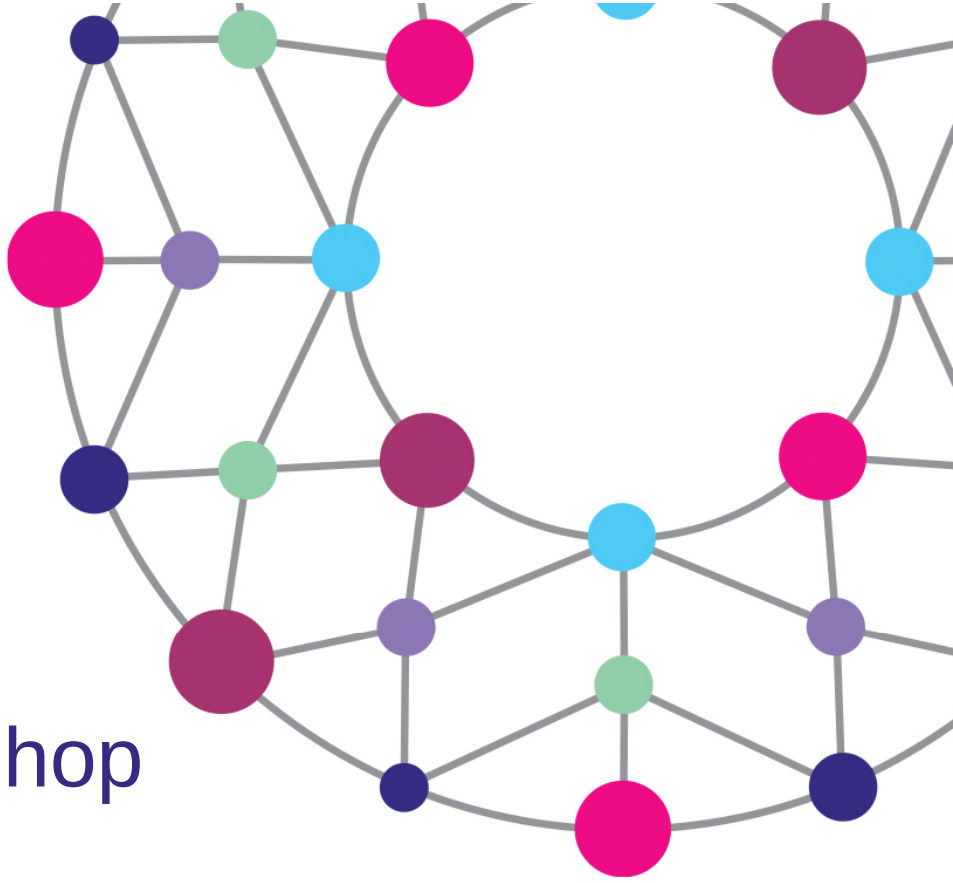
BioAirNet.



# Theme 4: Initial Scoping Workshop

www.bioairnet.co.uk

# Today's agenda:

- 10.00 Introduction to BioAirNet Theme 4 and workshop objectives - Gill Drew (Cranfield University)
- 10.15 Break out 1: How are BioPM relevant to you in your role and what issues arise out of this?
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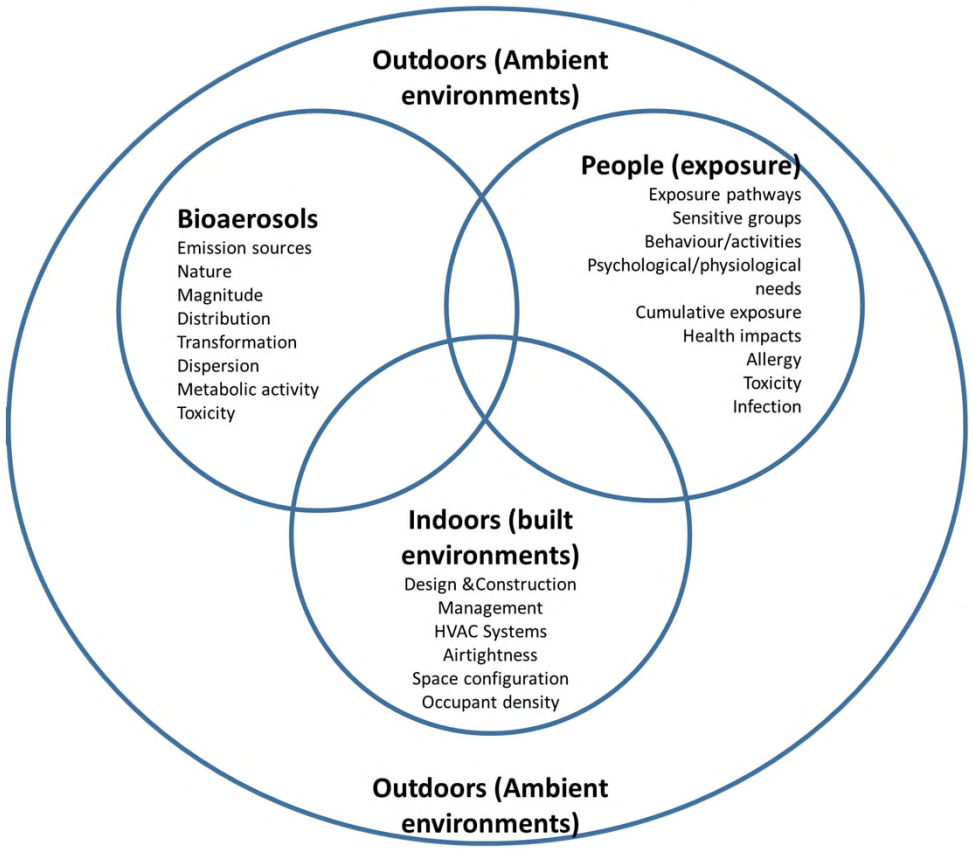
# The interdisciplinary challenge




