Applications are invited for a research fellow to join an Australian Research Council-funded project on the *in silico* optimisation of search strategies employed by cancer-targeting immune cells. This interdisciplinary project spans cell and computational biology, mathematics and statistics, agent-based modelling, live-cell microscopy, image analysis-based tracking of individual cell behaviours, and swarm robotics. The team comprises researchers based in Australia, the UK and North America.

The position will be based in the Biro group, EMBL Australia, the University of New South Wales, Sydney, Australia (www.emblaustralia.org/research-leadership/nsw-node-biro-group), co-supervised by Dr. Mark Read at the University of Sydney (www.sydney.edu.au/science/people/mark.read).

**Selection criteria:**

**Required:**
- PhD or equivalent industry experience in computational biology, maths/stats, computer science, robotics, bioinformatics, physics or related discipline
- Demonstrated proficiency in programming and mathematical/statistical methods
- Proven capacity for working collaboratively within an interdisciplinary team
- Strong track record in communicating research outcomes (eg. via conference and/or journal publications)

**Experience in any of the following is highly desirable:**
- Biological and/or agent-based modelling and simulations
- Artificial immune systems
- Swarm intelligence or robotics, or
- Image analysis algorithm development

**Position:**

The successful candidate will develop novel theoretical and computational platforms to determine the optimal strategy for a population of agents seeking targets in a given environment. Initially deployed for assessing and optimising immune cells searching for tumour targets, the project will translate these findings into swarm robotics, where collectives of robots perform environmental monitoring and search & rescue operations. Highly competitive salary package (starting at A$113,000-136,000 per annum incl. superannuation and leave loading); assistance with visas; full-time contract, 12 months initially, renewable up to 3 years. Access to high-performance computing infrastructure, EMBL and ARC Centre of Excellence in Advanced Molecular Imaging facilities.

**Applications and enquiries:**

Applications including cover letter addressing selection criteria, CV, and contact details of referees should be emailed to Dr. Maté Biro (m.biro@unsw.edu.au) by February 28th, 2018. For enquiries, contact m.biro@unsw.edu.au or mark.read@sydney.edu.au.