Personal Details

Name: Dennis G. Wilson **Email:** dennis.wilson@isae.fr
Personal website: https://d9w.github.io/ **ORCID:** 0000-0003-2414-0051
Date of birth: April 17, 1991 **Nationality:** American

Education

HDR in Computer Science *(Habilitation à diriger des recherches)* 2025
"Methods in Exploration and Interpretability for Automating Discovery"
The highest academic degree in France, allowing for research direction
Université Toulouse Capitole, France

PhD in Computer Science,"Evolving Principles of Artificial Neural Design" 2016 - 2019
Institut de Recherche en Informatique de Toulouse (IRIT)
Université Toulouse III - Paul Sabatier, France
Director: Prof. Hervé Luga, Université Toulouse - Jean Jaurès, IRIT
Co-supervisor: Prof. Sylvain Cussat-Blanc, Université Toulouse Capitole, IRIT

Bachelor of Science in Electrical Engineering and Computer Science 2010 - 2014
Massachusetts Institute of Technology (MIT), USA

Professional positions

Professor 2019 - present
Full tenure granted in September, 2025
Department of Complex Systems Engineering, ISAE-Supaero, Toulouse, France

Co-founder and CTO 2019 - 2021
Nautilia Computing, Toulouse, France

Postdoctoral researcher 2019 - 2019
IRIT, Toulouse, France

Computer Science Lecturer 2016 - 2019
Université Toulouse 1 Capitole, Toulouse, France

Software engineer 2014 - 2016
Infinidat LTD, Israel

Research focus

The selected publications give an idea of my main research interests. All are works in which I had a leading role or significant contribution. Out of the 10 publications, 3 were with either of my PhD supervisors (S. Cussat-Blanc, H. Luga), and 6 are from PhDs which I supervised. My work spans evolutionary algorithms, machine learning, and the application of AI to climate science. In the following works, I have pursued the following theses: genetic programming offers an interpretable and competitive alternative to deep learning. Exploration in search and learning can improve AI robustness. Finally, machine learning can help us understand climate change.

Graph-based Genetic Programming

1. **Wilson, D. G.**, Cussat-Blanc, S., Luga, H. & Miller, J. F. *Evolving Simple Programs for Playing Atari Games* in *Proceedings of the Genetic and Evolutionary Computation Conference* (ACM, 2018). This conference paper demonstrated the competitiveness of Graph-based Genetic

Programming to state-of-the-art deep reinforcement learning methods on the Atari benchmark. It laid the foundation for subsequent advancements in interpretable genetic programming.

2. Nadizar, G., Medvet, E. & **Wilson, D. G.** *Naturally Interpretable Control Policies via Graph-Based Genetic Programming* in *European Conference on Genetic Programming* (2024). This conference paper showed that GraphGP creates interpretable control policies that rival deep reinforcement learning for standard robotic tasks. (Best Paper Award)

3. Cortacero, K., ..., **Wilson, D. G.**, *et al.* Evolutionary Design of Explainable Algorithms for Biomedical Image Segmentation. *Nature Communications*, 7112 (2023). This Nature Communications article presents a GraphGP method for optimizing interpretable analysis pipelines for biomedical image segmentation, addressing critical needs for explainable AI in healthcare and achieving performance competitive with state-of-the-art neural networks. (Humies Gold Award)

4. De La Torre, Camilo, **Wilson, D. G.**, Cussat-Blanc, S. *Evolution of Inherently Interpretable Visual Control Policies* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2025). This conference paper showed that interpretable policies could solve visual control tasks, Atari games, at performance similar to deep reinforcement learning while remaining fully transparent. (Best Paper Award)

Exploration in Search and Learning

1. Templier, P., Grillotti, L., Rachelson, E., **Wilson, D. G.** & Cully, A. *Quality with Just Enough Diversity in Evolutionary Policy Search* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2024). This work introduces a novel evolutionary policy search algorithm that balances exploration and exploitation, leading to more robust and diverse policy generation in complex environments. (Best Paper Award)

2. Le Tolguenec, P.-A., ..., **Wilson, D. G.** *Exploration-Driven Reinforcement Learning for Avionic System Fault Detection (Experience Paper)* in *Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis (2024)*. This conference paper demonstrated that evolutionary exploration algorithms can lead to the detection of faults in critical avionic systems not found by standard verification methods (SIGSOFT Distinguished Paper Award).

