EvoStar 2015 Outline Programme : provisional at 20 feb 2015 (subject to change)

Wednesday 8 April

0930-0945	**Conference opening**

0945-1045	**Plenary invited talk: Pierre-Yves Oudeyer :** *Open-Source Baby Robots for Science, Education & Art*

1045-1120	**Coffee break**

		room 1	room 2	room 3
1120-1300		**EuroGP 1 : Scaling GP** session chairs : Penousal Machado & Malcolm Heywood Indirectly Encoded Fitness Predictors Coevolved with Cartesian Programs **Michaela Sikulova, Jiri Hulva, Lukas Sekanina** Automatic Derivation of Search Objectives for Test-Based Genetic Programming **Krzysztof Krawiec, Paweł Liskowski** Evolutionary Design of Transistor Level Digital Circuits using Discrete Simulation **Vojtech Mrazek, Zdenek Vasicek** Improving Geometric Semantic Genetic Programming with Safe Tree Initialisation **Grant Dick**	**EvoMusArt 1 : Evolution Everywhere: Drawing, Design, Games and Voice** session chair: Adrian Carballal Avoidance Drawings Evolved Using Virtual Drawing Robots **Gary Greenfield** Evolving Diverse Design Populations using Fitness Sharing and Random Forest based Fitness Approximation **Kate Reed, Duncan Gillies** AudioInSpace: A Proof-of-Concept Exploring the Creative Fusion of Generative Audio, Visuals and Gameplay **Amy K. Hoover, William Cachia, Antonios Liapis, Georgios N. Yannakakis** Towards an Evolutionary Computational Approach to Articulatory Vocal Synthesis with PRAAT **Jared Drayton, Eduardo Miranda**	**EvoApps 1 : Industrial Applications** (APPs topics: INDUSTRY+ENERGY+STOC) Many-Objective Optimization of a Hybrid Car Controller **Tobias Rodemann, Kaname Narukawa, Michael Fischer, Mohammed Awada** Multi-Noisy-Hard-Objective Robust Design of Balanced Surface Acoustic Wave Filters Based on Prediction of Worst-Case Performance **Kiyoharu Tagawa, Shoichi Harada** Evolutionary Optimization of Smart Buildings with Interdependent Devices **Ingo Mauser, Julian Feder, Jan Mueller, Hartmut Schmeck** Optimising the scheduling and planning of urban milk deliveries **Neil Urquhart** Clustering local tourism systems by Threshold Acceptance **Joseph Andria, Giacomo Di Tollo**
1300-1415	**Lunch**			
1415-1555		**EuroGP 2 : Applications** session chair : Sara Silva Learning Text Patterns using Separate-and-Conquer Genetic Programming **Alberto Bartoli, Andrea De Lorenzo, Eric Medvet, Fabiano Tarlao** Evolving Ensembles of Dispatching Rules using Genetic Programming for Job Shop Scheduling **John Park, Su Nguyen, Mengjie Zhang, Mark Johnston** M3GP - Multiclass Classification with GP **Luís Muñoz, Sara Silva, Leonardo Trujillo** Tapped Delay Lines for GP Streaming Data Classification with Label Budgets **Ali Vahdat, Jillian Morgan, Andrew R. McIntyre, Malcolm I. Heywood, A. Nur Zincir-Heywood**	**EvoMusArt 2 : Bio-inspired Algorithms as