

# Bio-Inspired Computing

## Part 2

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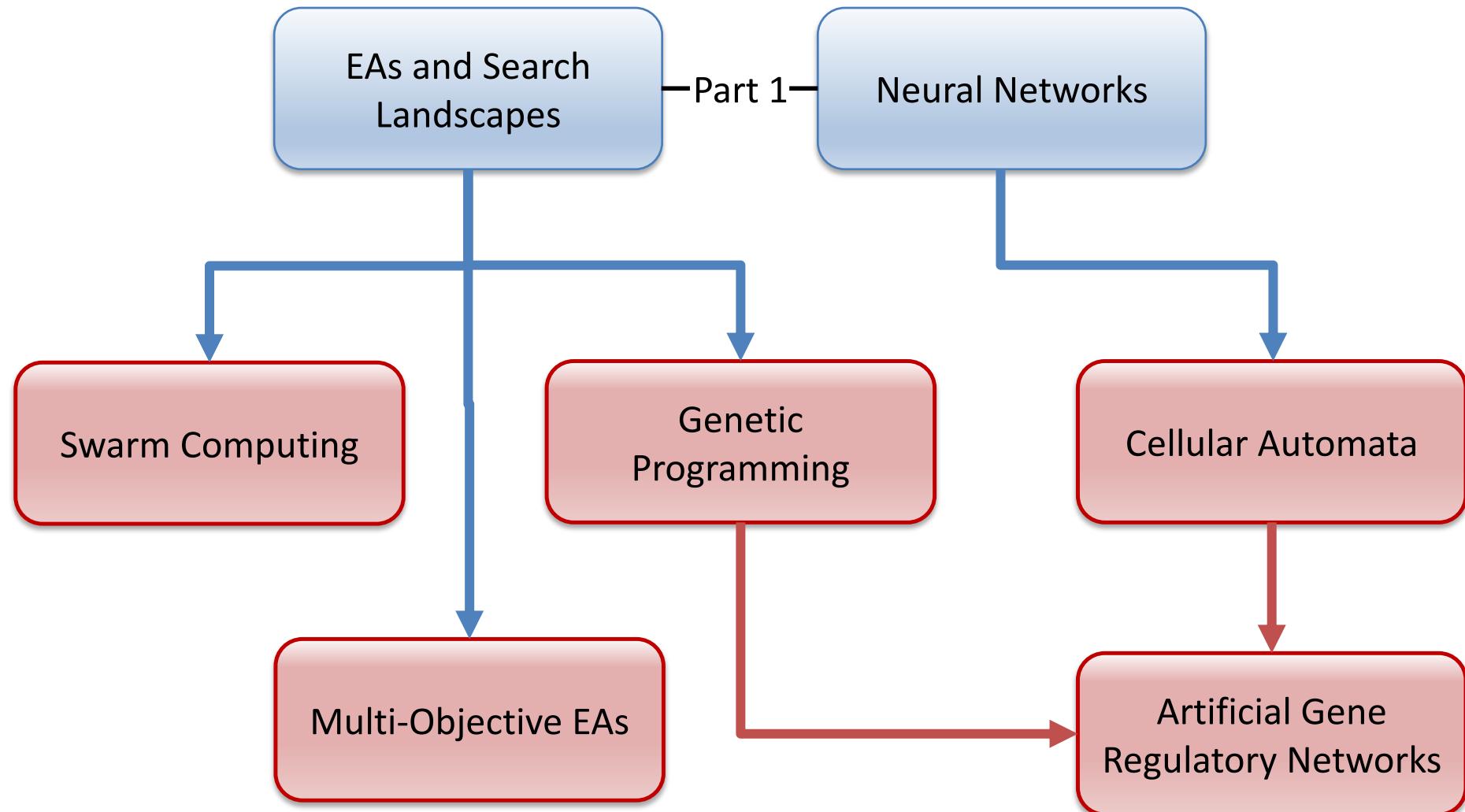
# Michael Lones' Contact Details

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- ◊ [www.macs.hw.ac.uk/~ml355](http://www.macs.hw.ac.uk/~ml355)
  