Need for a transdisciplinary approach

1. To understand the complexity and connectivity among people, BioPM exposure and health impacts across the indoor/outdoor continuum
2. To inform interventions development, prioritisation and assessment of environmental and health intervention.

# Network's Aim

- To act as the leading voice for the UK BioPM science community by taking a transdisciplinary approach to understand the complexity and connectivity among people, BioPM exposure and the indoor/outdoor continuum

- To inform interventions development, prioritisation and assessment of environmental and health

# Theme 4: Stakeholder Engagement – Policy Alignment

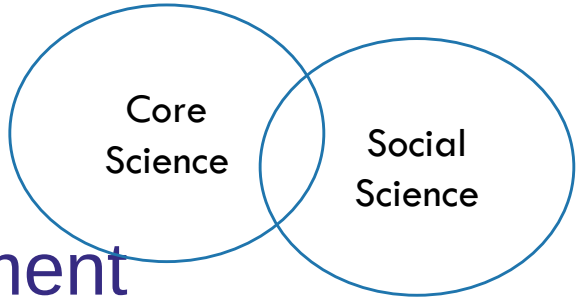
- Theme 4 will ensure that the flow of information within the network is not one way;

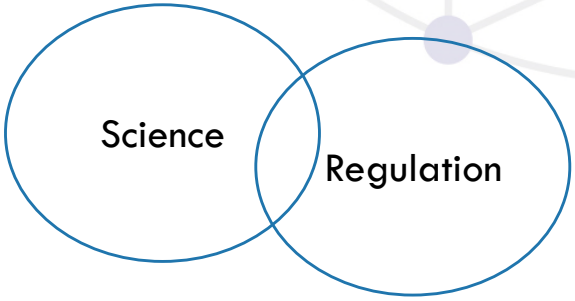
- It will engage with actors from within and outside the core project network (policy, science, construction and building management, community – building users)

- A focus for the latter will be potentially vulnerable actors from a number of different indoor - outdoor environments to elicit their perception of that environment, any perceived airborne risks and how their behaviours are influenced by these.

- Engagement and citizen science – two way learning

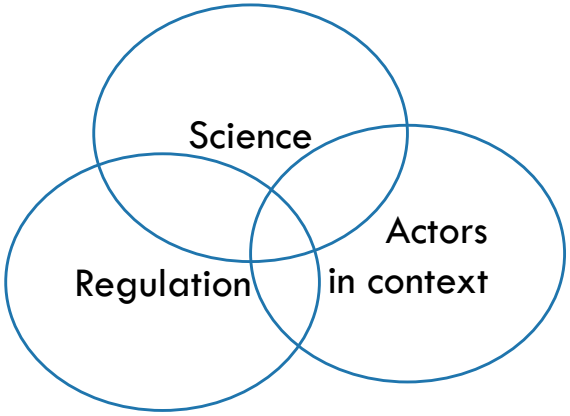
# Stakeholder Engagement

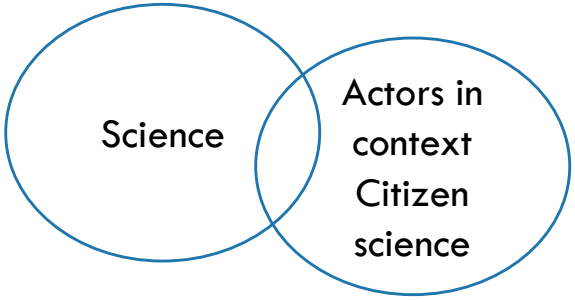



Three key challenges:

- How do we identify stakeholders – different agendas?
- How do we engage with them - alignment?
- How do we learn from stakeholders and feed back to policy