Composers** session chair: João Nuno The Sound Digestive System: a Strategy for Music and Sound Composition **Juan Manuel Escalante** Toward Certain Sonic Properties of an Audio Feedback System by Evolutionary Control of Second-Order Structures **Seunghun Kim, Juhan Nam, Graham Wakefield** Generative Music with Stochastic Diffusion Search **Asmaa Majid al-Rifaie, Mohammad Majid al-Rifaie** Music with Unconventional Computing: Towards a Step Sequencer From Plasmodium of Physarum Polycephalum **Edward Braund, Eduardo Miranda**	**EvoApps 2 : Stochastic & Dynamic Environments** (APPs topics: STOC+COMPLEX) Applying Ant Colony Optimization to Dynamic Binary-Encoded Problems **Michalis Mavrovouniotis, Shengxiang Yang** An experimental study of combining Evolutionary Algorithms with KD-Tree to solving dynamic optimisation problems **Trung Thanh Nguyen, Ian Jenkinson, Zaili Yang** Coevolutionary intransitivity in games: A landscape analysis **Hendrik Richter** Making IDEA-ARIMA efficient in Dynamic Constrained Optimization Problems **Patryk Filipiak, Piotr Lipinski**
1555-1620	**Coffee break**			
1620-1800		**EuroGP 3 : Best Paper Candidates** session chair : Krzysztof Krawiec Cartesian GP in Optimization of Combinational Circuits with Hundreds of Inputs and Thousands of Gates **Zdenek Vasicek** On the Generalization Ability of Geometric Semantic Genetic Programming **Ivo Gonçalves, Sara Silva, Carlos M. Fonseca** Attributed Grammatical Evolution using Shared Memory Spaces and Dynamically Typed Semantic Function Specification **James Vincent Patten, Conor Ryan** The Effect of Distinct Geometric Semantic Crossover Operators in Regression Problems **Julio Albinati, Gisele L. Pappa, Fernando E. B. Otero, Luiz Otávio V. B. Oliveira**	**EvoMusArt 3 : Best Paper Candidates** session chair: Colin Johnson Interior Illumination Design Using Genetic Programming **Kelly Moylan, Brian Ross** Moody Music Generator: Characterising Control Parameters Using Crowdsourcing **Marco Scirea, Julian Togelius, Mark Nelson** Evotype: Evolutionary Type Design **Tiago Martins, João Correia, Ernesto Costa, Penousal Machado** Lichtsuchende: Exploring the Emergence of a Cybernetic Society **Dave Murray-Rust, Rocio von Jungenfeld**	**EvoApps 3 : Complex Systems** (APPs topics: COMPLEX+FIN) Hierarchic Genetic Search with α-Stable Mutation **Adam Obuchowicz, Maciej Smolka, Robert Schaefer** Emergence of Cooperation in the Prisoner's Dilemma Driven by Conformity **Marco Alberto Javarone, Antonio Emanuele Atzeni, Serge Galam** An Experimental Evaluation of Multi-Objective Evolutionary Algorithms for Detecting Critical Nodes in Complex Networks **Mario Ventresca, Kyle Harrison, Beatrice Ombuki-Berman** Self-Balancing Multimemetic Algorithms in Dynamic Scale-Free Networks **Rafael Nogueras, Carlos Cotta**

