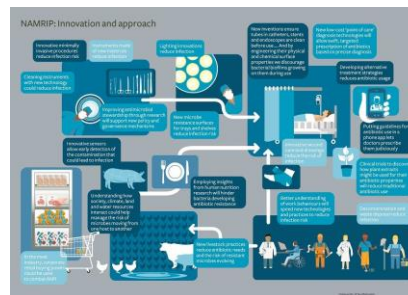


# MAPPING MICROBIAL STORIES: CREATIVE MICROBIAL AESTHETIC AND CROSS-DISCIPLINARY INTERVENTION IN UNDERSTANDING NURSES' INFECTION PREVENTION PRACTICES

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EPSRC: EP/M027260/1 via Network for Anti-Microbial Research Action  
Roe, Veal, Hurley (forthcoming) in GEO: Geography and Environment



**EPSRC**

Engineering and Physical Sciences  
Research Council

“Contact-transfer of pathogenic organisms on the hand is an important means by which patients acquire infection in hospitals, and numerous tests have been used to evaluate the efficacy of procedures designed to interrupt spread by this route.”

(Marples and Towers 1979: 237; WHO 2017)



# MAPPING MICROBES TEAM



Dr Emma Roe  
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Dr Sandra Wilks,  
Microbiology



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Engineering



Dr Paul Hurley, Performance Studies  
Dr Charlotte Veal, Geography  
Dr Robert Zmijan, Engineering

# RESEARCH QUESTIONS

- How can we map the movements of simulated microbes through the routine practices of nurses?
- To what extent might we demonstrate the liveliness of microbes?
- Can new (creative – experiments with light and image) methods contribute to understanding risk perception associated with transmission models of contagion?
- Can new (creative) methods produce teaching materials for healthcare workers?

**1) Non-human:** Lively qualities of microbes for advancing infection prevention

**2) Spatial practices of nurses**

“the cleaner enters the treatment room several times, with a bucket, broom, and mop. He fills the bucket, in the sink (...) that is used by doctors and nurses for patient care. This bucket (...) is therefore placed next to the treatment trays. In between these multiple trips in and out, neither the sink nor the faucet is cleaned.”

(d'Alessandro 2015: 66)



# THE MOCK HOSPITAL WARD



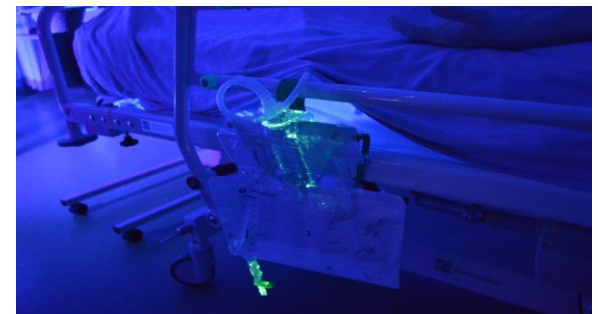
“Training in IP and control across hospital settings has a crucial role in reducing the incidence of healthcare associated infections. However the application of dynamic visualisation approaches in this context is underdeveloped”  
(Macdonal et al 2017)



