Curriculum Vitae

Sébastien Verel
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Contents

1 Summary

Sébastien Verel,
born the 29 October 1976 at Lisieux (Calvados - France), 36 years
web page: `http://www.i3s.unice.fr/~verel`

1.1 Professionnal cursus

September 06	- present	Research associate professor in computer sciences I3S Laboratory, UMR 7271 UFR Sciences, university of Nice Sophia-Antipolis, France.
September 09	- August 11	Full-time research position DOLPHIN team INRIA Lille Nord Europe, France.
October 05	- August 06	Half time research position (ATER) university of Nice Sophia-Antipolis.
October 02	- Septembre 05	Monitor in computer sciences engineer school (ENSISA) et comp. sc. dept. of univ. Nice Sophia-Antip
January 02	- June 02	Professionnal training (postgraduate), direction Ph. Collard. I3S laboratoiry UMR 6070, university of Nice Sophia-Antipolis
September 00	- October 01	Teacher of Mathematics (CAPES) Secondary school near Caen (France).

1.2 Academic Qualifications

2002 - 2005 :	PhD Student at I3S laboratory (UMR 6070), MESR grant University of Nice Sophia-Antipolis, CNRS Suject "Study and Exploitation of Neutral Networks in Fitness Landscape for Hard Optimization" Director : Philippe Collard
2001 - 2002 :	Postgraduate certificate in computer sciences, with honours good University of Nice Sophia-Antipolis training in Artificial Evolution Team
2000 - 2001 :	Qualified teacher of mathematics for secondary school University Institute of teacher Formation of Caen (IUFM) Qualified teacher following the training
1998 - 1999 :	Master of pure Mathematics, with honours good University of Caen (France)
1997 - 1998 :	Undergraduate of mathematics, with honours good University of Caen (France)
1994 - 1997 :	Preparation in mathematics and physics for entrance to French engineering schools Secondary school Malherbe of Caen Qualified at ENSICAEN (ISMRa)

1.3 Research Interests

- Complex Systems:
  where some "global" properties of the system comes from a large number of "local" interactions,

- Theory of metaheuristics, and evolutionary computation:
  study of the search space based on **fitness landscapes** in particular for *multiobjective* and *neutral* ones using analyzing tools of complex systems science.

- Adaptive metaheuristics:
  design and study methods to control the parameters of distributed metaheuristics using local rules,

- State-based Genetic Algorithm:
  Evolutionary algorithms where the solutions have a state to automated Heuristic Design,

- Agent based model in economics:
  Modelization of preferential consumption using social networks,

- Cognitive science:
  Design of cognitive models considering together eyes tracking and EEG signal,

  Design of cognitive models from data of eyes tracker and EEG,

- Cellular Genetic Algorithm:
  Evolutionary algorithms where the population is structured by a grid or a graph.

1.4 Tutorials

- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial GECCO'13, July 8, 2013, Amsterdam, Netherland.

- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial GECCO'12, July 8, 2012, Phliadelphia, USA.

- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial WCCI 2010, July 18, 2010, Barcelona, Spain.

- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial GECCO'09, July 9, 2009, Montreal.

- "Fitness landscapes and problem hardness in evolutionary computation", Tutorial GECCO 2007, July 7, 2007, UCL London.

1.5 Responsabilities

- Treasurer since 2007 of the artificial evolutionary association which brings together french researchers of the evolutionary computation field

- Head of the third year (licence) in computer science at university Nice Sophia Antipolis at the computer science department, 2012/2013.

- Manager of eLearning of the eMIAGE formation at the university Nice Sophia-Antipolis.

- Vice-president of AJC06 (association of junior researchers of Alpes-Maritimes) 2007/2008.

- Co-founder and president of the Association of PhD student of campus STIC between 2004 et 2006.

1.6 Event Organisations

- Special session at the international conference LION 7: "Problem Structure vs. Algorithm Performance in Multiobjective Combinatorial Optimization" Co-organizers: Hernan Aguirre (Shinshu University, Japan), Kiyoshi Tanaka (Shinshu University, Japan), Arnaud Liefooghe (univ. Lille 1 / INRIA, France).

