GECCO 2012 Awards

Graduate Student Workshop

Graduate Student Workshop

François-Michel De Rainville "Robotic Swarm Cooperation"

Competitions and Industrial Challenge

Competitions Program

The Evolutionary Art, Design, and Creativity Competition
Organizers
- Christian Gagné, Université Laval
- Amy K. Hoover, University of Central Florida
- Jon McCormack, Monash University

Official Webpage
http://eadcc.sigevolution.org

GPUs for Genetic and Evolutionary Computation
Organizers
- Simon Harding, IDSIA

Official Webpage
http://www.gpgpgpu.com/gecco2012/

Simulated Car Racing Championship
Organizers
- Daniele Loiacono, Politecnico di Milano
- Luigi Cardamone, Politecnico di Milano
- Pier Luca Lanzi, Politecnico di Milano

Official Webpage
http://games.ws.dei.polimi.it/competitions/scr/

Visualizing Evolution Competition
Organizers
- Nicholas Sinnott-Armstrong, Dartmouth Medical School
- Daniele Loiacono, Politecnico di Milano

Official Webpage
https://sites.google.com/site/visualizingevo/

Demolition Derby 2012
Organizers
- Martin V. Butz, University of Tübingen

Official Webpage
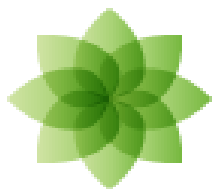http://cm.inf.uni-tuebingen.de/competitions

EvoRobocode Competition
Organizers
- Daniele Loiacono, Politecnico di Milano
- Moshe Sipper, Ben-Gurion University of the Negev

Official Webpage
https://sites.google.com/site/visualizingevo/

GECCO 2012 Industrial Challenge
- Oliver Flasch
- Martina Friese
- Thomas Bartz-Beielstein
- Wolfgang Konen
- Jens Neuhalfen
- Pier Luca Lanzi
- Jorn Mehnen

GreenPocket

Prizes…

GreenPocket

GECCO 2012
Champion
www.geccocompetitions.com

… and fame!

And the winners are…

Association for Computing Machinery

2012 Genetic and Evolutionary Computation Conference Conference

Carlos M. Fernandes

Winner of the GECCO 2012 Evolutionary Art, Design, and Creativity Competition

Daniele Loiacono
GECCO 2012 Competitions Chair

Jason Moore
GECCO 2012 General Chair

sigevo

GECCO

Association for Computing Machinery

2012 Genetic and Evolutionary Computation Conference Conference

Anderson Rocha Tavares & Gabriel de Oliveira Ramos & Renato de Pontes Pereira & Sérgio Montazzolli Silva & Ana L. C. Bazzan

Winner

GECCO 2012 Demolition Derby Competition

Daniele Loiacono
GECCO 2012 Competitions Chair

Jason Moore
GECCO 2012 General Chair

sigevo

GECCO

Association for Computing Machinery

2012 Genetic and Evolutionary Computation Conference Conference

Jan Quadflieg, Tim Delbrügger, Mike Preuss

Winner

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sigevo

GECCO

Association for Computing Machinery

2012 Genetic and Evolutionary Computation Conference Conference

Jean-Baptiste Mouret & Jeff Clune

Winner

GECCO 2012 Visualizing Evolution Competition

Daniele Loiacono
GECCO 2012 Competitions Chair

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GECCO 2012 General Chair

Association for Computing Machinery

2012 Genetic and Evolutionary Computation Conference Conference

Pierre Collet, Ogier Maître, Frédéric Krüger
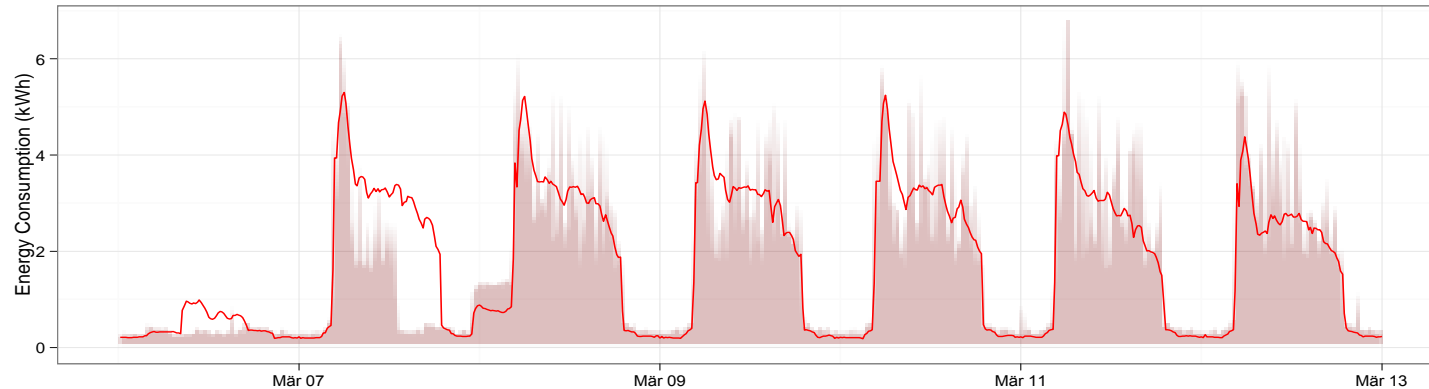
Winner