3. Le Tolguenec, P.-A., Teichteil-Koenigsbuch, F., Besse, Y., **Wilson, D. G.** & Rachelson, E. *Exploration by Learning Diverse Skills through Successor State Measures* in *The Thirty-eighth Annual Conference on Neural Information Processing Systems* (2024). This NeurIPS paper presents LEADS, an exploration algorithm that leverages successor state measures to learn diverse skills, enhancing the exploration capabilities of reinforcement learning agents in multi-task environments.

Machine Learning for Climate Science

1. Al Najar, M., Thoumyre, G., Bergsma, E., Almar, R., Benshila, R. & **Wilson, D. G.** Satellite Derived Bathymetry Using Deep Learning. *Machine Learning* (2021). This journal publication introduces a deep learning model for estimating bathymetry from satellite data, significantly improving coastal geography analysis and supporting environmental monitoring efforts.

2. Al Najar, M., Almar, R., Bergsma, E. W., Delvit, J.-M. & **Wilson, D. G.** *Improving a Shoreline Forecasting Model with Symbolic Regression* in *Tackling Climate Change with Machine Learning*, ICLR 2023 (2023). Presented at the CCAI Workshop at ICLR 2023, this article uses genetic programming to improve existing shoreline models, demonstrating significant improvements in forecasting accuracy for climate-related coastal changes.

3. Disdier, E., Almar, R., Benshila, R., Al Najar, M., Chassagne, R., Mukherjee, D. & **Wilson, D. G.** Predicting beach profiles with machine learning from offshore wave reflection spectra. *Environmental Modelling & Software* (2025). This journal publication details a machine learning approach to forecasting beach profiles using wave reflection data, demonstrating a new data source for coastal monitoring and management.

Advising

I have co-advised 6 PhD students, 4 of which have now successfully defended; the details of their theses are below. I have fully supervised one postdoctoral researcher, Erwan Lecarpentier, and am currently co-supervising the postdoctoral research of Giorgia Nadizar. I have supervised 11 Master's students for their thesis projects and have served as academic advisor for approximately 10 Master's level final internships per year since 2020. The theses I have advised follow.

Kaitlin Maile
- Title: Dynamic Architectural Optimization of Artificial Neural Networks
- Financing: EDMITT Scholarship
- Advisors: Hervé Luga, Sylvain Cussat-Blanc, Dennis G. Wilson
- Dates: 01/11/2020 - 04/10/2023

Mahmoud Al-Najar
- Title: Modelling coastal evolution with machine learning
- Financing: Half-scholarships from CNES and Région Midi-Pyrénées
- Advisors: Rafael Almar, Jean-Marc Delvit, Dennis G. Wilson
- Dates: 09/11/2020 - 30/11/2023

Paul Templier
- Title: Leveraging Structure in Evolutionary Neural Policy Search
- Financing: Half-scholarships from ISAE-Supaero and Région Midi-Pyrénées
- Advisors: Emmanuel Rachelson, Dennis G. Wilson
- Dates: 11/01/2021 - 22/04/2024

Paul Antoine le Tolguenec
- Title: Exploration Methods for Reinforcement Learning Applied to Critical System Testing
- Financing: CIFRE ANITI with Airbus
- Advisors: Emmanuel Rachelson, Dennis G. Wilson, Yann Besse
- Dates: 10/02/2022 - 07/05/2025

Estelle Chigot
- Title: Synthetic-to-Real Domain Adaptation for Object Recognition
- Financing: CIFRE with Airbus
- Advisors: Thomas Oberlin, Dennis G. Wilson, Meriem Ghrib
- Dates: 01/04/2023 - 05/2026 (provisional)

