

Kevin Godin-Dubois

Contact

🏠 University of Toulouse
IRIT - CNRS UMR 5505
2 rue du Doyen Gabriel Marty
31042 Toulouse, France
✉ godindubois@gmail.com

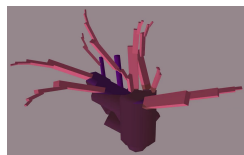
☎ +33 5 67 06 93 91
☎ +33 6 18 72 09 06
📧 kgd-al@github.com
🐦 godinduboisalife
R^e ResearchGate

Synopsis

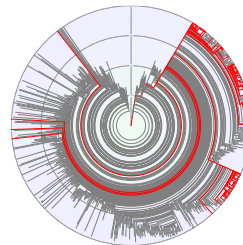
A-Life Researcher on the Emergence of Cognition

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.

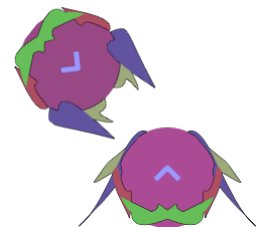
Interests



Morphogenetic
Engineering[8]



Species
Dynamics[6, 4]



Artificial
Cognition[1]

Education

PhD 2016 - July 2020	Toulouse University, France Thesis title: <i>“Environment-driven speciation: long term interactions in artificial plant communities”</i> 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 <ul style="list-style-type: none">• L2 Excel and Visual Basic for Applications• L2 Algorithms and Visual Basic• L3 Modeling in Database
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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 <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.
Internship 2015 (3 months)	<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)	<i>“Conception of 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

Research Output

Pending publication

- [1] Kevin Godin-Dubois. “Splinooids out of EDeNS: Impact of Environmental Factors in the Emergence of Predation”. in preparation. 2020.
- [2] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. “Beneficial Catastrophes: Leveraging Abiotic Constraints through Environment-Driven Evolutionary Selection”. in press. 2020.

Peer-reviewed publications

- [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.
- [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.
- [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.
- [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. *Splinooids: first steps out of EDeNS*. Lightning talk. Montreal (Virtual), 2020.
- [7] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. *Studying long term interactions between plants and their environment*. Poster presentation. Tokyo, 2018.