- Evolutionary Multiobjective Optimization Session: at 22nd International Conference on Multiple Criteria (MCDM'2013) Co-organizers: Dimo Brockhoff (INRIA Lille Nord Europe, France), Bilel Derbel (univ. Lille 1 / INRIA, France), Arnaud Liefooghe (univ. Lille 1 / INRIA, France).

- Special session at the international conference LION 6: Autonomous Control for Search Algorithms (LION-S*EA) Co-organizers: Frederic Lardeux, Frederic Saubion, University of Angers, France.

- Special session "Fitness landscapes and metaheuristics" at the international conference META 2010, Djerba Island, Tunisia, October 2010.

- Workshop on Nature Inspired Computing NatComp'2010 at ACS/IEEE International Conference on Computer Systems and Applications 2010 (AICCSA).

- Treasurer of the 9th International Conference on Artificial Evolution, Strasbourg, France, October 2009.

- Co-organisator of the third summer school "artificial evolution", Porquerolles, France, juin 2009.

- Co-organisator of the third summer school "artificial evolution", Porquerolles, France, juin 2008.
  This summer is a thematic school of the National Center of Scientific Research (CNRS).

1.7 Collaborations

List of my collaborator names by alphabetic order:

Dr.	Hernän	Aguirre	Shinshu University	Japon
Pr.	Enrique	Alba	University of Màlaga	Spain
Pr.	Thierry	Baccino	Université Paris 8	France
Mcf.	Matthieu	Basseur	Université d'Angers	France
PhD	William	Beaudoin	Université Nice Sophia Antipolis	France
Dr.	Maroun	Bercachi	Université Nice Sophia Antipolis	France
Mcf	Malik	Chami	Université Pierre et Marie Curie	France
Dr.	Francisco	Chicano	University of Màlaga	Spain
Mcf	Manuel	Clergue	Université des Antilles et de la Guyane	France
Pr.	Philippe	Collard	Université Nice Sophia Antipolis	France
PhD	Fabio	Daolio	Université de Lausanne	switzerland
Dr.	Christian	Darabos	Université de Lausanne	switzerland
Dr.	Michael	Defoin Platel	University of Ockland	New-Zeland
Pr.	Clarisse	Dhaenens	Université Lille 1 / INRIA Lille Nord Europe	France
Ing.	Laurent	Dumercy	Université Nice Sophia Antipolis	France
Mcf.	Cathy	Escazut	Université Nice Sophia Antipolis	France
Mcf.	Adrien	Goëffon	Université d'Angers	France
Ing.	Jérémie	Humeau	INRIA Lille Nord Europe	France
Pr.	Laetitia	Jourdan	Université Lille 1 / INRIA Lille Nord Europe	France
PhD	Maud	Kicka	Université Nice Sophia Antipolis	France
Dr.	Arnaud	Liefooghe	Université Lille 1 / INRIA Lille Nord Europe	France
PhD	Marie-Eleonore	Marmion	Université Lille 1	France
Pr.	Giancarlo	Mauri	Université de Milan-Biccoca	Italy
Dr.	Gabriela	Ochoa	University of Nottingham	UK
			University of Stirling	UK
PhD	Yuri	Pirola	Université de Milan-Biccoca	Italy
Dr.	David	Simoncini	Université Nice Sophia Antipolis	France
Pr.	Kiyoshi	Tanaka	Shinshu University	Japon
Pr.	Marco	Tomassini	Université de Lausanne	switzerland
Mcf	Leonardo	Vanneschi	Université de Milan-Biccoca	Italy

These collaborations are realized through regular meetings and publications.

1.8 Program Commitees

Member of program commitees of:

- EVO* 2013: European Conference on Evolutionary Computation, 3-5 April, 2013, Vienna, Austria, Springer Verlag, LNCS
- LION 7 Learning and Intelligent OptimizatioN, Catania - Italy, Jan 7-11, 2013, LNCS
- ICANNGA'13 11th International Conference on Adaptive and Natural Computing Algorithms, April 4-6 2013, Lausanne, Switzerland, LNCS.
- GECCO 2013: Genetic and Evolutionary Computation Conference, July 06th-10th, 2013, Amsterdam (The Netherlands), ACM
- PPSN 2012 11th International Conference on Parallel Problem Solving From Nature (PPSN 2012), September 1-5, 2012, Taormina, Italy.