GECCO 2012 GPUs for GEC Competition

Daniele Loiacono
GECCO 2012 Competitions Chair

Jason Moore
GECCO 2012 General Chair

sigevo

GECCO

Industrial Challenge

Rank	Author	Score (RMSE)				
		M1S1	M1S2	M2S1	M2S2	Mean
1	Stephan Hutterer	0.8792	**0.8976**	0.5733	**0.5896**	**0.7349**
2	Torsten Hildebrandt	**0.8620**	0.8996	0.5814	0.6158	0.7397
3	Jens Heger	0.8719	0.9202	**0.5720**	0.6291	0.7483
4	Gabriel Kronberger	0.9514	0.9305	0.6608	0.6217	0.7911
5	*GreenPocket GmbH*	1.1516	1.1963	0.6898	0.6043	0.9105
6	Stephan Winkler	0.9728	1.1860	0.6724	0.8368	0.9170

Stephan Hutterer (University of Applied Sciences Upper Austria)

www.geccocompetitions.com

GECCO

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/geccocompetitions

2013

Humies

Judges for 2012

- Wolfgang Banzhaf
- Erik Goodman
- Una-May O'Reilly
- Lee Spector
- Darrell Whitley

Entrants must have published result within the past year, and satisfied one or more of 8 specified human-competitive criteria.

NOTE: This is a very difficult job, comparing apples to oranges, on many criteria. Many submissions deserve recognition, but not all can win.

Honorable Mention

Two awardees (in alphabetical order):

Honorable Mention

- Uday Kamath
- Amarda Shehu
- Kenneth A. De Jong

<u>Genetic Programming Based Feature Generation for Automated DNA Sequence Analysis</u>

Honorable Mention

- Ernesto Sanchez
- Giovanni Squillero
- Alberto Tonda

Automatic Generation of Software-based Functional Failing Test

Bronze Award (and $2,000)

Bronze Award (and $2,000)

- Michael Dewey-Vogt
- Stephanie Forrest
- Claire Le Goues
- Westley Weimer

Scalable Human-Competitive Software Repair

Silver Award (and $3,000)

Silver Award (and $3,000)

- Richard A.J. Woolley
- Julian Stirling
- Philip Moriarty
- Natalio Krasnogor
- Adrian Radocea

Automated probe microscopy via evolutionary optimization at the atomic scale

Gold Award (and $5,000)

Gold Award (and $5,000)

- Cameron Browne

Evolutionary Game Design

Impact Award

Impact Award

Mauro Birattari, Thomas Stuetzle, Luis Paquete, Klaus Varrentrapp. A Racing Algorithm for Configuring Metaheuristic.

Best Paper Awards

Best Paper Award: ACO-SI

Ant Colony Optimization and Swarm Intelligence

"Learning Fuzzy Cognitive Maps from Data by Ant Colony Optimization", Ye Chen, Lawrence J. Mazlack, Long J. Lu

"Gaussian Mixture Modeling for Dynamic Particle Swarm Optimization of Recurrent Problems", Eduardo Vellasques, Robert Sabourin, Eric Granger

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Artificial Life, Robotics and Evolvable Hardware

"Hierarchical Task Decomposition Through Symbiosis in Reinforcement Learning", John A. Doucette, Peter Lichodzijewski, Malcolm I. Heywood

"Comparison of Communication Strategies in Cooperative Learning", Michael Solomon, Robert B. Heckendorn, Terence Soule

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Digital Entertainment Technologies and Arts
Parallel Evolutionary Systems

"Accelerating Human-Computer Collaborative Search Through Learning Comparative and Predictive User Models", S. Hornby, Josh C. Bongard

"An Improved CUDA-Based Implementation of Differential Evolution on GPU", A. K. Qin, Federico Raimondo, Florence Forbes, Yew Soon Ong

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Best Paper Award: ECOM
Evolutionary Combinatorial Optimization and Metaheuristics

"Evolutionary Algorithm with Solution Archives and Bounding Extension for the Generalized Minimum Spanning Tree Problem", Bin Hu, Günther R. Raidl

"A Hybridization between Memetic Algorithm and Semidefinite Relaxation for the Max-Cut Problem", Bo Song, Victor O. K. Li

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Best Paper Award: EDA+GDS

Estimation of Distribution Algorithms
Generative and Developmental Systems

"Complex and Diverse Morphologies Can Develop from a Minimal Genomic Model", Jose David Fernández, Francisco J. Vico, René Doursat

"A Memory Efficient and Continuous-Valued Compact EDA for Large Scale Problems", Sergio Rojas-Galeano, Nestor Rodriguez

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"On the Properties of the R2 Indicator", Dimo Brockhoff, Tobias Wagner, Heike Trautmann

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"Crossover Speeds Up Building-Block" Assembly, Dirk Sudholt

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Best Paper Award: GBML
Genetics Based Machine Learning

"Filtering Sensory Information with XCSF:
Improving Learning Robustness and Control
Performance", Jan Kneissler, Patrick O. Stalph,
Jan Drugowitsch, Martin V. Butz

"Guided Evolution in XCSF", Patrick O. Stalph,
Martin V. Butz

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Integrative Genetic and Evolutionary Computation, Self-* Search and Search Based Software Engineering

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"A Hyper-Heuristic Evolutionary Algorithm for Automatically Designing Decision-Tree Algorithms", Rodrigo C. Barros, Márcio P. Basgalupp, André C. P. L. F. de Carvalho, Alex A. Freitas

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Theory, Evolutionary Strategies and Evolutionary Programming

"A (1+1)-CMA-ES for Constrained Optimization",
Dirk V. Arnold, Nikolaus Hansen

"Reducing the Arity in Unbiased Black-Box
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"The Choice of the Offspring Population Size in
the (1,λ) EA", Jonathan E. Rowe, Dirk Sudholt

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