**Title of the session: Genetic programming and its applications**

Genetic programming (GP) is a powerful population-based optimization meta-heuristic methodology for solving user-defined tasks by automatic generation of computer programs. In the last few years, GP has undergone a rapid development and many improved GP variants have been proposed, such as Grammatical Evolution (GE), Gene Expression Programming (GEP), Cartesian Genetic Programming (CGP), and Linear Genetic Programming (LGP). GP and its variants have also been successfully applied to solve a wide range of scientific and engineering applications such as classification problem, time series prediction problem, job shop scheduling, bin packing problem and rule identification problem. The recent trends of GP include designing more effective and efficient GP framework and the new applications of GPs. The objective of this special section is to reflect the recent developments of GP and its applications, and discuss the future research directions of this field.

Topics

The main topics include but are not limited to:

* Genetic programming
* Gene expression programming
* Grammatical evolution
* Cartesian Genetic Programming
* Linear Genetic Programming
* Parallelization of GPs
* Applications of GPs
* Multi-objective GP
* Multi-tasking GP
* Memetic GPs
* Cooperative Co-evolutionary GPs
* Theoretical analysis of GPs

Organizers

Jinghui Zhong

School of Computer Science and Engineering

South China University of Technology

E-mail: [jinghuizhong@scut.edu.cn](mailto:jinghuizhong@scut.edu.cn)

Short Bio:  Jinghui Zhong is currently an Associate Professor in the School of Computer Science and Engineering, South China University of Technology, Guangzhou, China. He received his Ph.D. degree from the School of Information Science and Technology, Sun YAT-SEN University, China, in 2012. During 2013 to 2016, He worked as a Postdoctoral Research Fellow at the School of Computer Engineering, Nanyang Technological University, Singapore. His research interests include: computational intelligence such as genetic programming, and the applications of computational intelligence.

Liang Feng

College of Computer Science, Chongqing University, China  
E-Mail: [liangf@cqu.edu.cn](mailto:liangf@cqu.edu.cn)  
Short Bio: Liang Feng received the PhD degree from the School of Computer Engineering, Nanyang Technological University, Singapore, in 2014. He was a Postdoctoral Research Fellow at the Computational Intelligence Graduate Lab, Nanyang Technological University, Singapore. He is currently an Assistant Professor at the College of Computer Science, Chongqing University, China. His research interests include Computational and Artificial Intelligence, Memetic Computing, Big Data Optimization and Learning, as well as Transfer Learning.

Potential contributors

1. Dr. Kay Chen Tan, Professor in the Department of Computer Science, City University of Hong Kong
2. Dr. Yew-soon Ong, Professor in the School of Computer Engineering, Nanyang Technological University, Singapore
3. Dr. Jun Zhang, Professor in the School of Computer Science and Engineering, South China University of Technology, China
4. Dr. Mengjie Zhang, Professor in the [School of Engineering and Computer Science](http://homepages.ecs.vuw.ac.nz/), [Victoria University of Wellington](https://www.google.com.sg/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi6k_CM26DTAhXFNI8KHS4gBOQQFgglMAA&url=http%3A%2F%2Fhomepages.ecs.vuw.ac.nz%2F~mengjie%2F&usg=AFQjCNETqKiOPe9QBWXfFUuoUslyWt9tQA&sig2=uyJ9DFntv8oT0jw4V2lI4g), New Zealand.
5. Dr. [Kendall Graham](http://dspace.stir.ac.uk/browse?type=author&value=Kendall%2C+Graham), Professor in the University of Nottingham, Malaysia Campus, Malaysia
6. Dr. Ke Tang, Professor at the School of Computer Science and Technology, University of Science and Technology of China, China
7. Dr. Liang Feng, Assistant Professor at the College of Computer Science, Chongqing University, China
8. Dr. Kai Qin is an Associate Professor at Swinburne University of Technology, Australia
9. Dr. Jinghui Zhong, Associate Professor in the School of Computer Science and Engineering, South China University of Technology, China