- GECCO 2012: Genetic and Evolutionary Computation Conference, July 07th-11th, 2012, Philadelphia (USA), ACM
- EVO* 2012: European Conference on Evolutionary Computation, April 11th-13th, 2012, Malaga (Spain), Springer Verlag, LNCS
- LION 5, Learning and Intelligent OptimizatioN, Rome, Italy, Jan 17-21, 2011, LNCS
- EA 2011, Artificial Evolution, 24-26th October
- GECCO 2011, Genetic and Evolutionary Computation Conference, July 12th-16th, 2011, Dublin (Ireland), ACM.
- EvoStar 2011, European Conference on Evolutionary Computation, April 27th-29th, 2010, Turino (Italy), Springer Verlag, LNCS.
- Workshop on Self-tuning, self-configuring and self-generating search heuristics (Self* 2010), 11th International Conference on Parallel Problem Solving From Nature (PPSN 2010), September 11-15, 2010, Krakow, Poland.
- EvoStar 2010, European Conference on Genetic Programming, Istanbul, Turkey, 2010
- GECCO 2010, Genetic and Evolutionary Computation Conference, Portland, USA, ACM, 2010
- EA'09, International Conference on Artificial Evolution, Strasbourg, France, 2009.
- EvoStar 2009, European Conference on Genetic Programming, Tubingen, Germany, 2009
- GECCO 2009, Genetic and Evolutionary Computation Conference, Montréal, ACM, 2009
- EvoStar 2008, European Conference on Genetic Programming, Naple, 2008
- EvoStar 2007, European Conference on Genetic Programming, Valence, 2007
- EvoPhD 2007, workshop of EuroGP, European Conference on Genetic Programming, Valence, 2007
- GECCO 2007, Genetic and Evolutionary Computation Conference 2007, London (UK), ACM, 2007

2 Teaching

2.1 Sumary of my teaching

h TD	Fonction	Formation	Intitulé de l'enseignement
2011 - 2012 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, mcf			
70 h	CM+TP	Licence 1 MASS	Introduction à la programmation java
37 h	CM+TD	Licence 2 informatique	Projet Scientifique Informatique
17 h	CM+TD	Licence 3 math	Projet Scientifique Informatique
35 h	CM+TD	Licence 3 informatique	Introduction aux systèmes complexes
18 h	TP	Licence 3 informatique	Réseaux
12,5 h	CM+TD	Master 1 informatique	Systèmes Artificiels Complexes
6h	TD	Master 1 informatique	Travail d'étude et de recherche
7,5 h	CM	Master 2 psychology of cognitive systems (Paris 8 et EPHE)	Measure and Modelization
2011 - 2012 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, mcf			
15 h	CM+TD	Master 2 informatique, parc. complex systems	Natural Computing
72 h	TP	Licence 1 informatique	Systèmes informatique
70 h	CM+TP	Licence 1 MASS	Introduction à la programmation java
30 h	CM+TD	Licence 3 informatique	Introduction aux systèmes complexes
20 h	TD	Licence 3 MIAGE	Harmonisation web
15 h	CM+TD	Master 1 informatique	Systèmes Artificiels Complexes
4,5h	TD	Master 1 informatique	Travail d'étude et de recherche
9h	TD	Licence 3 MIAGE	Stage en entreprise
7,5 h	CM	Master 2 psychology of cognitive systems (Paris 8 et EPHE)	Measure and Modelization
7,5h	CM	Ecole Navale de Brest	Théorie des Jeux et Réseaux Sociaux
2009 - 2011: *en délégation*			
8 h	CM+TD	Master 2 informatique, pard. complex systems	Natural Computing
7,5 h	CM	Master 2 psychology of cognitive systems (Paris 8 et EPHE)	Measure and Modelization
2008 - 2009 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, mcf			
15 h	CM+TD	Licence 3 informatique	Introduction aux systèmes complexes
4,5 h	CM	Master 2 informatique	Informatique bio-inspirée
13 h	CM+TP	Licence 2 informatique	Programmation logique
51 h	CM+TP	Licence 3 informatique	Programmation web
40 h	CM+TD	Licence 2 MASS	Création site web
9 h	CM	Master 1 informatique	Systèmes Artificiels Complexes
44 h	CM+TP	Licence 1 MASS	Introduction à la programmation java
26 h	TD	Licence 1 MASS	Algorithmique
2007 - 2008 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, mcf			
45 h	CM+TD	Licence 1 MASS	Algorithmique et Calcul Formel
16 h	TP	Licence 2 maths-info	Programmation Fonctionnelle
68 h	CM+TP	Licence 2 MASS	Algorithmique et Informatique Théorique
32 h	TP	Licence 3 informatique	Programmation Orientée Objet
12 h	TD	Licence 3 MIAGE	Suivi de stage
10 h	CM	Master 1 informatique	Systèmes Artificiels Complexes
8 h	CM	Master 2 informatique	Programmation évolutionnaire

