5th International Conference on Computational and Mathematical Biomedical Engineering - CMBE2017
10–12 April 2017, United States
P. Nithiarasu, A.M. Robertson (Eds.)

# MATHEMATICAL MODELLING OF BIOLOGICAL FLUID FLOWS AND TRANSPORT: APPLICATIONS TO TRANSLATIONAL MEDICINE

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**MINI-SYMPOSIUM PROPOSAL**

**Keywords:** *modelling, biomedical problems, fluid flow, transport*

This mini-symposium focuses on flow and transport processes in biomedical problems at the organ and body level. Mathematical modelling techniques in this area play an important role in the advancement of healthcare and in reducing the impact of socially significant diseases. Advanced mathematical models combined with individual physiological data can help to understand the diseases and optimise their treatment strategy.

The main themes of the mini-symposium will cover mathematical modelling and applications in physiology and translational medicine. Possible applications include but are not limited to blood flow in the cardiovascular system, air flow and mucus transport in the trachea-bronchial tree, lymph flow in the lymphatic system, bile flow in hepatic ducts. The topics should clearly demonstrate possibility of practical implementation and cover recent trends in the field such as methods of patient-specific data processing and model development, multimodel approaches, multiscale and multiphysics modelling.

The mini-symposium follows two British-Russian workshops organized under the British Council Researcher Links scheme in Moscow (2014, 2016) by Swansea University, Institute of Numerical Mathematics of the Russian Academy of Sciences and Moscow Institute of Physics and Technology [1,2]. It develops and expands existing links between UK and Russia. Participants from other countries are strongly appreciated and welcome. We aim to bring together engineers, mathematicians, physicians and biologists to promote collaboration in this field.

## REFERENCES

[1] http://dodo.inm.ras.ru/russia-britain/.
[2] http://dodo.inm.ras.ru/russia-britain-2016.