1800-1930	**EvoStar poster session in conjunction with conference reception**

EuroGP posters	EvoMusArt posters	EvoAPPLICATIONS posters
Genetic Programming for Feature Selection and Question-Answer Ranking in IBM Watson **Urvesh Bhowan, D. J. McCloskey**	Biological Content Generation: Evolving Game Terrains through Living Organisms **Wim van Eck, Maarten Lamers**	Studying the Geographical Cluster Paging with delay constraint in Registration Areas with the Algorithm NSGAII **Victor Berrocal-Plaza, Miguel A. Vega-Rodriguez, Juan M. Sanchez-Perez**
Automatic Evolution of Parallel Recursive Programs **Gopinath Chennupati, Muhammad R. Atif Azad, Conor Ryan**	DrawCompileEvolve: Sparking Interactive Evolutionary Art with Human Creations **Jinhong Zhang, Rasmus Taarnby, Antonios Liapis, Sebastian Risi**	Investigating Fitness Measures for the Automatic Construction of Graph Models **Kyle Harrison, Mario Ventresca, Beatrice Ombuki-Berman**
Proposal and Preliminary Investigation of a Fitness Function for Partial Differential Models **Igor S. Peretta, Keiji Yamanaka, Paul Bourgine, Pierre Collet**	On the Stylistic Evolution of a Society of Virtual Melody Composers **Valerio Velardo, Mauro Vallati**	Evolutionary Training of Robotised Architectural Elements **Claudio Rossi, Pablo Gil, William Coral**
Evolutionary Methods for the Construction of Cryptographic Boolean Functions **Stjepan Picek, Domagoj Jakobovic, Julian F. Miller, Elena Marchiori, Lejla Batina**	Feature Discovery by Deep Learning for Aesthetic Analysis of Evolved Abstract Images **Allan Campbell, Vic Ciesielski, A. K. Qin**	Heat Map Based Feature Selection: A Case Study for Ovarian Cancer, **Carlos Huertas, Reyes Juárez-Ramírez**
Templar - a Framework for Template-Method Hyper-Heuristics **Jerry Swan, Nathan Burles**	Automatic Generation of Chord Progressions with an Arti cial Immune System **Maria Navarro, Leandro Nunes de Castro, Marcelo Caetano, Gilberto Bernandes, Juan Manuel Corchado**	PowerSurge: A Serious Game on Power Transmission Networks **Sebastian von Mammen, Fabian Hertwig, Florain Obermayer, Patrick Lehner**
Circuit Approximation Using Single- and Multi-Objective Cartesian GP **Zdenek Vasicek, Lukas Sekanina**	Schemographe: Application for a New Representation Technique and Methodology of Analysis in Tonal Harmony **Anna Shvets, Myriam Desainte-Cathérine**	Parallel cooperation for large-scale multiobjective optimization on feature selection problems **Dragi Kimovski, Julio Ortega, Andrés Ortiz, Raúl Baños**
	A Genetic Programming Approach to Generating Musical Compositions **David M. Hofmann**	Collaborative Diffusion on the GPU for Path-finding in Games **Craig McMillan, Emma Hart, Kevin Chalmers**
	Echo **Christoph Klemmt, Rajat Sodhi**	A Multiobjective Evolutionary Algorithm for Personalized Tours in Street Networks **Ivanoe De Falco, Umberto Scafuri, Ernesto Tarantino**
	Interpretability of Music Classification as a Criterion for Evolutionary Multi-Objective Feature Selection **Igor Vatolkin, Guenter Rudolph, Claus Weihs**	A Projection-Based Approach for Real-time Assessment and Playability Check for Physics-Based Games **Mohammad Shaker, Noor Shaker, Mohamed Abou-Zleikha, Julian Togelius**
	Chorale Music Splicing System: an algorithmic music composer inspired by molecular splicing **Clelia De Felice, Roberto De Prisco, Delfina Malandrino, Gianluca Zaccagnino, Rocco Zaccagnino, Rosalba Zizza**	Analysis of Diversity Methods for Evolutionary Multi-Objective Ensemble Classifiers **Stefan Oehmcke, Justin Heinermann, Oliver Kramer**
	FuXi: a Fish-Driven Instrument for Real-Time Music Performance **Joao Cordeiro**	

EvoAPPLICATIONS posters	EvoAPPLICATIONS posters	EvoAPPLICATIONS posters
How the world was MADE: parametrization of evolved agent-based models for backstory generation **Rubén Héctor García Ortega, Pablo García Sánchez, Juan Julián Merelo Guervós, Maribel García Arenas, Pedro A. Castillo Valdivieso, Antonio Mora García**	Evolving Controllers for Programmable Robots to Influence Non-Programmable Lifeforms: A Casy Study **Payam Zahadat, Thomas Schmickl**	Fair Resource Allocation Using Multi-Population Evolutionary Algorithm **Tohid Erfani, Rasool Erfani**
Object Detection in Natural Images using the Brain Programming Paradigm with a Multi-Objective Approach **Eddie Clemente, Gustavo Olague, Daniel E. Hernández, Jose L. Briseño, Jose Mercado**	Chromatic Selection -- an Oversimplified Approach to Multi-Objective Optimization **Giovanni Squillero**	A Benchmark For Virtual Camera Control **Paolo Burelli, Georgios Yannakakis**
A Novel Multi-Objectivisation Approach for Optimising the Protein Inverse Folding Problem **Sune S. Nielsen, Grégoire Danoy, Wiktor Jurkowski, Juan Luis Jiménez Laredo, Reinhard Schneider, El-Ghazali Talbi, Pascal Bouvry**	Automatic Evolution of Parallel Sorting Programs on Multi-cores **Gopinath Chennupati, R. Muhammad Atif Azad, Conor Ryan**	Planning the Deployment of Indoor Wireless Sensor Networks through Multiobjective Evolutionary Techniques **J. M. Lanza-Gutierrez, J. A. Gomez-Pulido, S. Priem-Mendes, M. Ferreira, J. S. Pereira**
	A Concept for Real-Valued Multi-Objective Landscape Analysis Realized on Biochemcial Optimization Problems **Susanne Rosenthal, Bernd Freisleben, Markus Borschbach**	Applying Non-Dominated Sorting Genetic Algorithm II to Multi-Objective Optimization of a Weighted Multi-Metric Distance for Performing Data Mining Tasks **Muhammad Marwan Muhammad Fuad**