h TD	Fonction	Formation	Intitulé de l'enseignement
2006 - 2007 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, mcf			
45 h	CM+TD	Licence 1 MASS	Algorithmique et Calcul Formel
19 h	TP	Licence 2 maths-informatique	Programmation Fonctionnelle
68 h	CM+TP	Licence 2 MASS	Algorithmique et Informatique Théorique
16 h	TP	Licence 3 informatique	Programmation Orientée Objet
18 h	TD	Licence 3 informatique	Systèmes et réseaux
10 h	CM	Master 1 informatique	Systèmes Artificiels Complexes
8 h	CM	Master 2 informatique	Programmation évolutionnaire
2005 - 2006 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, ater			
32 h	TP	Licence 1 MASS	Algorithmique et Calcul Formel
32 h	TD	Licence 2 MASS	Algorithmique et Informatique Théorique
4 h	CM	Master 1 STIC	Systèmes Artificiels Complexes
8 h	CM	Master 2 STIC	Programmation Évolutionnaire
24 h	TP	Licence 1 Math-info	Introduction à la Programmation (Java)
2004 - 2005 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, moniteur			
32 h	TD	Licence 2 MASS	Algorithmique et Informatique Théorique
8 h	CM	Master 1 STIC	Systèmes Artificiels Complexes
24 h	TP	Licence 2 Math-info	Base de Données
2003 - 2004 : *U.F.R Sciences, Université de Nice Sophia-Antipolis*, moniteur			
30 h	TD	DEUG MASS 2	Algorithmique et Informatique Théorique
24 h	TP	DEUG MIAS 2	Algorithmique Avancée
10 h	TP	DEUG MIAS 1	Informatique au Tronc Commun
2002 - 2003 : *École Supérieure d'Ingénieurs de Nice Sophia Antipolis*, moniteur			
24 h	TP	E.S.I.N.S.A. 2e année	Système unix et Réseaux
32 h	TP	E.S.I.N.S.A. 2e année	Algorithmique et Programmation
8 h	TP	E.S.I.N.S.A. 2e année	Encadrement de projets en JAVA

All the supports, exercises et corrections of my courses are published on my web page, or on the eLearning framework JALON of the university of Nice-Sophia Antipolis.

2.2 Responsabilities

- Head of the third year (licence) in computer science at university Nice Sophia Antipolis at the computer science department, 2012/2013.
- 2006 - 2009: Manager of eLearning of the eMIAGE formation (*Formation Ouverte et A Distance eMIAGE*) at the university of Nice Sophia-Antipolis:
  - establishment of opening an educational center associated with the engineering school of Casablanca Moroccan EMSI:
    writing of the partnership agreement (method of instruction, graduation, financial arrangements, etc.), tutor training school in June 2008.
  - member of the steering committee of the consortium eMiage:
    at least 2 annual meetings, many electronic correspondence.
  - introduction of open learning center in Nice in 2009.

The international consortium eMiage is an open and distance established by the MIAGE formation. It is established nationally and internationally.

