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| **Tutor** | **Contact Email** | **TD Title** |
| Dr Sue Smith | [sue.smith@imperial.ac.uk](mailto:sue.smith@imperial.ac.uk) | Dietary antioxidants: heroes or villains? Evaluate the evidence that dietary antioxidants improve human health. |
| Dr Louise Donnelly | [l.donnelly@imperial.ac.uk](mailto:l.donnelly@imperial.ac.uk) | Could CXCR2 receptor antagonists be of benefit for inflammatory lung disease? |
| Dr Julia Gorelik | [j.gorelik@imperial.ac.uk](mailto:j.gorelik@imperial.ac.uk) | Review the role of beta-adrenoreceptors in the heart in health and disease. |
| Dr Nazima Pathan | [n.pathan@imperial.ac.uk](mailto:n.pathan@imperial.ac.uk) | Review one of the following: 1. Challenges in nutritional support of the critically ill child 2. Pathophysiology of Acute Lung injury 3. The inflammatory response to cardiopulmonary bypass surgery |
| Dr Duncan Rogers | [duncan.rogers@imperial.ac.uk](mailto:duncan.rogers@imperial.ac.uk) | Many novel treatments are being developed for airway mucus hypersecretion, but are they likely to help treat asthma or chronic bronchitis? |
| Dr Benjamin Field | [b.field@imperial.ac.uk](mailto:b.field@imperial.ac.uk) | Metabolic surgery versus anti-diabetic medication: an uneven battle. |
| Dr Keith Gould | [k.gould@imperial.ac.uk](mailto:k.gould@imperial.ac.uk) | 1. Natural killer cells: innate effectors, adaptive lymphocytes or both? 2. Review the diverse biomedical applications of engineered MHC molecules |
| Dr Anne Burke-Gaffney | [a.burke-gaffney@imperial.ac.uk](mailto:a.burke-gaffney@imperial.ac.uk) | Sepsis has been described as the 'graveyard' of pharmaceutical discovery (Riedemann et al. JCI, 2003: 112: 460). Describe the pathophysiology of sepsis, discuss why anti-inflammatory strategies have proved ineffective in humans, and debate what avenues of research might lead to more effective therapies for sepsis in the future. |
| Dr Pradeep Luther | [p.luther@imperial.ac.uk](mailto:p.luther@imperial.ac.uk) | Review the role of myosin binding protein C in cardiac and skeletal muscle in health and disease. |
| Dr Sara Rankin | [s.rankin@imperial.ac.uk](mailto:s.rankin@imperial.ac.uk) | Mesenchymal stem cells: from basic biology to clinical applications. |
| Dr Gregory J Quinlan | [g.quinlan@imperial.ac.uk](mailto:g.quinlan@imperial.ac.uk) | Describe the mechanisms by which neutrophil extracellular traps (NETS) are induced and discuss the pros and cons of their formation in relation to the sepsis syndromes. |
| Dr Lydia Drumright | [l.drumright@imperial.ac.uk](mailto:l.drumright@imperial.ac.uk) | 1. Review the contributing factors that increase the annual burden of human norovirus infection. 2. How does urinary tract infection contribute to septicaemia amongst the elderly? 3. Review factors influencing behaviours of healthcare workers. (Focus on a specific group e.g. physicians, nurses, etc and/or a particular problem e.g. misdiagnosis, healthcare associated infection, prescribing errors). |
| Dr Robert Dickinson | [r.dickinson@imperial.ac.uk](mailto:r.dickinson@imperial.ac.uk) | 1. Review the use of the inert gas helium in organ protection. In particular look at the evidence for a pharmacological action. 2. Explore the use of the anaesthetic inert gas xenon as a neuroprotectant. |
| Dr Ma Daqing | [d.ma@imperial.ac.uk](mailto:d.ma@imperial.ac.uk) | 1. Review the role of Toll-like receptor 4 activation on renal ischemia-reperfusion injury.  2. Explore vascular injury in the acute and chronic rejection of transplanted kidney and heart. 3. Dual effects of hypoxia on tumour growth: promoting or suppressing cancer progression? |
| Dr Parviz Habibi | [p.habibi@imperial.ac.uk](file:///C:\Documents%20and%20Settings\gryder\Local%20Settings\Temporary%20Internet%20Files\Content.Outlook\FCQJXCB1\p.habibi@imperial.ac.uk) | 1. Recent advances in the neurobiology of sleep: narcolepsy.2. Recent advances in the neurobiology of sleep: circadian rhythm disorders.3. Recent advances in the neurobiology of sleep: obstructive sleep apnoea. |
| Dr. Ernesto Yagüe | [ernesto.yague@imperial.ac.uk](mailto:ernesto.yague@imperial.ac.uk) | 1. Review the features that are considered to be the hallmarks of cancer. 2. Explore the molecular and physiological mechanisms for cancer resistance to chemotherapeutics. 3. Review microRNAs in health and disease. |
| Dr Jethro Heberg | [j.herberg@imperial.ac.uk](mailto:j.herberg@imperial.ac.uk) | Are severe respiratory infections in children a reflection of a virulent pathogen, or an abnormal host response? What research approaches are giving us insights into this question? |
| Dr Mike Skinner | [m.skinner@imperial.ac.uk](mailto:m.skinner@imperial.ac.uk) | Review, with examples, factors that contribute to the emergence and re-emergence of disease in humans, livestock and natural populations. |
| Dr Rebecca Robey | [rebecca.robey07@imperial.ac.uk](mailto:rebecca.robey07@imperial.ac.uk) | Smallpox was declared officially eradicated by the World Health Organisation in 1979. Why do we still research poxviruses? |
| Dr Jake Bundy | [j.bundy@imperial.ac.uk](mailto:j.bundy@imperial.ac.uk) | 1. Discuss whether and how metabolic modelling could help understand the virulence of pathogenic microbes. 2. How does central carbon metabolism affect bacterial virulence? |
| Dr David Dexter | [d.dexter@imperial.ac.uk](mailto:d.dexter@imperial.ac.uk) | In order to develop effective drug therapies against Parkinson’s disease we require representative animal models. “Do the animal models we currently have replicate truly the pathological and biochemical features of Parkinson’s disease?” |
| Dr Ian Brown | [ian.j.brown@imperial.ac.uk](mailto:ian.j.brown@imperial.ac.uk) | 1.    Dietary cholesterol and cardiovascular disease: evidence from animal and population data. 2. Review the evidence for a relationship between dietary protein and blood pressure levels. |
| Dr James Pease | [j.pease@imperial.ac.uk](mailto:j.pease@imperial.ac.uk) | Review the role of the chemokine CXCL16 in health and disease. |
| Dr Peter Clark | [p.clark@imperial.ac.uk](mailto:p.clark@imperial.ac.uk) | In inflammation and infection, blood vessels become leaky, and plasma leaks out of the vessels to cause tissue swelling (i.e. oedema). Review the factors that influence plasma leakage. In particular, discuss the cellular and molecular mechanisms controlling vascular barrier function. |