# What is an aerosol?

- **An assembly of liquid or solid particles suspended in a gaseous medium**
  - *Dust*: solid particles formed by mechanical disintegration of a parent material
  - *Smoke*: a visible aerosol resulting from incomplete combustion
  - *Fog or mist*: liquid particles formed by condensation or atomisation
- **Natural sources and anthropogenic sources**


http://www.universetoday.com/77100/dust-devils/

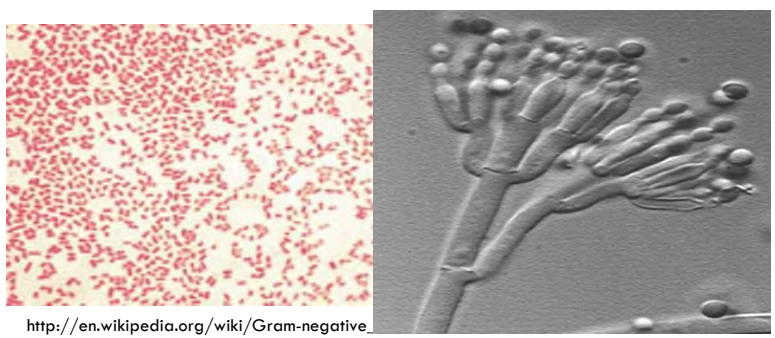

http://mross5013.deviantart.com/art/Smoke-Stock-002-74930646


http://en.wikipedia.org/wiki/File:Sneeze.JPG

Source: Professor Ian Colbeck, University of Essex, Aerosol Society Presentation, October 2009

# So…what is a bioaerosol?

- **An aerosol of biological origin**
  - Bioaerosols particles include viruses, bacteria, fungi, pollen, plant or animal debris, as well as fragments and products of these organisms.



http://en.wikipedia.org/wiki/Gram-negative_

- May comprise
  - Cells – singly or in clusters
  - Fragments or contents of cells

# Viable and non viable bioaerosols

Viable microorganisms have the potential to reproduce. They can be classified in to: **culturable** and **non culturable**.

**Culturable** organisms reproduce under controlled conditions

**Non culturable** cannot reproduce in laboratory condition due to intracellular stress or laboratory conditions

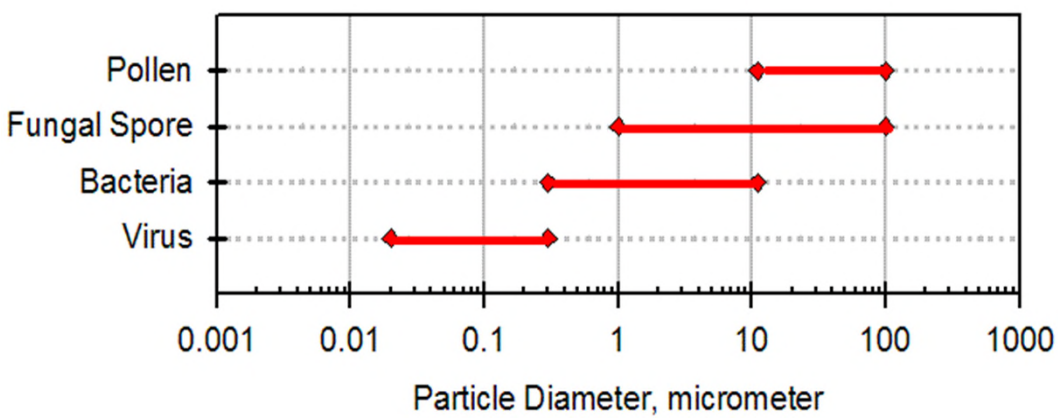
Viable bioaerosols - pathogenic

Non-viable bioaerosols - allergies or toxic reactions

# Nature of bioaerosols

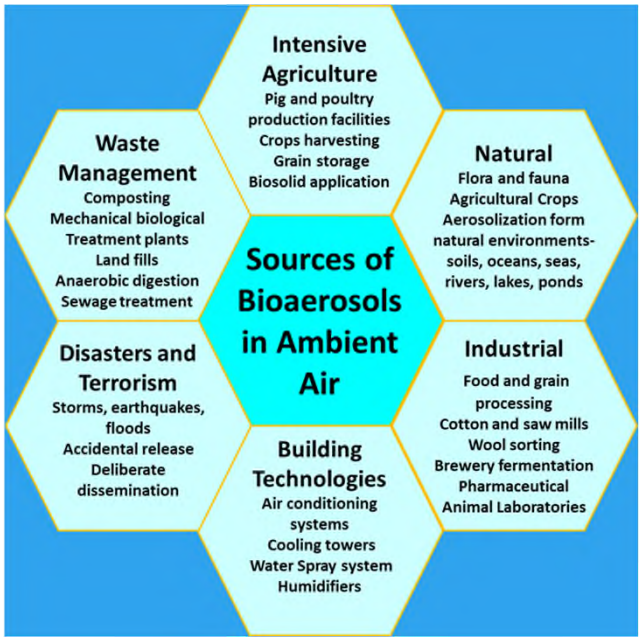
- Depends on variety of factors including the type of microorganism or toxin, the type of particles they are associated with and the gases in which bioaerosols are suspended.

- Bioaerosols vary considerably in size and composition



# Sources

- Bioaerosols may originate from almost any natural or man-made surface and each source may give rise to an entirely unique assemblage of bioaerosols.



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