

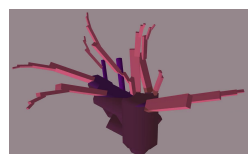
Kevin Godin-Dubois

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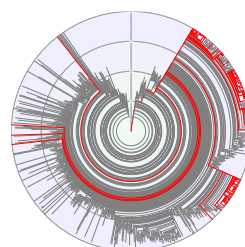
Synopsis	<i>A-Life Researcher on the Emergence of Cognition</i>
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After a PhD thesis focused on artificial plant-like lifeforms and their dynamics at the evolutionary scale, I am returning to my core interest: artificial cognition. More specifically, I am investigating the mechanisms by which high-level forms of interaction (e.g. vocal communication) can be built upon low-level inputs/outputs thanks to (a)biotic constraints.

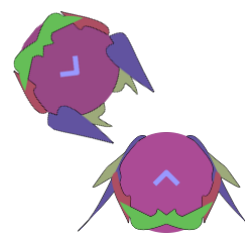
Interests	 Morphogenetic Engineering [9]	 Species Dynamics [7, 5]	 Artificial Cognition [1]
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Morphogenetic
Engineering [9]



Species
Dynamics [7, 5]



Artificial
Cognition [1]

Education

PhD 2016 - 2020	Toulouse I University, France Thesis title: <i>“Environment-driven speciation: long term interactions in artificial plant communities”</i> Investigated how complexification of artificial creatures could be further enhanced through the indirect control provided by a co-evolved, highly dynamical environment. Contact: Pr. Y. Duthen (Yves.Duthen@irit.fr)
Master 2014 - 2016	Toulouse III University, France Artificial Intelligence: mathematical & symbolic models, training methods
Bachelor 2011 - 2014	Toulouse III University Computer Science: networks, programming, systems, mathematics

Experience

Teachings 2021-2022	Toulouse I University • L3 Projects monitoring, Server and contents • M1 R programming, Python
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Teachings 2021	Toulouse III University <ul style="list-style-type: none"> • L1 C & Python programming, Information theory • L2 Data structures in C, Projects monitoring
Teachings 2017 - 2019	Toulouse I University <ul style="list-style-type: none"> • L2 Excel and VBA, Algorithmic • L3 Database Modeling
Teachings 2016 - 2017	Toulouse III University <ul style="list-style-type: none"> • L2 Projects monitoring
Internship 2016 (6 months)	Toulouse Research Institute on Computer Science (IRIT), France <i>“Rule-based artificial embryogenesis in a complex 3D environment”</i> Deployed rule-based genomes on the MecaCell platform to study artificial plant growth and cell specialization. Contact: Pr. Y. Duthen (Yves.Duthen@irit.fr)
Internship 2015 (3 months)	IRIT, <i>“Comparison of different evolutionary approaches, an application to the GECCO 2015 challenge”</i> 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)	IRIT, <i>“An architecture for automated bird discrimination”</i> 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	● L ^A T _E X/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
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Research Output

Pending publication

- [1] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. “A life/dinner paradox: emergence of a proto-amygdala in response to virtual agents’ fears on an artificial neural substrate”. Under review.

Peer-reviewed publications

- [3] 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.
- [5] 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.
- [6] 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.
- [7] 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.
- [9] 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

- [4] 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.
- [8] 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.

Thesis

- [2] Kevin Godin-Dubois. “Environment-Driven Speciation: Long-Term Interactions in Artificial Plant Communities”. PhD thesis. Doctoral school of Mathematics, Computer Science and Telecommunications (Toulouse, France), July 2020. URL: <http://www.theses.fr/2020TOU10026/document>.