

PHAGE BASED TECHNOLOGIES vs

ANTIMICROBIAL RESISTANCE

15-16 SEPTEMBER, STRATFORD

This Conference was organised and funded by EVOPROG (Fet Proactive) and INTEGRATE AMR (EPSRC) with the participation of PLASWIRES consortium.

The conference facilitated discussions between specialists who have expertise in phages, virology, directed evolution, microbiology & microbial diversity and encourage collaborations to tackle AMR.

The partners of PLASWIRES contribute to the conference with their vision of conjugation as a cell-cell interaction to fight against antibiotic resistance.

The UPM and Cambridge University showed their models of communication among bacteria while UNICAN and Institute Pasteur presented some new ideas about conjugation and plasmid stabilization.

More info at:

https://www2.warwick.ac.uk/fac/cross_fac/wamic/integrate/phagevsamr/

CONFERENCE PROGRAMME

DAY I. THURSDAY

13:00-14:00 Lunch and Arrivals

Session I – Phage and plasmid tools

14:00-14:10 Prof. Alfonso Jaramillo, University of Warwick, UK.

“Opening by conference chair”

14:10-14:50 Prof. Didier Mazel, Institute Pasteur, France. *“How to stabilize plasmids in bacteria: lessons from the secondary chromosomes of Vibrio species”*

14:50-15:30 Prof. Alfonso Rodriguez-Paton, Universidad Politecnica de Madrid, Spain. *“Individual-based modeling of horizontal gene transfer with GRO”*

15:30-16:10 Dr. Mark Isalan, Imperial College London, UK.

“Directed evolution of orthogonal dual transcription factors for multi-input synthetic promoters”

16:10-16:40 Coffee Break

16:40-17:20 Prof. Alfonso Jaramillo, University of Warwick, UK.

“Synthetic gene circuits by evolutionary technologies”

17:20-18:00 Prof. Victor de Lorenzo, CNB-CSIC, Madrid, Spain.

“Learning from the enemy: spreading beneficial traits through the global environmental microbiome”

18:00-18:40 Prof. Fernando de la Cruz, Universidad de Cantabria, Spain *“Bacterial conjugation and the fight against antibiotic resistance”*

18:40-19:20 Prof. Jim Haseloff and Dr. Pakpoom Subsoontorn, Cambridge University, UK. *“Dynamic models of cell-cell interactions in synthetic biofilms”*

19:45- Dinner at the Rooftop Restaurant of the Royal Shakespeare theatre

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DAY 2. FRIDAY

Session 2 – Phages against AMR

09:00-09:40 Prof. Andrzej Gorski, Polish Academy of Sciences, Poland. *“Phage therapy: today treating complications, tomorrow targeting diseases”*

09:40-10:20 Prof. George Salmond, University of Cambridge, UK. *“The triumph of death: how bacteria control phage infection by altruistic suicide”*

10:20-11:00 Prof. Stephen Abedon, Ohio State University, USA. *“Phage therapy from a pharmacological perspective: various perspectives on how to improve the art”*

11:00-11:30 Coffee Break

11:30-11:50 Prof. Ramesh Wigneshweraraj, MRC Centre for Molecular Bacteriology & Infection, Imperial College London, UK. *“Phage-inspired inhibition of the bacterial transcription machinery.”*

11:50-12:10 Dr. Antonia Sagona, University of Warwick, UK. *“Developing an in vitro model system for phage therapy against pathogenic E.coli”*

12:10-12:30 Dr. Akos Nyerges, Hungarian Academy of Sciences, Hungary. *“Deciphering the Achilles’ heel of multidrug resistant bacteria by novel genome engineering tools”*

12:30-13:30 Lunch

13:30-14:30 Social activity: Royal Shakespeare Theatre Tour

Session 3 – Towards Synthetic Phages

14:30-15:10 Prof. Ian Molineux, University of Texas at Austin, USA. *“A molecular basis for phage infection specificity of bacteria”*

15:10-15:50 Dr. David Harper, Evolution Biotechnologies, UK. *“Bacteriophages as biological control agents”*

15:50-16:30 Dr. Mark van Raaij, CNB-CSIC, Madrid, Spain. *“Structural analysis of bacteriophage receptor-binding proteins: towards phages with designed host specificity”*