2.3 Mission of guidance and information

- Participation at the forums of information on higher education:
  - 2006 and 2007 : half-day organised by lycée Massena on higher education
  - 2007, 2008 and 2009 : Salon Studyrama of higher educations.
- Participation in the organization of information days on the doctoral studies:
  - First day of the PhD students (JDD1) at the university of Nice Sophia-Antipolis in 2007,
  - DECLIC Forum (Doctorants Entreprises Combinons les Initiatives de Chacun) in 2005, 2006, et 2007.

3 Research

I am a member of the laboratory of computer sciences of signal and system of Sophia Antipolis (I3S), UMR 7271, CNRS and university Nice Sophia Antipolis in the SCoBi team (Bio-inspired Complex systems). From 2009 to 2011, I was a member of the DOLPHIN team at INRIA Lille Nord Europe (France) for full time researcher (french delegation).

Also I am a member of the complex system institute of Paris Ile-de-France (ISC PIF).

3.1 Five main publications

[1] Sébastien Verel, Gabriela Ochoa, and Marco Tomassini. Local Optima Network of NK Landscapes with Neutrality. *IEEE Transactions on Evolutionary Computation*, volume 14(6):783 – 797, November 2010. (impact factor 2010: 4.403, rank 4/108 in category: Computer Science, Artificial Intelligence, rank 3/97 in category: Computer Science, Theory and Methods)

[2] Marco Tomassini, Sébastien Verel, and Gabriela Ochoa. Complex-network analysis of combinatorial spaces: the landscape case of NK landscapes. *Physical Review Letter E*, 78 (6), 066114, 2008. (impact factor 2008: 2.483, rank 4/43 in category: Physical, Mathematical)

[3] Sébastien Verel, Arnaud Liefooghe, Laetitia Jourdan, and Clarisse Dhaenens. On the structure of multiobjective combinatorial search space: MNK-landscapes with correlated objectives. *European Journal of Operational Research*, 227(2):331–342, January 2013. (impact factor 2011: 1.815, rank 6/77 in category: Operation Research and Management Science)

[4] F. Daolio, M. Tomassini, S. Verel, and G. Ochoa. Communities of Minima in Local Optima Networks of Combinatorial Spaces. *Physica A: Statistical Mechanics and its Applications*, 390(9):1684 – 1694, July 2011. (impact factor 2011: 1.373, rank 30/84 in category: Physics, Multidisciplinary)

[5] Sébastien Verel, Philippe Collard, Marco Tomassini, and Leonardo Vanneschi. Fitness landscape of the cellular automata majority problem: View from the Olympus. *Journal of Theoretical Computer Science (TCS)*, 378(1):54–77, 06 2007. (impact factor 2007: 0.735, rank 44/79 in category: Computer Science, Theory and Methods)

3.2 Research description

My work is in the field of artificial intelligence and operational research, more precisely of the stochastic optimization by metaheuristics such as tabu search , simulated annealing, evolutionary algorithms, etc.This last class of metaheuristics manipulates a population of potential solutions to a given optimization problem, and alternating phase selection of the best solutions with a random search phase where new potential solutions are generated from the selected population. In many applications using these algorithms, especially when the space of potential solutions is very important, when optimizing the function is poorly defined, or when the multi-objective optimization. Increasingly, researchers combine these methods with other algorithms by taking advantage of the parallelization and the natural distribution of these algorithms.

Part of my work is to study the dynamics and thus performance of these algorithms in terms of complex systems. This understanding will improve and adapt these algorithms for new applications. My thesis work focused on the study of research space using the concept of fitness landscape introduced in biology by S. Wright to model the dynamic evolution of natural species. I use and develop in the field of combinatorial optimization the research methods of the works in complex systems (autocorrelation, graph theory, etc..). The main publication of this work was published in Theoretical Computer Science journal [7] and [3]. In collaboration with Marco Tomassini, Gabriela Ochoa, and Fabio Daolio this work continue. Similarly to the results obtained in the chemical study of surface energy, we define the network of basins of attraction of the search space whose properties are close to scale free graphs and small world. This new approach takes into account a simple metaheuristic defining the basins of attraction, and explores the potential of this metaheuristic through the study of the graph. Until now, the main publications of this work lies in Physical Review Letter E [6], Phys A [4] and IEEE Trans. on Evolutionary Computation [5]. At INRIA Lille-Nord Europe, the challenge of my work is to define the previous network for *multiobjective optimization* [11, 12] [2]. The communication of the fitness landscapes and dynamic graphs works is also made by the tutorials in 2007, 2009, 2010, 2012, and 2013 the international conferences [30, 22, 15].

