



Contribution ID: 4

Type: **not specified**

Theoretical biophysics of cells: simplification and diversity

Wednesday, 26 October 2022 09:00 (45 minutes)

As a theoretical physicist I need to simplify the huge complexity of biological systems to have any chance of understanding something. As a biophysicist working in an interdisciplinary field I need to work with a diverse range of different types of scientists to have any chance of understanding something. Thus my work involves simplification and diversity. In this talk I will first introduce my research in modelling biological cell mechanics, migration and deformation. Most of what I work on has something to do with the cytoskeleton, which is a fascinating “active” (out of equilibrium) biopolymer network. As well as the properties of this material, I’m also interested in potential applications to biology and medicine.

I will also discuss some of my personal experiences of diversity during my career. As a white Christian woman in physics, I find myself sometimes part of a majority and sometimes a minority. Like many challenges, being different is sometimes tough but sometimes rewarding. I will highlight what I think are the main diversity challenges we currently have and potential reasons why such problems still persist. I will then outline ways I am trying to help, in particular through my involvement with the African Institute for Mathematical Sciences (AIMS). Finally I will suggest things we might be able to do together to improve diversity in our scientific communities.

Presenter: HAWKINS, Rhoda J (Department of Physics & Astronomy, University of Sheffield)