

# THOMAS M. GAUL

(501) 605 3043 ♦ tgaul@iu.edu

## EDUCATION

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**Indiana University Bloomington**, Bloomington, IN

*2021 - 2025*

B.S. in Cognitive Science

Minor in Microbiology

- Major concentration in Computation
- Departmental Honors in Cognitive Science
- Dean's List

## PUBLICATIONS

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1. **Gaul, T. M.** (2024). Autopoiesis in RealLife Euclidean automata. In *Proceedings of the 2024 Artificial Life Conference*. To appear.
2. Beer, R. D., McShaffrey, C., and **Gaul, T. M.** (2024). Deriving the intrinsic viability constraint of an emergent individual from first principles. In *Proceedings of the 2024 Artificial Life Conference*. To appear.

*In Review:*

1. **Gaul, T. M.** and Izquierdo, E. J. (2024). Cognitive distinctions as a language for cognitive science: Comparing methods of description in a model of referential communication. Submitted to *Artificial Life*.

## HONORS AND AWARDS

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**Murray Austin Goldstone Scholarship**, *Indiana University Cognitive Science*. *June 2024*

**Outstanding Contribution Award**, *Indiana University Cognitive Science*. *April 2024*

**Robert J. Glushko Award for Outstanding Research in Cognitive Science**, *Indiana University Cognitive Science*. *April 2023*

## EXPERIENCE

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**Midwest Undergraduate Cognitive Science Conference** *Fall 2023 - Spring 2025*  
*Organizer*

- Doing outreach to improve attendance over the previous year
- Managing finances to ensure secure funding

**Students of Cognitive Science** *Spring 2024 - Spring 2025*  
*Treasurer*

- Purchasing necessary materials for every meeting to improve attendee experience
- Managing account funds to ensure continued financial support

**Academic Fairness Committee** *Fall 2023*  
*Committee Member*

- Sat in hearings and voted to ensure academic integrity and fairness

## PRESENTATIONS

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1. **Gaul, T. M.** “The biology and cognition of emergent individuals in RealLife Euclidean automata.” *16th Annual Midwest Undergraduate Cognitive Science Conference*. Indiana University Bloomington, IN, 2024.
2. **Gaul, T. M.** “Communication and embedded autonomy: a minimal model of referential communication.” *15th Annual Midwest Undergraduate Cognitive Science Conference*. Indiana University Bloomington, IN, 2023.

## SKILLS AND INTERESTS

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- **Languages:** C++, Python, Wolfram Language, Java, Bash
- **Software:** Linux, Mathematica, L<sup>A</sup>T<sub>E</sub>X, Inkscape, Adobe Illustrator, Matplotlib, NumPy
- **Mathematics:** Dynamical Systems Theory, Linear Algebra, Vector Calculus
- **Areas of Interest:** Theoretical Biology, Autopoiesis, Viability, Cognitive Science, Evolutionary Robotics, Philosophy of Science