

BEN GASKIN

Sydney, Australia · bgas0204 at uni.sydney.edu.au

SUMMARY

I study the relation between mind and the world it encounters. More specifically, I ask how mind, concepts, and information arise from material relations, and how these apparent intangibles come to organise those relations in turn.

My current work focuses on early cognition and biological information, but I approach this question through philosophy, science, and computational modelling. I am especially interested in models because they make theoretical commitments explicit. As Feynman put it: “What I cannot create, I do not understand.”

EDUCATION

University of Sydney	2024–
<i>Doctor of Philosophy</i>	
<i>Research Training Program Stipend Scholarship</i>	
University of Auckland	2020–2022
<i>Master of Arts in Philosophy</i>	
<i>Research Masters Scholarship, First Class Honours</i>	
University of Auckland	2019–2020
<i>Bachelor of Arts (Honours) in Philosophy</i>	
<i>First Class Honours</i>	
University of Auckland	2018–2019
<i>Graduate Diploma in Philosophy</i>	
University of Auckland	2015–2018
<i>Bachelor of Arts in Psychology and Politics</i>	

PUBLICATIONS

Artificial Generation	2026
<i>Paul Kraus. English translation and scholarly edition, Zenodo, version 1.0</i>	
<i>Translated and edited by Ben Gaskin · DOI: 10.5281/zenodo.23174647</i>	
Sensing at the edges: Synthetic specimens for early contractile coordination	2026
<i>Artificial Life 2026 Conference Proceedings</i>	
DevNCA: co-evolving developmental patterns & plasticity rules for self-organising SNNs	2025
<i>Artificial Life Conference Proceedings 37 (1), 12</i>	
Symbol grounding in the age of LLMs	2025
<i>Social Robots with AI: Prospects, Risks, and Responsible Methods, pp. 35–42, IOS Press</i>	
After Babel, the horizontal war: city and technique in Jacques Ellul	2023
<i>Philosophical Journal of Conflict & Violence, 7 (2)</i>	

SELECTED PRESENTATIONS

Signalling to learn: Learning through sender–receiver systems in the cell	2026
<i>Wallace Marshall’s laboratory, University of California, San Francisco</i>	
Sensing at the edges: Synthetic specimens for early contractile coordination	2026
<i>Artificial Life 2026</i>	Waterloo, Canada
The biological bit: Physical chemistry and information in living systems	2026
<i>Artificial Life 2026</i>	Waterloo, Canada
Internally-funded improbability: a thermodynamic account of agency	2025
<i>ECogS, Okinawa Institute of Science and Technology</i>	
Activity and knowledge: developmental robotics and the philosophical tradition	2025
<i>Asada Laboratory, Osaka University</i>	
DevNCA: co-evolving developmental patterns & plasticity rules for self-organising SNNs	2025
<i>Artificial Life, Kyoto</i>	
Another kind of clay: intelligence as the shaping of intrinsic noise	2025
<i>TONAL Workshop, Artificial Life, Kyoto</i>	
Temporal continuity as an architectural constraint on machine consciousness	2025
<i>Models of Consciousness, Sapporo</i>	

Can a single cell learn?	2025
<i>Australia/New Zealand Philosophy of Biology Workshop</i>	
PROJECTS	
BrainlessLab	2026
<i>Embodied collectives with locally adapting neural units</i>	
<i>With Polyphony Bruna, Ian Jackson and William O'Hearn, through DISI 2026</i>	
Worldbreeder	2026
<i>Interactive evolution of procedural visual worlds</i>	
JAX-EvoGym	2025–2026
<i>JAX port and extension of the EvoGym soft-body robotics environment for GPU-accelerated population-scale simulation</i>	
CONVENING	
Artificial Life as Experimental Philosophy	2026
<i>Special session, Artificial Life 2026</i>	
<i>Co-organised with Simon McGregor</i>	
Origins and Transitions in the Evolution of Learning	2026
<i>Workshop, Artificial Life 2026</i>	
<i>Co-organised with Jason Yoder, Anselmo Pontes, and Austin Ferguson</i>	
SERVICE	
Emerging Researchers in Artificial Life	2025–
<i>ISAL Board Representative</i>	
International Society for Artificial Life	2025–
<i>Representative for Emerging Researchers in Artificial Life (ERA)</i>	
SKILLS	
RESEARCH	
Disciplines: philosophy of mind, philosophy of biology, philosophy of science, artificial life, artificial intelligence, cognitive science, developmental cognitive science, theoretical biology	
Methods: literature review, computational modelling, experimental design, statistical analysis, simulation validation, reproducible research	
Communication: writing, proofreading and editing, scholarly translation, audiovisual presentation, public speaking, consulting	
TECHNICAL	
Languages: python, typescript, english	
Libraries: jax, mlx, pytorch, taichi, quadrants, hydra, weights & biases	
Computational neuroscience: spiking neural networks, neuroevolution, coding and decoding, plasticity, architecture search	
Evolutionary computation: genetic algorithms, direct and indirect encoding, quality diversity, multi-objective optimisation	
Models: neural cellular automata, soft-body and fluid simulation, agent-environment models	
TRAINING	
Diverse Intelligences Summer Institute	2026
<i>Fellow</i>	
<i>Geneva, New York</i>	
EMBO/FEBS Lecture Course: Emergence & Evolution of Multi-Level Regulatory Systems	2025
<i>Venice, Italy</i>	