Camilo de la Torre
- Title: Hybridization between Cartesian Genetic Programming and Specialized Machine Learning
- Financing: EDMITT scholarship
- Advisors: Sylvain Cussat-Blanc, Dennis G. Wilson, Hervé Luga
- Dates: 01/10/2023 - 10/2026 (provisional)

Teaching

Decision and Data Science Since 2020, I have led this Master's level program, which covers machine learning, data engineering, and applications of AI over 240 hours. In this program, I have created new courses on deep learning, data storage, continuous and combinatorial optimization, cloud orchestration, and legal frameworks around AI. This program counts roughly 60 students per year, with alumni now in positions at top organizations like Amazon, HuggingFace, Mistral, and the European Commission on AI.

Evolutionary Algorithms Since 2020, I have taught or led this class on evolutionary algorithms, which focuses on policy search in a project on evolution of soft robots. I created the material for this class, which covers evolutionary algorithms, genetic algorithms, evolutionary strategies, neuroevolution, genetic programming, and quality diversity.

Peer recognition

- **Best Paper Award - GECCO Evolutionary Machine Learning Track** 2025
  For "Evolution of Inherently Interpretable Visual Control Policies."
- **Best Student Paper Award - IJCCI** 2025
  For "Extending Cartesian Genetic Programming via Iterative Subgraph Assessment."
- ***Habilitation à diriger des recherches*** 2025
  My HDR was approved by an international jury of experts in machine learning, evolutionary computation, and environmental data science. The HDR is the highest academic qualification in France; it validates my research direction capabilities and allows me to advise PhD students alone.
- **ACM SIGEVO Human Competitive Competition Gold Award** 2024
  First place in the "Humies" Competition at GECCO 2024 for our work on interpretable image analysis. This prestigious award recognizes results that are competitive with human performance.
- **Best Paper Award - GECCO Complex Systems Track** 2024
  For "Quality with Just Enough Diversity in Evolutionary Policy Search."
- **ACM SIGSOFT Distinguished Paper Award** 2024
  Awarded at the International Symposium on Software Testing and Analysis for "Exploration-Driven Reinforcement Learning for Avionic System Fault Detection."
- **Best Paper Award - EuroGP** 2024
  For "Naturally Interpretable Control Policies via Graph-Based Genetic Programming."
- **ANITI Affiliate Member** 2024 - present
  I am associated with the Artificial and Natural Intelligence Toulouse Institute (ANITI), being awarded the status of Affiliate Member for my contributions on interpretable machine learning.
- **CIFRE thesis grants** 2021-2025
  Two industrial grants for collaborations with Airbus on AI research applied to aerospace engineering.
- **Région Occitanie grants** 2019-2023
  Two thesis grants for research on combining evolutionary algorithms and machine learning, and on applying machine learning to coastal science.
- **Invited Speaker on Evolutionary Reinforcement Learning** 2021 - 2023
  Invited to present my work on interpretable reinforcement learning at the Evolutionary Reinforcement Learning Workshop, 2023, and the Reinforcement Learning Virtual School, 2021.
- **ACM SIGEVO Best Dissertation Award** 2020
  This yearly award recognizes the best doctoral dissertation in the field of evolutionary computation.
- **SIGAI Essay Contest on Ethics and AI** 2017
  I won the ACM SIGAI Essay Contest for my essay on "The ethics of automated behavioral micro-targeting" where I identified the ethical problems of using AI for targeted advertising.
- **CIMI Doctoral Fellowship recipient** 2015
  My thesis was financed through a competitive fellowship from CIMI at the University of Toulouse.

