## 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
- $\square$  +33 6 18 72 09 06
- **⊘** kgd-al@github.com
- **v** godinduboisalife
- R<sup>6</sup> ResearchGate

### **Synopsis**

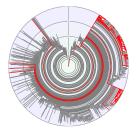
### A-Life Researcher on the Emergence of Cognition

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.

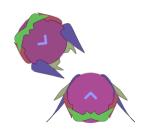




Morphogenetic Engineering[8]



Species Dynamics[6, 4]



Artificial Cognition[1]

### Education

PhD

Toulouse University, France

2016 - July 2020

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

Toulouse University, France

2014 - 2016

Artificial intelligence: mathematical & symbolic models, training methods

Bachelor

Toulouse University, France

2011 - 2014

Computer science: Networks, Programming, Systems, Mathematics

### Experience

Teachings

Capitole University, Toulouse, France

2017 - 2019 • 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	<b>O</b> C++	C, Java	Python
Processing	Bash (sed, awk)	Gnuplot	Octave/Matlab
Redaction	lacktright IATEX/Ti $k$ Z	Office Software	
Systems	<ul><li>Linux</li></ul>	Windows, Android	
Languages	French	English	

## Scholarships and Fellowships

2016	PhD Fellowship from the French Minister of Higher Education and
70K €	Research (MESR) - over 3 years
2015	Master Scholarship from the International Mathematics and Com-
10K €	puter Science Center (LabEx CIMI, Toulouse)
2014	Merit Scholarship from the Regional Student Welfare Office (CROUS,
3K6 €	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.
- [2] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. "Beneficial Catastrophes: Leveraging Abiotic Constraints through Environment-Driven Evolutionary Selection". in preparation. 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. Splinoids: 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.