The study of AE as artificial artificial systems leads to consider parallel or distributed evolutionary algorithms with complex dynamics. Cellular evolutionary algorithms introduce a notion of geographical neighborhood by embedding the solution on a grid. The introduction of the topological dimension is still little used in practice, probably because the resulting complex dynamics are still poorly understood. Publications conferences have introduced a method to tune and control the exploration and exploitation tradeoff in those EAs. We are also developing a new distributed and parallel EA which generalize the notion of a topological to the concept of state. This distribution method by state allows the algorithm to adapt automatically search for the best coding solutions or the best setting of parameters. Some work has been published in a book chapter of [1] and other more accurate results are being written [16].

My work in computational cognitive modeling started in collaboration with T. Baccino since 2008. They first concerned the modeling of pupillary diameter when a dual task is performed: memorizing numbers task and research information task on a very simple page. We have proposed a model that explains the dual task from simple tasks performed independently. The best values of model parameters was found by the CMA-ES evolutionary algorithm.Now these works follow towards the modeling of eyes-movement dynamics and EEG signal when seeking

information on a web page. We propose an automatic design of such model using genetic programming. The algorithm the best model which explain the collected data in the space of possible cognitive models.

3.3 National Project and grants

- Project (2011) supported by the GRD Operational Research (RO) of INS2I institute (CNRS):
  Set-based Multiobjective Combinatorial Optimization; Partners DOLPHIN team of the Université Lille 1 / INRIA, and LERIA of the université Angers, France.

- Member of the project (ANR) "GAZE and EEG" on the joint treatment of synchronized EEG and eye movements to monitor the spatiotemporal analysis and modeling of neuronal activities.
  Work on the modelization task with T. Baccino, B. Lemaire, and M. Clergue.
  2009-2011: ANR-Prog. Blanc (NT09 511856): GAZE and EEG : Traitements conjoints synchronisés de signaux EEG et de suivi de mouvements oculaires pour l'analyse spatiotemporelle et modélisation d'activités neuronales. Responsable: A. Guérin-Dugué (Université de Grenoble).

3.4 Student supervision

- PhD students (co-leading):
  - Fabio Daolio, "Local Optima Networks of Hard Combinatorial Fitness Landscapes", This work studies the search space of combinatorial optimization problem using network analysis tools in order to design effective optimization algorithms. The thesis director is Marco Tomassini. End in the beginning of 2014.
  - David Simoncini, "Topological selection in cellular Evolutionary Algorithm: Study of the threshold between Exploration/Exploitation", 15 octobre 2009.
  - Maroun Bercachi, "States based Evolutionary Algorithm for hard optimization", le 20 décembre 2010.

- Master 2 students:
  - Thé Van Luong, "Optimization by distributed metaheuristics", 2008 (PhD Student DOLPHIN team, INRIA, 2008-2011),
  - Andrea Scarcella, "Models of State-based Evolutionary Algorithm", university of Milano-bicocca, 2008,
  - Mirela Frandes, "Finding by metaheuristic of a rule of synchronisation for Firing Squad Problem", 2007 (PhD student INSA Lyon, 2007-2010),
  - Fabien Valoit, "Synchronization of signal of a video camera and a scan sonar", 2007,
  - Sébastien Tesquet, "Study and implementation of States based Evolutionary Algorithm", 2006.

- Master 1 students:
  - Mortadha Teffaha, "Molecular docking using evolution strategies", 2013.