Contributions to the research community

Editorial activities I am an editorial board member for the ACM Transactions on Evolutionary Learning and Optimization journal, where I led the journal's policy on the use of large language models and have organized a special issue on the intersection of evolutionary computation and Large Language Models. I served as Track Chair for Complex Systems at GECCO from 2020 to 2022 and will serve as Track Chair for the Neuroevolution Track from 2025 to 2027; this two-year mandate is similar to Area Chair. I am also a regular reviewer for top AI conferences and journals, including NeurIPS, ICLR, ICML, GECCO, and the IEEE Transactions on Evolutionary Computation.

Workshop and conference organization I organized the Developmental Neural Network workshop from 2018 to 2020, and founded the Graph-based Genetic Programming workshop in 2023. These workshops were hosted at international conferences (GECCO, ALIFE, PPSN). I also organized a local workshop in Toulouse in 2024 on Evolutionary Machine Learning. I am co-Local Chair for Evostar 2026, the leading European event on bio-inspired AI, to be held in Toulouse in April, 2026.

Competition organization I organized a competition on Wind Farm Layout Optimization at GECCO 2014-2016, culminating in an article in *Renewable Energy*. I currently help organize a competition on Interpretable Control Policies, which has been running since GECCO 2024.

Diversity and inclusion I am committed to promoting diversity in the research community. I was Secretary of the Diversity, Equity, and Inclusion Committee of the International Society of Artificial Life from 2021 to 2022. I served co-organizer of the ANITI Diversity Commission from 2022 to 2024.

AI for Climate I am involved in several initiatives to apply AI to climate problems. I am a member of the AI for the Environment Committee (ENVIA) in Toulouse, which promotes collaboration between AI researchers and environmental scientists. From 2022 to 2024, I served as a faculty representative for the Horizons committee at ISAE-Supaero, which promotes sustainable development at ISAE. I have also been involved in the Climate Change AI Mentorship program since 2021, supporting early-stage researchers in AI and climate science. I organized a special issue in the Remote Sensing Journal on integrating satellite remote sensing with AI for coastal issues and organized a special session at the IEEE World Congress on Computational Intelligence on "AI for Climate Science".

Public outreach I have been active in public outreach, giving talks on AI in the greater Toulouse region. I have been invited to speak on the impact of generative AI on education, on the impact of AI on society, and on Large Language Models. I maintained a newsletter, which has over 130 subscribers, on recent trends in and the societal impacts of AI.

Personal

My main hobbies are reading, hiking, cooking, and games of all sorts. I am currently developing a tabletop role-playing game and enjoy challenging video games. I am a level 2 scuba diver in the French system and would love to dive with whales someday. I speak English natively, French fluently (C1), Hebrew conversationally, a fair bit of Spanish, and am starting to learn Japanese.

Journal Publications

1. Wilson, D. G. *et al.* Evolutionary Computation for Wind Farm Layout Optimization. *Renewable Energy,* 681–691 (2018).
2. Benshila, R. *et al.* A Deep Learning Approach for Estimation of the Nearshore Bathymetry. *Journal of Coastal Research,* 1011–1015 (SI 2020).
3. Al Najar, M. *et al.* Satellite Derived Bathymetry Using Deep Learning. *Machine Learning* (ML for Earth Observation Data 2021).
4. Hammouamri, I., Masquelier, T. & Wilson, D. G. Mitigating Catastrophic Forgetting in Spiking Neural Networks through Threshold Modulation. *Transactions on Machine Learning Research* (2022).
5. Le Tolguenec, P.-A., Rachelson, E., Besse, Y. & Wilson, D. G. Curiosity Creates Diversity in Policy Search. *ACM Transactions on Evolutionary Learning and Optimization* (2022).
6. Maile, K., Luga, H. & Wilson, D. G. Structural Learning in Artificial Neural Networks: A Neural Operator Perspective. *Transactions of Machine Learning Research* (2022).
7. Najar, M. A. *et al.* Coastal Bathymetry Estimation from Sentinel-2 Satellite Imagery: Comparing Deep Learning and Physics-Based Approaches. *Remote Sensing,* 1196 (2022).