Thursday 9 April

	room 1	room 2	room 3
0930-1110	**EuroGP 4 : Panel Discussion :** **Future and Emerging Trends in Genetic Programming (open to all)**	**EvoCOP 1 : Scheduling and Graph Problems** **session chair: Gabriela Ochoa** A New Solution Representation for the Firefighter Problem **Bin Hu, Andreas Windbichler, Günther Raidl** A Variable Neighborhood Search Approach for the Interdependent Lock Scheduling Problem **Matthias Prandtstetter, Ulrike Ritzinger, Peter Schmidt, Mario Ruthmair** The New Memetic Algorithm HEAD for Graph Coloring: an Easy Way for Managing Diversity **Laurent Moalic, Alexandre Gondran** Using Local Search to Evaluate Dispatching Rules in Dynamic Job Shop Scheduling **Rachel Hunt, Mark Johnston, Mengjie Zhang**	**EvoApps 4: Pattern Recognition** **(APPs topics: IASP+NUM)** Alternating Optimization of Unsupervised Regression with Evolutionary Embeddings **Oliver Kramer, Daniel Lückehe** Hybrid Manifold Clustering with Evolutionary Tuning **Oliver Kramer** Gaussian Transformation based Representation in Particle Swarm Optimisation for Feature Selection **Hoai Bach Nguyen, Bing Xue, Ivy Liu, Peter Andreae, Mengjie Zhang** Genetic Programming with Alternative Search Drivers for Detection of Retinal Blood Vessels **Krzysztof Krawiec, Mikołaj Pawlak**
1110-1135	**Coffee break**		
1135-1315	**EvoApps 5: Game Agents** **(APPs topics: GAMES+STOC)** Evolving Diverse Strategies Through Combined Phenotypic Novelty and Objective Function Search **Davy Smith, Laurissa Tokarchuk, Chrisantha Fernando** It's time to stop: A comparison of termination conditions in the evolution of game bots **Antonio Fernández Ares, Antonio Mora García, Pablo García Sánchez, Pedro Castillo Valdivieso, Maribel García Arenas, Gustavo Romero López, Juan Julián Merelo Guervós** General Video Game Evaluation Using Relative Algorithm Performance Profiles **Thorbjorn S. Nielsen, Gabriella A.B. Barros, Julian Togelius, Mark J. Nelson** The Role of Behavioral Diversity and Difficulty of Opponents in Coevolving Game-Playing Agents **Marcin Szubert, Wojciech Jaśkowski, Pawel Liskowski, Krzysztof Krawiec**	**EvoCOP 2 : Multi-objective Optimisation** **session chair: Marc Schoenauer** Analysis of Solution Quality of a Multiobjective Optimization-based Evolutionary Algorithm for Knapsack Problem **Jun He, Yong Wang, Yuren Zhou** Improving the Performance of the Germinal Center Artificial Immune System using ε-dominance : A Multi-objective Knapsack Problem Case Study **Ayush Joshi, Christine Zarges, Jonathan Rowe** The Sim-EA Algorithm with Operator Autoadaptation for the Multiobjective Firefighter Problem **Krzysztof Michalak** True Pareto Fronts for Multi-Objective AI Planning Instances **Alexandre Quemy, Marc Schoenauer**	**EvoApps 6: Computer Vision** **(APPs topics: IASP)** A Supervised Figure-ground Segmentation Method using Genetic Programming **Yuyu Liang, Mengjie Zhang, Will Browne** A Multi-objective Evolutionary Algorithm for Interaction Systems Based on Laser Pointers **Francisco Chavez, Eddie Clemente, Daniel E. Hernandez, Francisco Fernandez de Vega, Gustavo Olegue** Topology-preserving ordering of the RGB space with an evolutionary algorithm **Francisco Florez-Revuelta** Planar Surfaces Recognition in 3D Point Cloud Using a Real-Coded Multistage Genetic Algorithm **Mosab Bazargani, Luís Mateus, Maria Amélia R. Loja**
1315-1430	**Lunch**		