- Christopher Jankee, "Social network and mobilité: Study of computer viral propagation". 2013.
- Guillaume Lautier et Guillaume Le Troadec, Elèves de l'école navale de Brest, "Economique system modelization: Study of the consumer behavior dynamics and social relationships." 3 month 2012.
- Ameni Bouaziz, Heykel Mannai, Alexandre Parrocchiale, "Multi-agent simulation platform and microcontroller board. Coupling virtual and physical worlds". 2012.
- Nicolas Calon, Master 1 MIAGE de Lille, "Multiobjective combinatorial optimization: Comparison between Pareto based approaches and scalar based approaches". 2011.
- Marc Adrover, Laurent Caraffa, Diallo Saliou, Nicolas Theroude, Marc Valdener , "Evomusic: evolutionary tools to design group band music", 2009,
- Angélique Fulconis, Hamine Benouali, Oualid Bouhlel, Pierre Casanova, "Synchronisation problem for the Firing Squad Problem, solving by metaheuristic", 2008,
- Maxime Menant, Emeline Thorin, Etienne Valette d'Osia, et Laurent Vanni, "Framework for management, archive and sharing of experiments for evolutionary algorithms", 2008,
- Andrea Costanzo, Thé Van Luong, Guillaume Marill et Philippe Brillault, "Automatic design of bridge by evolutionary algorithm", 2007.

3.5 PhD jury member

- Marie-Eléonore Marmion, "Local search and combinatorial optimization: from structural analysis of a problem to design efficient algorithms", Université Lille 1, December 2012.
- Maroun Bercacchi, "States based Evolutionary Algorithm for Hard Optimization", dir. Philippe Collard, university Nice-Sophia Antipolis, December 2010.
- David Simoncini, "Topological selection in cellular evolutionary algorithms: study of the tradeoff between exploration and exploitation", dir. Philippe Collard, Manuel Clergue, university Nice-Sophia Antipolis, October 2009.

3.6 Tutorials and talks

Tutorials

- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorials by GECCO'13, July, 2013, Amsterdam, Netherlands.
- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorials by GECCO'12, July 12, 2012, Philadelphia, USA.
- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial WCCI 2010, July 18, 2010, Barcelona, Spain.
- "Fitness Landscapes and graphs: Multimodularity, ruggedness and Neutrality", Tutorial GECCO'09, July 9, 2009, Montreal.
- "Fitness landscapes and problem hardness in evolutionary computation" , Part 1 (new version), Tutorial GECCO 2007, July 7, 2007, UCL London.

Talks

- "On Set-based Local Search for Multiobjective Combinatorial Optimization", GECCO'13, July 8, 2013, Amsterdam.
- Design of optimization algorithms : tuning and control of parameters, Séminaire du Laboratoire d'Informatique Signal et Image de la Côte d'Opale (LISIC), Febrary 12, 2013, Calais, France.
- Distributed Adaptive Metaheuristic Selection (DAMS), 23eme Journées Évolutionnaires Thématiques (JET'23), November 23, 2012, Paris.
- "DAMS: Distributed Adaptive Metaheuristic Selection", GECCO'11, July 14, 2011, Dublin, Ireland.
- "The Road to VEGAS: Guiding the Search over Neutral Networks", GECCO'11, July 14, 2011, Dublin, Ireland.
- "On the Effect of Connectedness for Biobjective Multiple and Long Path Problems", Learning and Intelligent OptimizatioN (LION5), January 20, 2011, Roma, Italy.
- "Analyzing the Effect of Objective Correlation on the Efficient Set of MNK-Landscapes", Learning and Intelligent OptimizatioN (LION5), January 19, 2011, Roma, Italy.
- "Pareto set structure of the MNK-Landscapes with correlated objectives", 21eme Journées Evolutionnaires Trimestrielles, January 14, 2011, Paris.
- "States based Evolutionary Algorithm", Selfstar Workshop at PPSN conference, September 11, 2010, Krakow, Poland.
- "Population based Fitness Landscapes", Dagstuhl seminar on Theory of Evolutionary Algorithms, September 9, 2010, Warden, Deutchland.
- "Set-base Multiobjective Fitness Landscapes: definition and properties", ThRaSH'2010 workshop, The 4th workshop on Theory of Randomized Search Heuristics, Mar 25th, 2010, Paris, Fr.
- "Fitness Landscapes and Local Optima Network", invited talk, LERIA University of Angers, Mar 11th, 2010, Angers, Fr.
- "Fitness Landscapes and graphs in combinatorial optimization", invited talk, ASAP group University of Nottingham, Feb 9, 2010, Nottingham, UK.
- "Centric selection: a way to tune the exploration/exploitation trade-off", GECCO'09, July 2009, Montreal.
- "The Network Structure of Hard Combinatorial Landscapes", 19eme Journées évolutionnaires Trimestrielles, april 10, 2009, Paris.
- "Some questions in stochastic optimisation", journee thematique optimisation laboratoire I3S, July 4, 2008, Sophia Antipolis.
- "Towards a resolution of the firing squad problem with 5 states by metaheuristics", FRAC 2007, June 29, 2007, Nice.

