

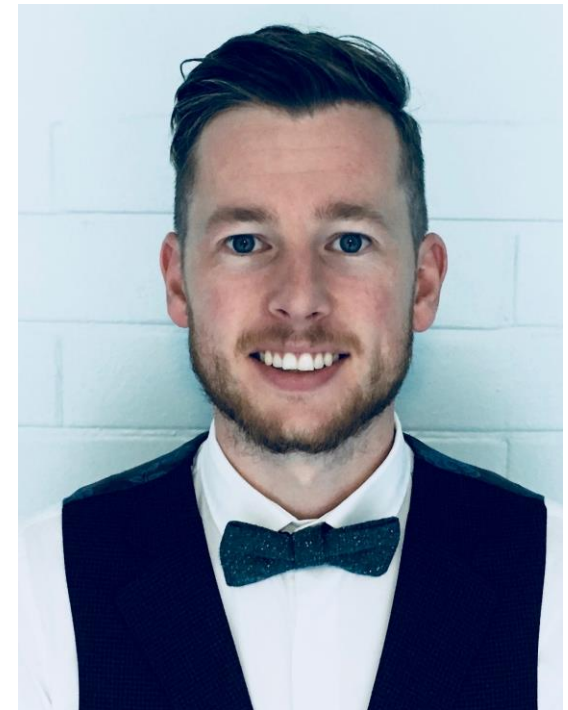
Evidence and Excellence in Perinatal Care

11-13 September 2019, Newcastle

Christopher Stewart

Christopher has researched the early life microbiome in health and disease for the past decade, specializing on infants born premature (>32 weeks gestation).

Following his PhD and a Fellowship in the UK, he moved to Baylor College of Medicine (Houston, TX) as a Post-Doctoral Associate, performing both computational and wet-lab experimentation. He then moved to Newcastle University (England, UK) in January 2018 as a Marie Skłodowska-Curie Actions Fellow and is currently building his lab focused on microbial-host interaction in the gut.

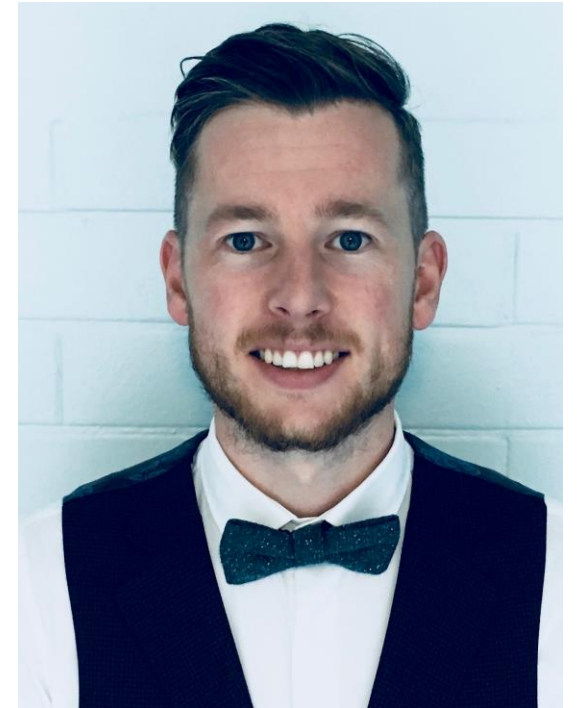


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Why is this a hot topic for neonatal professionals?

“My research utilises systems biology, combining microbiology, molecular biology, and biochemistry to comprehensively profile biobanked clinical samples, including maternal breast milk and infant respiratory and gut samples. Building on from these association-based analyses, we are developing a state of the art co-culture technology, allowing human intestinal stem cell derived enteroids (“mini guts”) to be tested under physiologically relevant oxygen conditions. Using this ex vivo model will allow for targeted experimentation, exploring how specific microbes and milk components modulate intestinal barrier integrity and function. Understanding how bacteria and gut epithelial cells interact holds exciting possibilities to better predict, diagnose, and treat preterm infants at risk of disease.”



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What do you see as being the greatest challenge for neonatal professionals over the next ten years?

“In terms of the microbiome, we have an increasing understanding that the first year of life represents a key window of opportunity for tailored therapeutic intervention. Such intervention may reduce the risk of later life diseases such as asthma, obesity, and allergy, which are increased in infants born by caesarean and who do not receive breastmilk. For instance, it might be possible to give probiotics (i.e., viable beneficial bacteria) and/or prebiotics (i.e., nutrients to promote growth of beneficial bacteria) to infants during this time. There is real potential in microbial therapy, but more evidence is needed before neonatal professionals can make truly informed decisions on what, when, and how much to give.”



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How do you make the most of your time when attending conferences?

“I enjoy attending talks that outside of my direct area of interest, which can often provide me with new ideas I might be able to apply to my work. I also try to talk to a range of people from all career stages to increase my network and learn new information.”



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