Ruth Baker is a Professor of Applied Mathematics at the University of Oxford, where her research group focusses on developing and applying new mathematical, computational and statistical tools to better understand key processes in cell and developmental biology. She is an elected Fellow of the Royal Society of Biology and of the Institute of Mathematics and Its Applications, and sits on the Board of Directors of the Society for Mathematical Biology.

Abstract: Simple mathematical models have had remarkable successes in biology, framing how we understand a host of mechanisms and processes. However, with the advent of a host of new experimental technologies, the last ten years has seen an explosion in the amount and types of quantitative data now being generated. This sets a new challenge for the field – to develop, calibrate and analyse new models to interpret these data. In this talk I will use examples relating to intracellular transport and cell motility to showcase how quantitative comparisons between models and data can help tease apart subtle details of biological mechanisms.

Please note that this talk is open to everyone.