

15HLT01 MetVBadBugs Final Project Meeting

Quantitative measurement and imaging of drug-uptake by bacteria with antimicrobial resistance

Agenda 5-6 February 2019

INRiM, Str. delle Cacce, 91, 10135 Torino TO, Italy

5 February		
	Programme	Presented by
12:00 – 13:00	Lunch	
13:00-13:10	Welcome and introduction and overview of project objectives	
	Technical Work Packages	
	Overview of each Work Package from each Work Package Leader to include a focused discussion on activities in each task and planned work.	
13:10 – 15:00	WP 1 - Well-controlled model systems to allow cross-platform measurement of penetration, accumulation and efflux of antibacterial agent.	
	<i>A Short presentation on each activity due at the end of project (M36) followed by a round table discussion/short slides if needed, to update on all the activities of WP1 – UNOTT as WP leader to lead this session</i>	
	Task 1.3: Biological assays to assess antimicrobial penetration and accumulation in live and fixed bacteria within a biofilm matrix	UNOTT
	Task 1.4: Influence of modulation of the permeability barrier, efflux pump or antimicrobial resistance mechanism upon antimicrobial penetration (due May 2019)	UNOTT
	Task 1.5: Biologically led case studies to answer key questions in the pharmaceutical, medical device industries and health-care professionals. (due May 2019)	UNOTT
15:00- 15:15	Tea / Coffee	
15:30 – 17:00	WP 2 – Imaging and localisation of antimicrobials in bacteria and biofilms	
	<i>A Short presentation on each activity due at the end of project (M36) followed by a round table discussion/short slides if needed, to update on all the activities of WP2 – NPL as WP leader to lead this session</i>	
	Introduction to session: Update on challenges of deliverables in 2019.	
	A2.2.3 Update on the performance of the in-situ ME-SIMS for signal enhancement of bacterial samples	NPL
	A2.4.3 3D imaging of cryogenically prepared biofilms.	NPL
	A2.4.4 The FIB cutting methodology developed	NPL
	A2.4.5 Select the optimum methods for use on model systems and real-life samples.	NPL
	A2.5.1 Optimisation of broadband IR radiation source for s-SNOM	PTB
	A2.5.3 Method for the s-SNOM measurement of antimicrobials within the bacteria or their cell membranes	PTB
	A2.5.4 s-SNOM methodology to image the drug concentration through the membrane of small bacteria and in bacterial cross sections	PTB
	A2.5.5 Feasibility of combining SIMS and SNOM technologies for in situ analysis.	PTB

A2.5.6 D3: 'Measurement capabilities report including a statement of sensitivity for the sub-diffraction imaging of surface macromolecules and drug uptake in bacteria and biofilms'.	PTB
A2.5.7 D5: 'Probes and substrate designs, with an explanation of signal enhancement strategies for studying antibacterial agents in bacteria and biofilms'.	INRiM
Task 2.6 Update on case studies	NPL

17:00 – 17:45 WP 5 – Creating impact

A Short presentation on each activity due at the end of project (M36) followed by a round table discussion/short slides if needed, to update on all the activities of WP5 – BAM as WP leader to lead this session.

Introduction to session: Update on challenges of deliverables in 2019.	BAM
1. View on dissemination plan (ppt table) and investigation of cases with yellow or red traffic lights (updated ppt file will be distributed before the meeting)	
2. Status of the Technical Report for ISO TC 201/WG4	
3. Special Session at ECASIA 2019	

17:45 Day 1 - Close

20:00 Evening Consortium meal hosted by INRiM

6 February

09:30 WP3: Dynamic measurement of biocide interaction

A Short presentation on each activity due at the end of project (M36) followed by a round table discussion/short slides if needed, to update on all the activities of WP3 – INRiM as WP leader to lead this session

Introduction to session: Update on challenges of deliverables in 2019.	INRiM
A3.1.1 Raman capability of detection and quantification of drugs inside bacterial cells and biofilm through participating in the interlaboratory study led by WP4;	INRiM
A3.1.3 Raman difference Spectroscopy for the quantification of drugs into bacterial cell media;	INRiM
A3.2.6/7 Drug susceptibility test by traditional Raman and SERS;	INRiM
A3.3.4 Characterization of bacterial membranes by Tip enhanced Raman spectroscopy;	INRiM
A3.5.4 Super-resolution map of membrane proteins of interest on the membrane of single bacteria;	LENS
A3.5.6 Dynamic co-localization measurements of drugs and membrane proteins on the bacteria membrane;	LENS
A3.6.2 Localization measurement of drugs within biofilms at different treatment stages by the optical techniques	LENS

11:00 – 11:15 Tea / Coffee

11:15 – 11:45 WP4: Quantitative measurements of biocide concentration

A Short presentation on each activity due at the end of project (M36) followed by a round table discussion/short slides if needed, to update on all the activities of WP4 – PTB as WP leader to lead this session.

Introduction to session: Update on challenges of deliverables in 2019.	PTB
Update on ToF-SIMS measurements and NPL activities	NPL (tbc)
Updates on Raman measurements and INRIM activities	INRIM (tbc)
Updates on XPS and NAP-XPS measurement and BAM activities	BAM, Marit
Updates on IR measurements and PTB activities	PTB, Andrea (Cornelia presenting)
Updates on XRS measurements and PTB activities	PTB, Cornelia

11:45 – 12:15 WP 6 – Management and coordination

Session to be led by WP6 lead (NPL). NPL will give a short presentation what is required for Final Project Reporting at M36.

12:15 – 13:00 Discussion of final and follow-on activities

Final Reporting, EU Exit and Support for Impact 2019 call

13:00 – 14:00 Lunch

14:00 – 14:30 AOB

14:30 Meeting close