1430-1610		**EvoApps 7: Content Generation and Learning in Games** (APPs topics: GAMES) A Procedural Method for Automatic Generation of Spelunky Levels **Noor Shaker, Walaa Baghdadi, Fawzya Shams Eddin, Rawan Al-Omari, Ziena Alhalawani, Mohammad Shaker** Evolving Random Forest for Preference Learning **Mohamed Abou-Zleikha, Noor Shaker** Procedural Personas as Critics for Dungeon Generation **Antonios Liapis, Christoffer Holmgard, Georgios N. Yannakakis, Julian Togelius** A Progressive Approach to Content Generation **Mohammad Shaker, Noor Shaker, Julian Togelius, Mohamed Abou-Zleikha**	**EvoCOP 3 : Routing and Location Problems** session chair: Hoong Chuin Lau A computational comparison of different algorithms for very large p-median problems **Pascal Rebreyend, Laurent Lemarchand, Reinhardt Eurler** A Variable Neighborhood Search for the Generalized Vehicle Routing Problem with Stochastic Demands **Benjamin Biesinger, Bin Hu, Günther Raidl** An Iterated Local Search Algorithm for Solving the Orienteering Problem with Time Windows **Aldy Gunawan, Hoong Chuin Lau, Kun Lu** Multi-Start Iterated Local Search for the Mixed Fleet Vehicle Routing Problem with Heterogenous Electric Vehicles **Ons Sassi, Wahiba Ramdane Cherif-Khettaf, Ammar Oulamara**	**EvoApps 8: Communication Networks** (APPs topics: COMNET) A Novel Grouping Genetic Algorithm for Assigning Resources to Users in WCDMA Networks **Lucas Cuadra, Sancho Salcedo-Sanz, Antonio D. Carnicer, Miguel A. Del Arco, Jose A. Portilla-Figueras** Parallel Extremal Optimization with Guided State Changes applied to Load Balancing **Eryk Laskowski, Marek Tudruj, Umberto Scaffuri, Richard Olejnik, Ivanoe De Falco, Ernesto Tarantino** A Fast FPGA-Based Classification of Application Protocols Optimized Using Cartesian GP **David Grochol, Lukas Sekanina, Martin Zadnik, Jan Korenek** A Swarm Intelligence Approach to 3D Distance-based Indoor Localization **Stefania Monica, Gianluigi Ferrari**
1610-1630	**Coffee break**			
1630-1810		**EvoApps 9: Robotics** (APPs topics: ROBOT) On the Tradeoff between Hardware Protection and Optimization Success: A Case Study in Onboard Evolutionary Robotics for Autonomous Parallel Parking **Mostafa Wahby, Heiko Hamann** Real-World Reproduction of Evolved Robot Morphologies: Automated Categorization and Evaluation **Eivind Samuelsen, Kyrre Glette** Evolving Generalised Maze Solvers **David Shorten, Geoff Nitschke** Evolving Robot Controllers for Structured Environments through Environment Decomposition **Rodrigo Moreno, Andres Faina, Kasper Stoy** Autonomous Learning of Procedural Knowledge in an Evolutionary Cognitive Architecture for Robots **Rodrigo Salgado, Francisco Bellas, Richard J. Duro**	**EvoCOP 4 : Other Applications and Theory** session chair: tbc A Biased Random-Key Genetic Algorithm for the Cloud Resource Management Problem **Leonard Heilig, Eduardo Lalla-Ruiz, Stefan Voß** Evolving Deep Recurrent Neural Networks Using Ant Colony Optimization **Travis Desell, Sophine Clachar, James Higgins, Brandon Wild** Mixing Network Extremal Optimization for Community Structure Detection **Mihai Suciu, Rodica Ioana Lung, Noemi Gasko** Runtime Analysis of (1+1) Evolutionary Algorithm Controlled with Q-learning using Greedy Exploration Strategy on OneMax+ZeroMax Problem **Denis Antipov, Maxim Buzdalov, Benjamin Doerr**	**EvoApps 10: Risk Management & Security** (APPs topics: COMNET+RISK) Black Holes and Revelations: Using Evolutionary Algorithms to Uncover Vulnerabilities in Disruption-Tolerant Networks **Doina Bucur, Giovanni Iacca, Giovanni Squillero, Alberto Tonda** Heuristics for the design of safe humanitarian aid distribution itineraries **José María Ferrer, María Teresa Ortuño, Gregorio Tirado, Begoña Vitoriano** Improving Maritime Awareness with Semantic Genetic Programming and Linear Scaling: Prediction of Vessels Position Based on AIS Data **Leonardo Vanneschi, Mauro Castelli, Ernesto Costa, Alessandro Re, Henrique Vaz, Victor Lobo, Paulo Urbano** Combining Ensemble of Classifiers by using Genetic Programming for Cyber Security Applications **Gianluigi Folino, Francesco Sergio Pisani** Automatic Generation of Mobile Malwares Using Genetic Programming **Emre Aydogan, Sevil Sen**
1830-1930	**Boat tour**			
1930-2200	**Conference dinner**			