8. Cortacero, K. *et al.* Evolutionary Design of Explainable Algorithms for Biomedical Image Segmentation. *Nature Communications,* 7112 (2023).
9. Disdier, E. *et al.* Predicting beach profiles with machine learning from offshore wave reflection spectra. *Environmental Modelling & Software,* 106221 (2024).
10. Chigot, E., Wilson, D. G., Ghrib, M. & Oberlin, T. Style transfer with diffusion models for synthetic-to-real domain adaptation. *Computer Vision and Image Understanding* **259,** 104445. ISSN: 1077-3142 (2025).
11. Disdier, E. *et al.* Predicting beach profiles with machine learning from offshore wave reflection spectra. *Environmental Modelling & Software* **183,** 106221 (2025).
12. Nadizar, G., Medvet, E. & Wilson, D. G. Enhancing Adaptability in Embodied Agents: A Multi-Quality-Diversity Approach. *IEEE Transactions on Evolutionary Computation* (2025).

Conference Publication

1. Wilson, D. G., Awa, E., Cussat-Blanc, S., Veeramachaneni, K. & O'Reilly, U.-M. *On Learning to Generate Wind Farm Layouts* in *Proceedings of the 15th Annual Conference on Genetic and Evolutionary Computation* (ACM, 2013), 767–774.
2. Wilson, D. G., Veeramachaneni, K. & O'Reilly, U.-M. *Cloud Scale Distributed Evolutionary Strategies for High Dimensional Problems* in *European Conference on the Applications of Evolutionary Computation* (Springer Berlin Heidelberg Berlin, Heidelberg, 2013), 519–528.
3. Wilson, D. G., Cussat-Blanc, S., Veeramachaneni, K., O'Reilly, U.-M. & Luga, H. *A Continuous Developmental Model for Wind Farm Layout Optimization* in *Proceedings of the 2014 Annual Conference on Genetic and Evolutionary Computation* (ACM, 2014), 745–752.
4. Disset, J. *et al. A Comparison of Genetic Regulatory Network Dynamics and Encoding* in *Proceedings of the Genetic and Evolutionary Computation Conference* (ACM, 2017), 91–98.
5. Wilson, D. G., Disset, J., Cussat-Blanc, S., Duthen, Y. & Luga, H. *Learning Aquatic Locomotion with Animats* in *Artificial Life Conference Proceedings* (MIT Press, 2017), 585–592.
6. Wilson, D. G., Cussat-Blanc, S., Luga, H. & Miller, J. F. *Evolving Simple Programs for Playing Atari Games* in *Proceedings of the Genetic and Evolutionary Computation Conference* (ACM, 2018), 229–236.
7. Biau, J., Wilson, D. G., Cussat-Blanc, S. & Luga, H. *Improving Image Filters with Cartesian Genetic Programming.* in *Proceedings of the 13th International Joint Conference on Computational Intelligence (IJCCI 2021)* (2021), 17–27.
8. Templier, P., Rachelson, E. & Wilson, D. G. *A Geometric Encoding for Neural Network Evolution* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2021), 919–927.
9. Al Najar, M. *et al.* A Combined Color and Wave-Based Approach to Satellite Dervied Bathymetry Using Deep Learning. *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences,* 9–16 (2022).
10. Guillet, V., Wilson, D. G., Aguilar-Melchor, C. & Rachelson, E. *On Neural Consolidation for Transfer in Reinforcement Learning* in *2022 IEEE Symposium Series on Computational Intelligence (SSCI)* (IEEE, 2022), 867–874.
11. Guillet, V., Wilson, D. G. & Rachelson, E. *Neural Distillation as a State Representation Bottleneck in Reinforcement Learning* in *Conference on Lifelong Learning Agents* (PMLR, 2022), 798–818.
12. Lecarpentier, E., Templier, P., Rachelson, E. & Wilson, D. G. *LUCIE: An Evaluation and Selection Method for Stochastic Problems* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2022), 730–738.
13. Maile, K., Rachelson, E., Luga, H. & Wilson, D. G. *When, Where, and How to Add New Neurons to ANNs* in *International Conference on Automated Machine Learning* (PMLR, 2022), 18–1.