16:30-17:00 Coffee Break

17:00-17:40 Prof. Martha Clokie, University of Leicester, UK. *“Developing Clostridium difficile phages as novel therapeutics”*

17:40-18:20 Dr. Udi Qimron, Tel Aviv University, Israel. *“Bacteriophages programmed to reverse antibiotic resistance of bacteria”*

18:20-18:40 Dr. Freya Harrison, University of Warwick, UK. *“Building & dismantling chronic infection biofilm”*

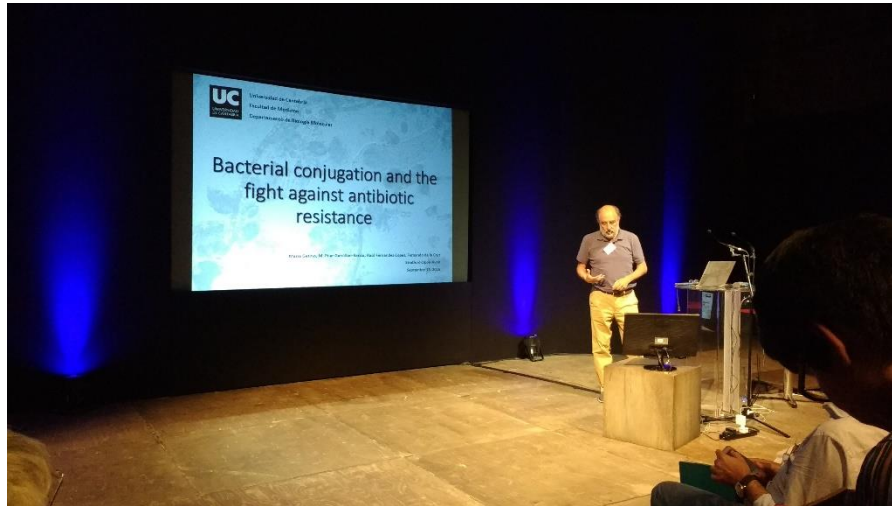
18:40-19:00 Dr. Meera Unnikrishnan, University of Warwick, UK. *“Innovative tools for probing complex host-microbe interactions”*

19:00-19:10 Close by conference chair

19:45- Dinner at the Rooftop Restaurant of the Royal Shakespeare theatre

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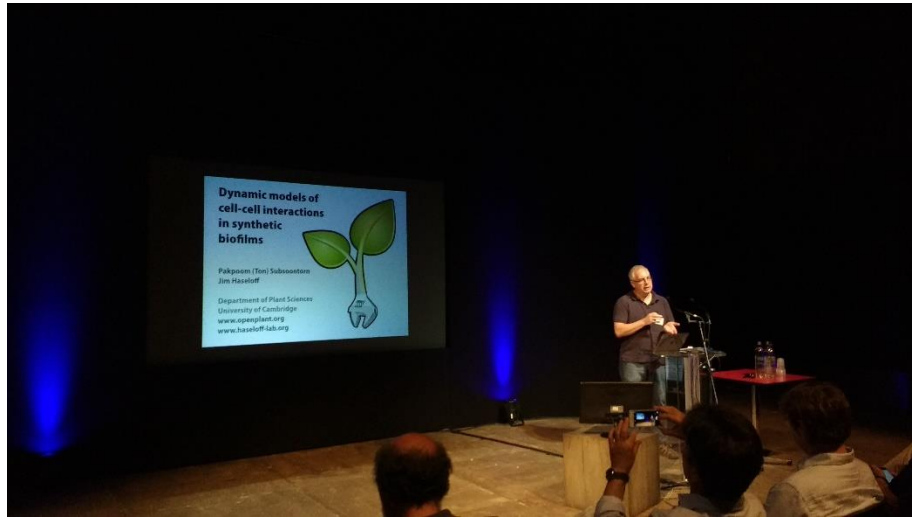
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Fernando de la cruz and Alfonso Rodríguez Patón giving his talks about “Bacterial conjugation and the fight against antibiotic resistance” and “Individual-based modeling of horizontal gene transfer with GRO”.

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Jim Haseloff and Didier Mazel giving his talks about “Dynamic models of cell-cell interactions in synthetic biofilms” and “How to stabilize plasmids in bacteria: lessons from the secondary chromosomes of *Vibrio* species”