

# Kevin Godin-Dubois

## Contact

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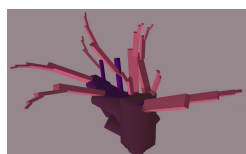
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🌐 ResearchGate

## Synopsis

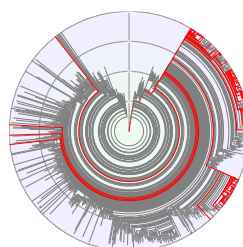
### *A-Life Researcher on the Emergence of Cognition*

After a PhD thesis focused on artificial plant-like lifeforms and their dynamics at the evolutionary scale, I 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.

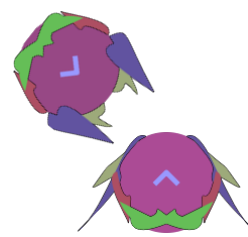
## Interests



Morphogenetic  
Engineering [10]



Species  
Dynamics [8, 6]



Artificial  
Cognition [2]

## Education

### PhD

2016 - 2020

Toulouse I University, France

Thesis title: *“Environment-driven speciation: long term interactions in artificial plant communities”*

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

<b>Teachings</b> 2021	Toulouse III University <ul style="list-style-type: none"> <li>• L1 C &amp; Python programming, Information theory</li> <li>• L2 Data structures in C, Projects monitoring</li> </ul>
<b>Teachings</b> 2017 - 2019	Toulouse I University <ul style="list-style-type: none"> <li>• L2 Excel and VBA, Algorithmic</li> <li>• L3 Database Modeling</li> </ul>
<b>Teachings</b> 2016 - 2017	Toulouse III University <ul style="list-style-type: none"> <li>• L2 Projects monitoring</li> </ul>
<b>Internship</b> 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. <b>Contact:</b> Pr. Y. Duthen ( <a href="mailto:Yves.Duthen@irit.fr">Yves.Duthen@irit.fr</a> )
<b>Internship</b> 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. <b>Contact:</b> Pr. H. Luga ( <a href="mailto:Herve.Luga@irit.fr">Herve.Luga@irit.fr</a> )
<b>Internship</b> 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. <b>Contact:</b> Pr. J. Farnias ( <a href="mailto:Jerome.Farinas@irit.fr">Jerome.Farinas@irit.fr</a> )

## Skills

<b>Programming</b>	● C++	● C, Java	● Python
<b>Processing</b>	● Bash (sed, awk ...)	● Gnuplot	● Octave/Matlab
<b>Redaction</b>	● L <sup>A</sup> T <sub>E</sub> X/TikZ	● Office Software	
<b>Systems</b>	● Linux	● Windows, Android	
<b>Languages</b>	● French	● English	

## Scholarships and Fellowships

<b>2016</b> 70K €	PhD Fellowship from the French Minister of Higher Education and Research (MESR) - over 3 years
<b>2015</b> 10K €	Master Scholarship from the International Mathematics and Computer Science Center (LabEx CIMI, Toulouse)

<b>2014</b> <b>3K6 €</b>	Merit Scholarship from the Regional Student Welfare Office (CROUS, Toulouse) - over 2 years
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## Research Output

### Peer-reviewed publications

- [1] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. “On the benefits of emergent communication for threat appraisal”. In: *3rd International Workshop on Agent-Based Modelling of Human Behaviour*. Online, 2021. URL: [http://abmhub.cs.ucl.ac.uk/2021/camera\\_ready/Godin-Dubois\\_etal.pdf](http://abmhub.cs.ucl.ac.uk/2021/camera_ready/Godin-Dubois_etal.pdf).
- [2] Kevin Godin-Dubois, Sylvain Cussat-Blanc, and Yves Duthen. “Spontaneous modular NeuroEvolution arising from a life/dinner paradox”. In: *The 2021 Conference on Artificial Life*. Cambridge, MA: MIT Press, 2021, p. 95. DOI: 10.1162/isal\_a\_00431.
- [4] 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.
- [6] 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.
- [7] 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.
- [8] 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.
- [10] 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

- [5] 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.
- [9] 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

- [3] 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>.