Kevin Godin-Dubois

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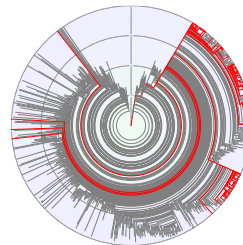𝒱 godinduboisalife
R⁶ ResearchGate

Synopsis

A-Life Researcher on the Emergence of Cognition
After a PhD thesis focused on artificial plant-like lifeforms and their dynamics at the evolutionary scale, I plan on returning to my core interest: artificial cognition. More specifically, my objectives are to investigate the mechanisms by which high-level forms of interaction can be built upon low-level inputs/outputs, especially in response to environmental constraints.
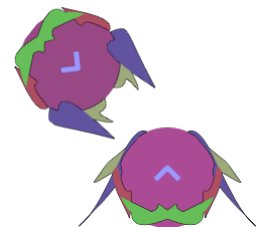
Interests
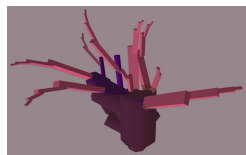
| Morphogenetic Engineering[8] | Species Dynamics[6, 4] | Artificial Cognition[1] |

Education

PhD
2016 - July 2020

Toulouse University, France
Thesis title: *"Environment-driven speciation: long term interactions in artificial plant communities"*
Investigated how complexification of artificial creatures could be further enhanced by moving the control apparatus around the abiotic component of an ecosystem.
Contact: Pr. Y. Duthen (Yves.Duthen@irit.fr)

Master
2014 - 2016

Toulouse University, France
Artificial Intelligence: mathematical & symbolic models, training methods

Bachelor
2011 - 2014

Toulouse University, France
Computer Science: networks, programming, systems, mathematics

Experience

Teachings
2017 - 2019

Capitole University, Toulouse, France
• L2 Excel and Visual Basic for Applications
• L2 Algorithms and Visual Basic
• L3 Modeling in Database

Teachings 2016 - 2017	Paul Sabatier University, Toulouse, France • L2 project monitoring on C programming
Internship 2016 (6 months)	Toulouse Research Institute on Computer Science (IRIT), France *"Rule-based artificial embryogenesis in a complex 3D environment"* Deployed rule-based genomes on the MecaCell platform to study artificial plant growth and cell specialization.
Internship 2015 (3 months)	*"Comparison of different evolutionary approaches, an application to the GECCO 2015 challenge"* Performed a performance comparison (accuracy, efficiency) between Artificial Neural and Genetic Regulatory Networks on the 2015 GECCO temperature prediction challenge data. **Contact:** Pr. H. Luga (`Herve.Luga@irit.fr`)
Internship 2014 (2 months)	*"Conception of an architecture for automated bird discrimination"* Applied Hidden Markov Models to the BirdClef2014 challenge on the identification of specific bird species in a corpus of thousands of recordings. **Contact:** Pr. J. Farnias (`Jerome.Farinas@irit.fr`)

Skills

Programming	● C++	● C, Java	● Python
Processing	● Bash (sed, awk ...)	● Gnuplot	● Octave/Matlab
Redaction	● LaTeX/TikZ	● Office Software	
Systems	● Linux	● Windows, Android	
Languages	● French	● English	

Scholarships and Fellowships

2016 70K €	PhD Fellowship from the French Minister of Higher Education and Research (MESR) - over 3 years
2015 10K €	Master Scholarship from the International Mathematics and Computer Science Center (LabEx CIMI, Toulouse)
2014 3K6 €	Merit Scholarship from the Regional Student Welfare Office (CROUS, Toulouse) - over 2 years

Research Output

Pending publication

[1] Kevin Godin-Dubois. "Splinoids out of EDEnS: Impact of Environmental Factors in the Emergence of Predation". In preparation. 2020.

Peer-reviewed publications

[2] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "Beneficial Catastrophes: Leveraging Abiotic Constraints through Environment-Driven Evolutionary Selection". In: *2020 IEEE Symposium Series on Computational Intelligence (SSCI)*. 2020, pp. 94–101. DOI: `10.1109/SSCI47803.2020.9308411`.

[4] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "APOGeT: Automated Phylogeny Over Geological Timescales". In: *MethAL workshop at ALife 2019*. 2019, in press. DOI: `10.13140/RG.2.2.33781.93921`.

[5] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "Self-sustainability Challenges of Plants Colonization Strategies in Virtual 3D Environments". In: *Applications of Evolutionary Computation*. Ed. by Paul Kaufmann and Pedro A Castillo. Cham: Springer International Publishing, 2019, pp. 377–392. ISBN: 978-3-030-16692-2. DOI: `10.1007/978-3-030-16692-2_25`.

[6] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "Speciation under Changing Environments". In: *ALIFE 19*. Vol. 31. Cambridge, MA: MIT Press, 2019, pp. 349–356. ISBN: 978-0-262-35844-6. DOI: `10.1162/isal_a_00186`.

[8] Kevin Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "Towards an Artificial Polytrophic Ecosystem". In: *Morphogenetic Engineering Workshop, at the European Conference on Artificial Life (ECAL) 2017 September 4*. 2017.

Oral presentations

[3] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. *Splinoids: first steps out of EDEnS*. Lightning talk. Montreal (Virtual), 2020. DOI: `10.13140/RG.2.2.11048.19200`.

[7] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. *Studying long term interactions between plants and their environment*. Poster presentation. Tokyo, 2018. DOI: `10.13140/RG.2.2.27553.97125`.