The concept of Pareto optimization lends flexibility to the formulation of many problems in computational biology. The consideration of multiple objectives can be helpful for a range of different reasons, ranging e.g. from a more complete (or accurate) problem description to counter-balancing possible biases intrinsic to certain single-objective formulations. For this reason, meta-heuristics for multi-objective optimization have seen increasing use in this area, with applications ranging from multi-objective sequence alignment, over multi-objective feature selection to multi-objective protein structure prediction. This special session invites submissions related to the use of multi-objective optimization in computational biology and bioinformatics applications, including but not limited

- Problems in structural biology, such as protein structure prediction and protein docking
- Network inference problems, e.g. of gene regulatory networks
- Machine learning using different forms of biological data, such as gene expression data or new generation sequencing data
- Drug discovery problems

Expected number of submissions: 10

Special Session Organizers:

Dr. Julia Handl
Alliance Manchester Business School
University of Manchester

Dr. Mario Fabre Garza
Alliance Manchester Business School
University of Manchester

Dr. Shaun Kandathil
Faculty of Life Sciences
University of Manchester