclercq* (School of Medicine of University of Caen, France). Multidrug-resistant bacteria and their potential impact on therapy
2. 08:50-09:10. *Dr. David Donovan* (ARS-USDA, Beltsville, USA). Antimicrobials for staphylococcal pathogens that are refractory to resistance development
3. 09:10-09:30. *Prof. Leon M.T. Dicks* (University of Stellenbosch, South Africa). Antimicrobial peptides of lactic acid bacteria and their medical applications
4. 09:30-09:50. *Prof. Irina Artsimovitch* (University of Ohio, USA). Secondary channel - a prime site for antibiotics
5. 09:50-10:10. *Prof. Rimantas Daugelavicius* (Vilnius University, Lithuania). Polymyxin B: how this polycationic antibiotic kills Gram-negative Bacteria?

Debate/questions: 10:10-10:30

Coffee Break & poster session: 10:30-11:30

SESSION IV

Screening technologies and discovery of novel peptides

Discussion leader

Dr. Paul Cotter (Cork, Ireland)

1. 11:30-11:50. *Dr. Paul Cotter* (Moorepark Food Research Centre, Teagasc, Ireland). Discovery and development of novel antibacterial agents through peptide bioengineering and bioinformatics
2. 11:50-12:10. *Prof. Jacques Philippe* (University of Lille, France). Novel approaches to isolate antimicrobial peptides using bioinformatics and molecular tools
3. 12:10-12:30. *Prof. Alessandro Tossi* (University of Trieste, Italy). Helical Antimicrobial and Host Defence peptides - lessons from design and evolution
4. 12:30-12:50. *Prof. Mervyn Bibb*. (John Innes Centre, Norwich, United Kingdom). Playing around with lantibiotics: surprises abound with cinnamycin biosynthesis in *Streptomyces cinnamoneus*
5. 12:50-13:10. *Prof. John Tagg* (University of Otago, Dunedin, New Zealand). Something old and something new - the amazing repertoire of bacteriocins produced by *Streptococcus salivarius*

Lunch 13:10-15:00

SESSION V

Antimicrobial peptide mode of action and mechanisms of resistance

Discussion leaders

Prof. Kim Brogden (Iowa USA) & Prof. John Vederas (Alberta, Canada)

1. 15:00-15:20. *Prof. AMRAM MOR* (Technion, Israel). Oligomers of acylated lysines (OAKs): mimics of host defense peptides with systemic antibacterial efficacy
2. 15:20-15:40. *Prof. John Vederas* (University of Alberta, Canada). Structure and Activity of Unusual Bacteriocins

- 15:40-16:00. Prof. Ramamoorthy Ayyalusamy (University of Michigan, USA). Atomic-level NMR Structures Reveal Mechanisms of Antimicrobial Peptides
- 16:00-16:20. Prof. Kenji Sonomoto (University of Fukuoka, Japan). New insight of lantibiotics from nukacin ISK-1: Structure-based mode of action and immunity mechanism
- 16:20-16:40. Prof. John Nisreen-Meyer. (University of Oslo, Norway). Structure-function analysis of two-peptide (class-IIb) bacteriocins by use of NMR-spectroscopy and site-directed mutagenesis

Coffee Break and poster session: 16:40-17:30

- 17:30-17:45. Dr. Jose F. Marcos (Instituto de Agroquímica y Tecnología de Alimentos, Valencia, Spain), Mode of action of antifungal peptides: Using *Saccharomyces cerevisiae* as a model organism
- 17:45-18:00. Prof. Dzung B. Diep. (Norwegian University of Life Sciences, Ås, Norway). Mannose-PTSs as target receptors for Gram-positive and Gram-negative bacteriocins
- 18:00-18:15. Prof. Thomas Montville (Rutgers University, New Jersey, USA). Nisin resistance in *Listeria monocytogenes* NR30 influences membrane fluidity acid stress and F₀F₁ATPase activity and transcription

18:15-18:30. Debate/questions

Poster session: 18:30-20:30.

20:30-Up. Special diner and distinction of emerging scientists

FRIDAY 19TH JUNE 2009

SESSION VI

Novel applications and future directions

Discussion leaders

Prof. Thomas Montville (New Jersey, USA) & Prof. Sylvie Rebuffat (Paris, France)

- 08:30-09:00. Prof. Sylvie Rebuffat (Muséum National d'Histoire Naturelle, Paris, France). Microcins from Enterobacteria: from killing strategies to biotechnologies
- 09:00-09:20. Prof. Sergio H. Marshall (Pontificia Universidad Católica de Valparaíso, Chile). Novel approach to control viral infections: Chemically-synthesized antiviral peptides avoid viral spread on tissue culture cells persistently as well as de novo – infected with Infectious Pancreatic Necrosis virus (IPNV) as a model system
- 09:20-09:50. Dr. Karine Glinel (University of Rouen). New Biocidal Coatings Incorporating Antimicrobial Peptides
- 09:50-10:10. Prof. Kim A. Brogden (University of Iowa, USA). Targeted' antimicrobial activity of SMAP28-conjugates for *Porphyromonas gingivalis* in a mixed culture

Coffee Break and poster session: 10:30-11:30

- 11:30-11:45. Dr. Marie-Hélène Metz-Boutigue (Inserm, Strasbourg, France). Involvement of chromogranins-derived peptides in innate immunity
- 11:45-12:00. Dr. Aurélie Tasiemski (University of Lille, France). Role of antimicrobial peptides in the immune response of annelids
- 12:00-12:10. Questions/Debate
- 12:10-12:15. The word of the end "Dr. Djamel Drider"

Lunch & coffee 12:15-13:30

End of the symposium

See you in the "third international symposium of antimicrobial peptides"

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