**Mr Red:** meticillin-resistant *Staphylococcus aureus*



**Mr Blue:** *Clostridium difficile*



**Mr Green:** *Escherichia coli*

# ‘KNOWING MICROBIAL WORLDS?’

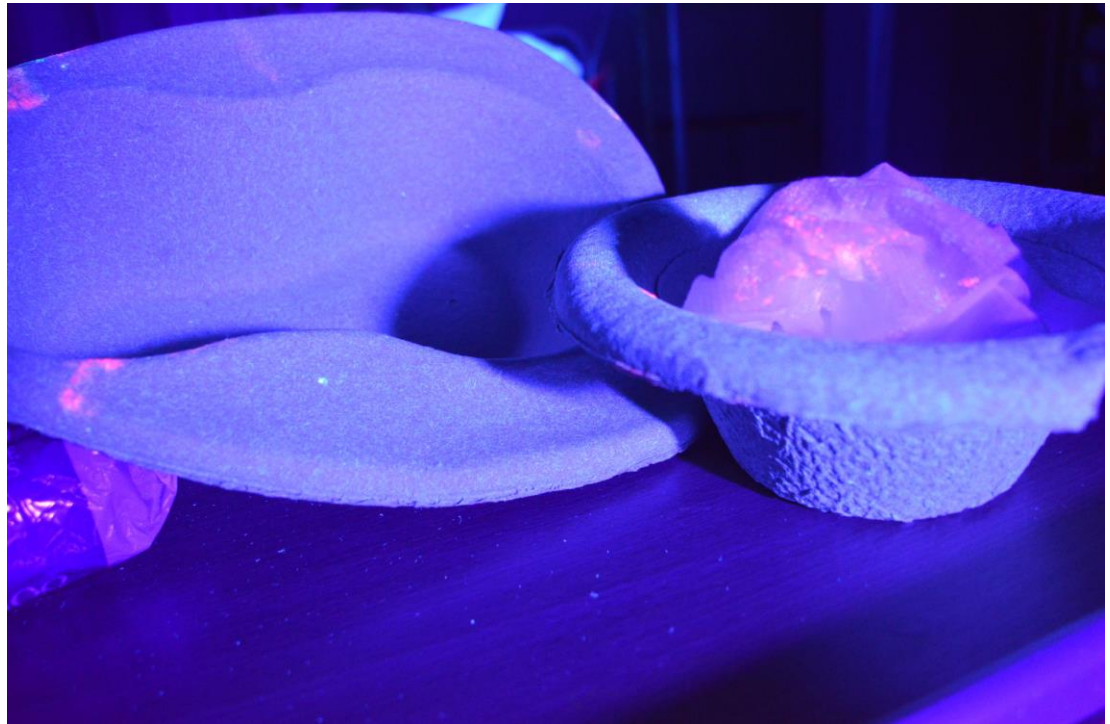
1. What does a multispecies ethical commitment to care, not only for the human but also microbes, offer hygiene practices?



# MAKING CLEAN AS CARE

“Definitely with the patient who we put on a commode. Even though it was a simulation, at the end of it, you just think to yourself, I’ve just touched the commode ... I’ve wiped them. I need to go and wash my hands.”

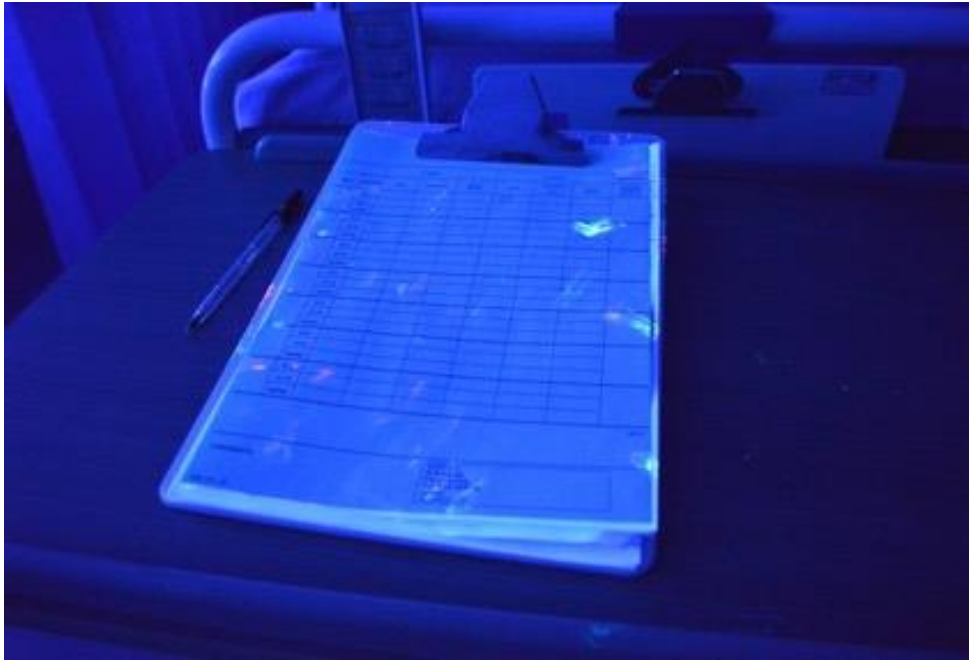
(Nurse Two)





