Session Goals

Characterize three key building systems
HVAC (heating, ventilating and air-conditioning),
building envelope and interior surfaces

System features likely to impact the indoor microbiome

Known links with the indoor microbiome
Variation Among Buildings and Building Systems
Building Systems

HVAC
- Heating/cooling
- Humidification/dehumidification
- Particle filtration/air cleaning
- Exhaust ventilation
- Air distribution

Building envelope
- Keeps precipitation, other weather and other things out
- Allows interior to be more comfortable than outdoors

Other systems
- Occupants (what they do, when & where they do it)
- Plumbing
- Food storage & cooking
- Outdoor environment (weather and contaminants)

Interior surfaces
- Separate building spaces
- Air “sees” all of them; occupants don’t
A Few Other Points

Role of building codes, standards, guidelines
• Minimum outdoor air ventilation rates; filtration efficiency; envelope construction for energy efficiency; …
• Green building ratings and guidelines on the rise

Ventilation: Mechanical v. Natural v. Infiltration

Design intent not necessarily realized in practice

Unobvious but important building spaces, e.g. crawl spaces, plumbing chases, …