- ◊ Office hour: Wednesday 11:15-12:15
- ◊ At other times, email me if you have any problems
  - ▶ You should get a quick response
  - ▶ I will arrange a meeting with you, if appropriate

# Part 2 Content

- ◊ Part 2 aims to give a broader picture of biologically-inspired computing by:
  - ▶ Providing an awareness of the diversity of techniques that have been developed by the bio-inspired community
  - ▶ Covering some more advanced approaches, particularly those that are used to solve complex real world problems
  - ▶ Discussing techniques that may become important AI approaches in the future

# Part 2 Content



# Timetable

Week	Tuesday lecture	Wednesday lecture	Coursework
7	Swarm Intelligence (Part 1)	Swarm Intelligence (Part 2)	Coursework 1b due in Coursework 2 given out
8	Genetic Programming (Part 1)	Genetic Programming (Part 2)	
9	Multi-Objective Evolutionary Algorithms	Cellular Automata	
10	Artificial Gene Regulatory Networks		
11	Revision Lecture (Part 1)	Revision Lecture (Part 2)	
12			Coursework 2 due in

Note: this is subject to change.

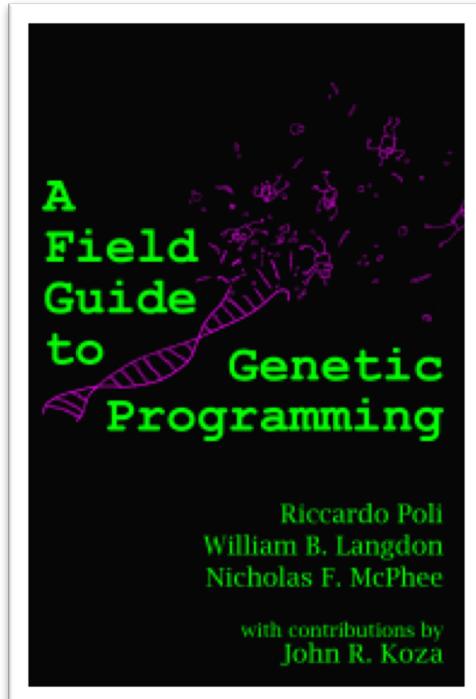
# Lectures

- ◊ I'll be covering a variety of bio-inspired topics, and the lecture style will vary to reflect this:
  - For relatively mature topics, I'll go into more detail, e.g. Koza genetic programming, cellular automata
  - For emerging topics, I'll give more of an overview, e.g. Genetic improvement, gene regulatory networks
  - In both cases, I'll give pointers to papers/books where you can find out more information.

# Free books on Vision

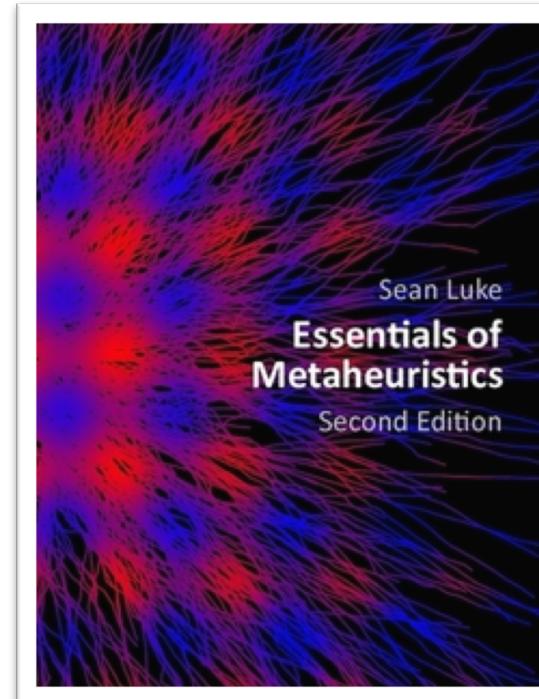
- ◊ I'll be referring to both of these (free 😊 ) books:

R. Poli et al, A Field Guide to Genetic Programming



[www.gp-field-guide.org.uk](http://www.gp-field-guide.org.uk)

S. Luke, Essentials of Metaheuristics



[http://cs.gmu.edu/~sean/book  
/metaheuristics/](http://cs.gmu.edu/~sean/book/metaheuristics/)