Friday 10 April

		room 1	room 2	room 3
0930-1110		**EvoApps 11 : Energy & Finance** (APPs topics: ENERGY+FIN) Multiobjective methodology for assessing the location of distributed electric energy storage **Jose Goncalves, Luís Neves, Antonio Gomes Martins** An energy management system aggregator based on an integrated evolutionary and differential evolution approach **Andreia M. Carreiro, Carlos Oliveira, Carlos Henggeler Antunes, Humberto M. Jorge** An Evolutionary Optimization Approach to Risk Parity Portfolio Selection **Ronald Hochreiter** Generating Directional Change Based Trading Strategies with Genetic Programming **Jeremie Gypteau, Fernando Otero, Michael Kampouridis** Training Financial Decision Support Systems with Thousands of Decision Rules using Differential Evolution with Embedded Dimensionality Reduction **Piotr Lipinski**	**EvoCOP 5 : Best Paper Candidates** session chair: Francisco Chicano Hyper-heuristic Operator Selection and Acceptance Criteria **Richard Marshall, Mark Johnston, Mengjie Zhang** On the Complexity of Searching the Linear Ordering Problem Neighborhoods **Benjamin Correal, Philippe Galinier** Upper and Lower Bounds on Unrestricted Black-Box Complexity of Jumpn,l **Maxim Buzdalov, Mikhail Kever, Benjamin Doerr**	**EvoApps 12 : Continuous Parameter Optimisation** (APPs topics: NUM+STOC) Seed Disperser Ant Algorithm: An Evolutionary Approach for Optimization **Wen Liang Chang, Jeevan Kanesan, Jayant Kulkarni Anand** Neuro-evolutionary Topology Optimization with Adaptive Improvement Threshold **Nikola Aulig, Markus Olhofer** Evaluating Reward Definitions for Parameter Control **Giorgos Karafotias, Mark Hoogendoorn, A.E. Eiben** A Preference-based Algorithm for Multi-Objective Structural Optimization Problems with Improved Diversity Management Mechanism **Dênis Vargas, Lemonge Afonso, Barbosa Helio, Bernardino Heder**
1110-1130	**Coffee break**			
1130-1230	**Plenary invited talk: Paulien Hogeweg** : *Non-random random mutations: Evolution of Genotype-Phenoptype mapping*			
1230-1300	**Conference closing, best paper award presentations, and general announcements including 2016 location**			
1300-1345	**Lunch**			
1400-1700	**Optional afternoon tour**			