The Bristol Scientific Club Programme of Meetings for 2019 -2020

(1) Saturday, 26 October 2019

Guest Speaker: Dr Richard Ball: "Air pollutants: how they affect us and the buildings we inhabit"

In recent years, societies have become increasingly aware of the importance of air quality on health and wellbeing. The interactions between buildings, their human occupants and air pollutants are also interrelated in many ways. This talk will firstly consider outdoor air pollutants revealing how these affect historic building materials and how nanomaterials can be used to repair and mitigate against future damage. Recent work on the study of indoor air pollutants will then be introduced including their interaction with surfaces and how air quality is influenced through the choice of materials.

Dr Richard Ball BEng, PhD, FHEA, CSci, CEng, FIMMM is a Reader in the Department of Architecture and Civil Engineering at the University of Bath. He has a background in materials science and his research interests are focused on construction materials and their interaction with the environment. He is secretary of the West of England Metals and Materials Association and a member of the Institute of Materials, Cementitious Materials Group.

(2) Friday, 29 November 2019

Guest Speaker: Professor Esther Crawley: "When is feeling tired a problem? And what should we do about it?"

Most of us feel tired from time to time but some people experience overwhelming fatigue with other symptoms which becomes disabling and destructive. When this lasts for months, it is likely to be Chronic Fatigue Syndrome or ME (CFS/ME). CFS/ME is a complex heterogeneous condition with ill defined biological pathways and a patient group that is desperate for better treatment. This talk will discuss what we know and don't know about CFS/ME, what treatments doctors should offer, and offer glimpses into what society should do to support better research for this important condition.

Professor Esther Crawley, BA(Hons), BM BCh(Oxon.), PhD(U.C.L.) , is Professor of Child Health at the University of Bristol and a Consultant Paediatrician with a special interest in CFS/ME. Esther set up and leads the Bath specialist CFS/ME service for children based at the Royal United Hospital in Bath. This service provides assessment and treatment for over 400 children and young people each year and is probably the largest specialist CFS/ME service in the world. It is a research intensive clinical service dedicated to providing the best treatment possible for children with CFS/ME. She is currently Director of the Centre of Academic Child Health.

(3) Saturday, 22 February 2020

Guest Speaker: Professor Adam Perriman: "Bioprinting: How to 3D print a human."

Tissue engineering is at the forefront of regenerative medicine. Here, scientists use stem cells and specialised scaffolds to grow human tissue in the laboratory, which will eventually be transplanted into recipient patients. As a result of the rapid advances in robotics and regenerative medicine, the next generation of tissue engineering involves 3D printing living tissue. In practice, this is not simply 3D printing a scaffold and then seeding with cells, but rather, **3D printing with cells** using specialised "bio-inks".

Professor Adam Perriman Ph.D.(A.N.U.) from the School of Cellular and Molecular Medicine recently established the Bristol Bioprinting Centre at the University of Bristol. Here, he leads a group of dynamic scientists and engineers to develop a range of new 3D printed tissues for personalised medicine. The projects range from 3D printing adult stems cells to produce engineered cartilage, to developing high throughput cancer spheroid models for screening anti-cancer drugs. This bottom-up approach will one day lead to total organ replacement and is at the cutting-edge of medical technology, and is a testament to the power of interdisciplinary science.

(4) Friday, 27 March 2020

Speaker: Len Fisher: "How to Win an Ig Nobel Prize."

The avowed intention of the Ig Nobel Prizes, which are often awarded for quirky-sounding but serious science, is "First, they make you laugh; then, they make you think." Here I examine the real science behind some of the prizes, including the biologist who fed Prozac to clams and my own use of physics to work out the best way to dunk a biscuit, and ask whether the prizes fulfill a useful role or whether (as a former President of the Royal Society claimed) they actually do damage to science.

Dr Len Fisher, OAM, FRSN, FInstP, FRSC, FRACI, CChem, FLS is Senior Research Fellow at the School of Physics, University of Bristol. For nearly twenty years, Len's primary activity has been as a writer, speaker and broadcaster with the purpose of making science accessible by showing how scientists think about the problems of everyday life. He has published several best-selling books and is frequently on radio and television in the UK, Australia and elsewhere. He runs a scientific blog at www.lenfisherscience.com.

Meeting postponed until further notice! (due to covid-19)