14. Maile, K., Wilson, D. G. & Forré, P. *Equivariance-Aware Architectural Optimization of Neural Networks* in *The Eleventh International Conference on Learning Representations* (2023).
15. De La Torre, C. *et al. Multimodal Adaptive Graph Evolution for Program Synthesis* in *International Conference on Parallel Problem Solving from Nature* (2024), 306–321.
16. Kunze, T., Templier, P. & Wilson, D. G. *Searching Search Spaces: Meta-evolving a Geometric Encoding for Neural Networks* in *IEEE Congress on Evolutionary Computation* (2024).
17. Le Tolguenec, P.-A., Teichteil-Koenigsbuch, F., Besse, Y., Wilson, D. G. & Rachelson, E. *Exploration by Learning Diverse Skills through Successor State Measures* in *The Thirty-eighth Annual Conference on Neural Information Processing Systems* (2024). https://openreview.net/forum?id=oyiBLfNJvY.
18. Le Tolguenec, P.-A. *et al. Exploration-Driven Reinforcement Learning for Avionic System Fault Detection (Experience Paper)* in *Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis* (Association for Computing Machinery, Vienna, Austria, 2024), 920–931. ISBN: 9798400706127. https://doi.org/10.1145/3650212.3680331.
19. Nadizar, G., Medvet, E. & Wilson, D. G. *Naturally Interpretable Control Policies via Graph-Based Genetic Programming* in *European Conference on Genetic Programming (Part of EvoStar)* (2024), 73–89.
20. Nadizar, G., Medvet, E. & Wilson, D. G. *Searching for a Diversity of Interpretable Graph Control Policies* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2024).
21. Templier, P., Grillotti, L., Rachelson, E., Wilson, D. G. & Cully, A. *Quality with Just Enough Diversity in Evolutionary Policy Search* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2024).
22. Templier, P., Rachelson, E., Cully, A. & Wilson, D. G. *Genetic Drift Regularization: on preventing Actor Injection from breaking Evolution Strategies* in *IEEE Congress on Evolutionary Computation* (2024).
23. Chigot, E., Oberlin, T., Wilson, D. G. & Ghrib, M. *Modèles de diffusion pour le transfert de style synthétique vers réel* in *ORASIS 2025* (2025).
24. Chigot, E., Wilson, D. G., Ghrib, M., Jimenez, F. & Oberlin, T. *Synthetic Data for Robust Runway Detection* in *International Conference on Computer Analysis of Images and Patterns* (2025), 294–304.
25. Cui, H. *et al. Extending Cartesian Genetic Programming via Iterative Subgraph Assessment* in *17th International Conference on Evolutionary Computation Theory and Applications (ECTA/IJCCI)* (2025).
26. De La Torre, C. *et al. Evolution of Inherently Interpretable Visual Control Policies* in *Proceedings of the Genetic and Evolutionary Computation Conference* (2025), 358–367.
27. De La Torre, C. *et al. Evolved and Transparent Pipelines for Biomedical Image Classification* in *European Conference on Genetic Programming (Part of EvoStar)* (2025), 173–189.

Workshop Publications

1. Wilson, D. G., Cussat-Blanc, S. & Luga, H. *Evolving Genetic Regulatory Networks for Online Neurogenesis* in *6th Morphogenetic Engineering Workshop (MEW 2016) at ALife XV: Artificial Life Conference* (2016), pp–14.
2. Wilson, D. G., Cussat-Blanc, S. & Luga, H. *The Evolution of Artificial Neurogenesis* in *Proceedings of the 2016 on Genetic and Evolutionary Computation Conference Companion* (ACM, 2016), 1047–1048.
3. Miller, J. F., Wilson, D. G. & Cussat-Blanc, S. *Evolving Programs That Build Neural Networks for Multiple Problems* in *Parallel Problem Solving from Nature – PPSN* Workshop on Developmental Neural Networks (2018).