# ENHANCING SENSES

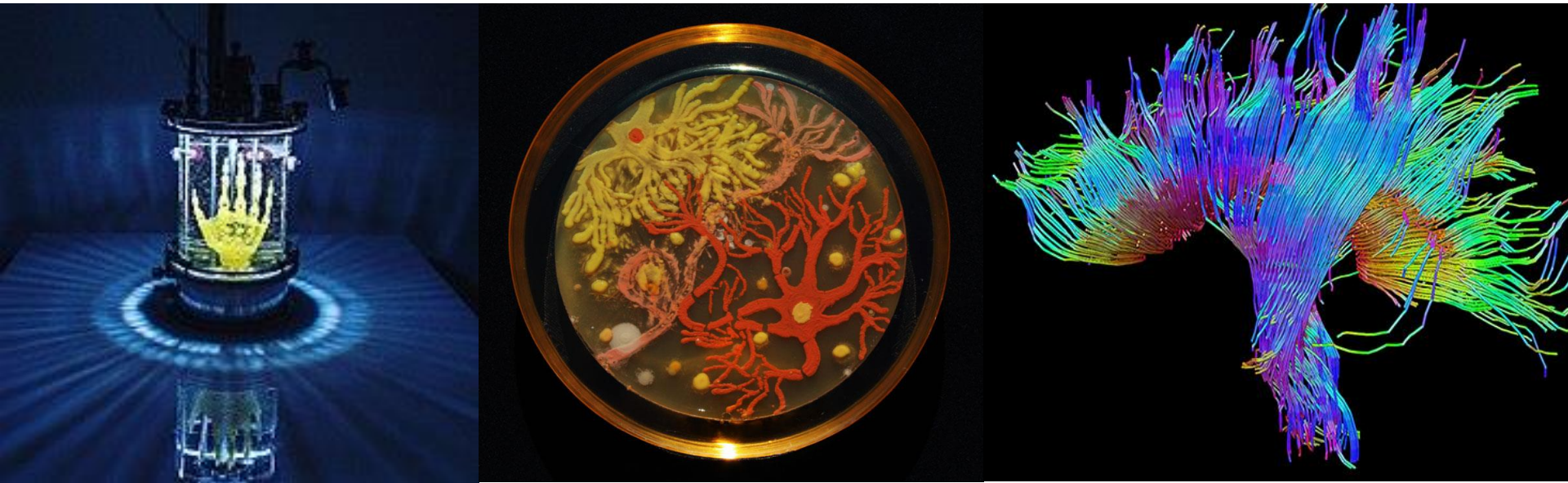
- Microbes as living subjects with **vitality**
- Heightened tactile experience of invisible agents as **education** tool



“Our nurses’ express disgust as fingers touch the cold slimy powders spread on Mr Blue’s bed-rail. They laugh uncomfortably, not knowing what they have touched, and not wanting to touch again. Each examines the grainy qualities of the substance between their fingertips, but invisible to their eyes. Quickly however, their focus returns to the task at hand, and they adopt their perfunctory practice of changing bedsheets with efficiency.”

(Veal, 17th May 2016).

2. How can we creatively map the movements of simulated microbes through the routine practices of nurses?



**Bioart:** “artists and scientists working together to engage public interest in the vital scientific, political and ethical issues of our day”



“I appreciated what hand washing does (...) but you do not appreciate how much it has transferred, and then seeing it there it was like, oh goodness”.

(Nurse Two)



# PARTICIPATORY RESEARCH WITH MICROBES

- The aesthetic encounters with simulated microbes **estranged** nurses from the mundanity of clinical objects and tasks.
- Demonstrated opportunities for **cross-contamination**, and informative in envisaging microbes as negotiating their own complex position within dynamic human-microbial habitats
- Advocated for the agency of microbes as mobile and labouring, active in shaping dynamic **shared landscapes**.

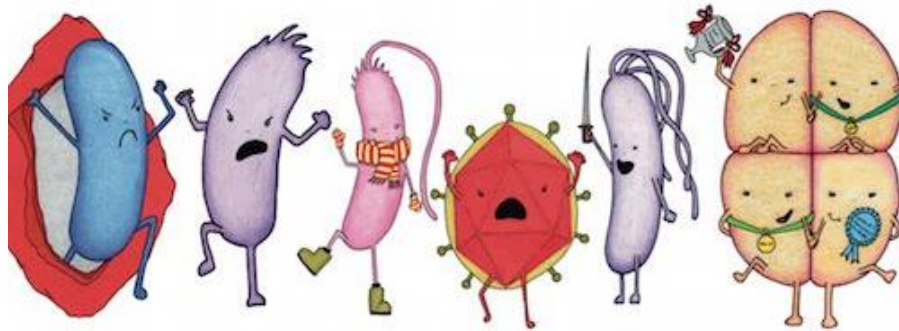


**‘Becoming Ecological Citizenship’ methodology:** to use materials related to the object of interest to create *sensory* experiences in which people can relate differently (Roe and Buser 2016)

**Microbial citizenships** aims to be sensitive to the problem of killing microbes and works to promote ideas of displacing them, for example through hand-washing.



# FOR MICROBIAL CITIZENSHIP



- Bring renewed attention to how, where and for whom we **care**; in this case greater care for microbes along with sick human bodies.
- Offers a political and aesthetic of microbial worlds that gives visibility to **living with microbes**
- Work is needed to understand how **microbial citizenship** could foster understanding for valuing the lives of microbes

# IN OUR HANDS



<https://www.youtube.com/watch?v=W7xnaXSJab0>



Any questions?

<https://mappingmicrobes.wordpress.com/>



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