- "Anisotropic selection in cellular genetic algorithms", gecco 2006, July 11, 2006, Seattle.
- "Deceptiveness and neutrality - the nd family of fitness landscapes" , gecco 2006, July 11, 2006, Seattle.
- "Neutralite et Evolvabilite dans les paysages de fitness" (french), équipe ALAB, June 14, 2006, INSA, Lyon.
- "Neutralité dans les paysages de fitness" (french), Premiere ecole d'ete de l'association évolution Artifcielle, June 9, 2006, Latour de Carol.
- "étude et exploitation des réseaux de neutralité dans les paysages adaptatifs pour l'optimisation difficile" (french), 16eme Journées évolutionnaires Trimestrielles, April 6, 2006, Paris.
- "Evolutionary Algorithm and Fitness Landscape" (french), Séminaires doctorants, AD-STIC, March 15, 2006, laboratoire I3S, Nice.
- "Scuba search: when selection meets innovation" , cec 2004, June 20, 2004, Portland.
- "From royal road to epistatic road for variable length evolution algorithm", Evolution Artificielle, 6th International Conference, October 27, 2003, Marseilles.
- "étude de la corrélation de la fitness des parents et la fitness des enfants" (french), 9eme Journées évolutionnaires Trimestrielles, april 2, 2003, Paris.
- "Paysages de fitness" (french), Séminaire équipe INFORGE, January, 2003, university of Lausannes.

3.7 Awards

- Best paper nomination at EVOCOP (evostar) 2011:
  Verel S., Liefooghe A., Jourdan L., Dhaenens C. Pareto Local Optima of Multiobjective NK-Landscapes with Correlated Objectives,
- Best paper nomination at GECCO 2008:
  Ochoa G., Tomassini M., Verel S., Darabos C. A Study of NK Landscapes' Basins and Local Optima Networks,
- Best paper nomination at GECCO 2006:
  Simoncini D., Verel S., Collard P., Clergue M. Anisotropic selection in cellular genetic algorithms,
- Price for best results and best paper at EvoNet Summer School, Parma, 2003.

4 Publications

Sumary of my publications :

Journal papers	7
Book	1
Internationnal conference proceedings	44
Book chapter	1
Extended Abstracts, and oral presentations	4

The list of publications could be find on 'Hyper Archive on Line' (HAL).

Journal Papers

[1] Jérémie Humeau, Arnaud Liefooghe, El-Ghazali Talbi, and Sébastien Verel. ParadisEO-MO: From Fitness Landscape Analysis to Efficient Local Search Algorithms. Journal of Heuristics, to appear, 2013.

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Book

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Book chapter

[1] Maroun Bercachi, Philippe Collard, Manuel Clergue, and Sébastien Verel. Studying the Effects of Dual Coding on the Adaptation of Representation for Linkage in Evolutionary Algorithms. In Ying-ping Chen and Meng-Hiot Lim, editors, *Linkage in Evolutionary Computation*, Studies in Computational Intelligence, pages 249–284. Springer Berlin / Heidelberg, 09 2008.

Internationnal conference proceedings

[1] Matthieu Basseur, Adrien Goëffon, Arnaud Liefooghe, Sébastien Verel. On Set-based Local Search for Multiobjective Combinatorial Optimization. In *Proceedings of the fifteenth international conference on Genetic and evolutionary computation conference*, to appear, Amsterdam, The Netherlands, 2013. ACM.

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Thesis

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