4. Wilson, D. G., Cussat-Blanc, S. & Luga, H. *A Gene Regulatory Network Model for Axon Guidance* in *Parallel Problem Solving from Nature – PPSN* Workshop on Developmental Neural Networks (2018).
5. Chigot, E. & Wilson, D. G. *Coevolution of Neural Networks for Agents and Environments* in *Proceedings of the Genetic and Evolutionary Computation Conference Companion* (2022), 2306–2309.
6. Najar, M. A., Almar, R., Bergsma, E. W., Delvit, J.-M. & Wilson, D. G. *Genetic Improvement of Shoreline Evolution Forecasting Models* in *Proceedings of the Genetic and Evolutionary Computation Conference Companion* (2022), 1916–1923.
7. Al Najar, M., Almar, R., Bergsma, E. W., Delvit, J.-M. & Wilson, D. G. *Improving a Shoreline Forecasting Model with Symbolic Regression* in *Tackling Climate Change with Machine Learning, ICLR 2023* (2023).
8. Du Baret, B., Finos, S., Guiglion, H. & Wilson, D. G. *Methane Plume Detection with U-net Segmentation on Sentinel-2 Image Data* in *NeurIPS 2023 Workshop on Tackling Climate Change with Machine Learning* (2023).
9. Maile, K., Hervé, L. & Wilson, D. G. *Neural Growth and Pruning in Dynamic Learning Environments* in *AutoML Conference 2023 (Workshop)* (2023).
10. Riu, G., Al Najar, M., Thoumyre, G., Almar, R. & Wilson, D. G. *Global Coastline Evolution Forecasting from Satellite Imagery Using Deep Learning* in *NeurIPS 2023 Workshop on Tackling Climate Change with Machine Learning* (2023).
11. De La Torre, C., Cussat-Blanc, S., Wilson, D. G. & Lavinas, Y. *On Search Trajectory Networks for Graph Genetic Programming* in *Proceedings of the Genetic and Evolutionary Computation Conference Companion* (2024).
12. Reil, M., Spreen, G., Huntemann, M., Buth, L. & Wilson, D. G. *Machine Learning for the Detection of Arctic Melt Ponds from Infrared Imagery* in *Tackling Climate Change with Machine Learning, ICLR 2024* (2024).
13. De La Torre, C., Cussat-Blanc, S., Luga, H., Wilson, D. G. & Lavinas, Y. *On Chromosome Crossover in Multimodal Adaptive Graph Evolution* in *Proceedings of the Genetic and Evolutionary Computation Conference Companion* (2025), 2162–2166.
14. Kalkreuth, R., Cussat-Blanc, S. & Wilson, D. *Cartesian Genetic Programming: From foundations to recent developments and applications* in *Proceedings of the Genetic and Evolutionary Computation Conference Companion* (2025), 1791–1806.

Book and Chapter Publications

1. Miller, J. F., Wilson, D. G. & Cussat-Blanc, S. Evolving Developmental Programs That Build Neural Networks for Solving Multiple Problems. *Genetic Programming Theory and Practice XVI,* 137–178 (2019).
2. Wilson, D. G. *Evolving Principles of Artificial Neural Design* PhD thesis (Université de Toulouse, Université Toulouse III-Paul Sabatier, 2019).
3. Miller, J. F., Wilson, D. G. & Cussat-Blanc, S. Evolving Programs to Build Artificial Neural Networks. *From Astrophysics to Unconventional Computation: Essays Presented to Susan Stepney on the Occasion of her 60th Birthday,* 23–71 (2020).
4. Lavinas, Y., De La Torre, C., Cortacero, K., Wilson, D. G. & Cussat-Blanc, S. in *Genetic Programming Theory and Practice XXI* 297–319 (Springer, 2025).
5. Wilson, D. G. *Methods in Exploration and Interpretability for Automating Discovery* (Université Toulouse Capitole, Toulouse, 2025).