

GECCO'15 Message from the Tutorials Chair

The vibrant city of Madrid will be the venue of GECCO where, as usual, in the first two days will be offered an attractive selection of tutorials covering a wide variety of themes. After a **record** of 56 submissions from international, high profile domain experts, we have to choose the final list of 33 accepted tutorials. This number will allow the participants to select among 4 different tutorials at each time slot during the two first days of GECCO.

Following GECCO's tradition, the program includes introductory, advanced, and specialized tutorials. The introductory tutorials comprise the main solidly established themes in evolutionary computation. The advanced tutorials offer a more in depth view of techniques and theoretical analysis and the specialized tutorials include specific themes more devoted to real world applications.

The traditional introductory themes will continue to be offered, mainly dedicated to the newcomers and young researchers. But, new introductory tutorials, as Complex Networks, Evolutionary Robotics or Hyper Heuristics, will be included in this year's program. New advanced tutorials this year involve Gene Regulatory Networks and Semantic Genetic Programming, both topics gaining increasing attention in the last years. Finally, exciting application domains are covered such as Smart Cities, Medical Applications among others.

Find below the complete list of tutorials:

Introductory Tutorials

- Genetic Programming, Una-May O'Reilly (MIT, USA)
- Evolutionary Computation: A Unified Approach, Kenneth De Jong (George Mason University, USA)
- Evolutionary Multiobjective Optimization, Dimo Brockhoff (INRIA Lille - Nord Europe, France), Tobias Wagner (Technische Universität Dortmund)
- Particle Swarm Optimization, Andries Engelbrecht (University of Pretoria, South Africa)
- Model-Based Evolutionary Algorithms, Dirk Thierens (Utrecht University, The Netherlands), Peter Bosman (Centre for Mathematics and Computer Science, The Netherlands)
- Runtime Analysis of Evolutionary Algorithms: Basic Introduction, Per Kristian Lehre (University of Nottingham, UK), Pietro S. Oliveto (University of Sheffield, UK)
- Evolving Neural Networks, Risto Miikkilainen (University of Texas at Austin, USA)
- Complex Networks, Marco Tomassini (University of Lausanne, Switzerland)
- Cartesian Genetic Programming, Julian Miller (University of York), Andrew Turner (University of York)
- Hyper-heuristics, John R. Woodward (University of Stirling), Daniel Tauritz (Missouri University of Science and Technology)
- Evolutionary Robotics, Nicolas Bredeche (Université Pierre et Marie Curie), Stéphane Doncieux (Université Pierre et Marie Curie), Jean-Baptiste Mouret (Institute for Intelligent Systems and Robotics -UPMC)
- Introducing Rule-based machine learning - A Practical Guide, Ryan Urbanowicz (University of Pennsylvania, USA), Will Browne (Victoria University of Wellington)
- Multimodal Optimization, Mike Preuss, (University of Münster, Germany)
- Continuous Optimization and CMA-ES, Nikolaus Hansen (Inria, France), Anne Auger (Inria, France), Youhei Akimoto (Shinshu University, Japan)
- Representations for Evolutionary Algorithms, Franz Rothlauf

Advanced Tutorials

- Constraint-Handling Techniques used with Evolutionary Algorithms, Carlos Coello-Coello (CINVESTAV-IPN, Mexico)
- Blind No More: Constant Time Non-Random Improving Moves and Exponentially Powerful Recombination, Darrell Whitley (Colorado State University, USA)
- Expressive Genetic Programming, Lee Spector (Hampshire College, USA)
- Parameterized Complexity Analysis of Evolutionary, Frank Neumann (University of Adelaide, Australia), Andrew Sutton (University of Adelaide, Australia)
- Theory of Swarm Intelligence, Dirk Sudholt (University of Sheffield, UK)
- Evolutionary Image Analysis and Signal Processing, Mengjie Zhang (University of Wellington), Stefano Cagnoni (University of Parma)
- Generative and Developmental Systems, Kenneth Stanley (University of Central Florida)
- Evolutionary Algorithms for Protein Structure Modeling, Amarda Shehu (George Mason University, Fairfax, VA), Kenneth De Jong (George Mason University, Fairfax, VA)
- Solving Eomplex Problems with Eoevolutionary Clgorithms, Malcolm Heywood (Dalhousie University), Krzysztof Krawiec (Poznan University of Technology)
- Theory of Evolution Strategies and Related Algorithms, Anne Auger (Inria Saclay-Ile-de-France)
- Gene Regulatory Network, Sylvain Cussat-Blanc (University of Toulouse, France), Wolfgang Banzhaf (Memorial University of Newfoundland, Canada)
- Semantic Genetic Programming, Krzysztof Krawiec (Poznan University of Technology, Poznań, Poland), Alberto Moraglio (University of Exeter, UK)
- Evolutionary Computation for Dynamic Optimization Problems, Shengxiang Yang (De Montfort University, UK)

Specialized Tutorials

- Medical Applications of Evolutionary Computation, Stephen Smith (University of York, UK)
- Automatic (Offline) Configuration of Algorithms, Manuel López-Ibáñez (IRIDIA laboratory, ULB, Belgium), Thomas Stützle (IRIDIA laboratory, ULB, Belgium)
- Low or No Cost Distributed Evolutionary Computation, JJ Merelo (CITIC U. Granada)
- Intelligent Systems for Smart Cities, Enrique Alba (University of Málaga, Spain)
- Synergies between Evolutionary Algorithms and Reinforcement Learning, Madalina M. Drugan (Vrije Universiteit Brussel, Belgium)

For detailed information on each tutorial, please visit the Tutorials Page.

We would like to sincerely thank the tutorial presenters for their valuable contributions, and we hope the wide choice of themes available this year continues to motivate and inspire researchers and practitioners in evolutionary computation and related areas.

We look forward to seeing you in Madrid this July; it will be a great conference!

Kind Regards,



Anabela Simões

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