

Polyphony J. Bruna

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EDUCATION

University of California, Merced, CA
Doctor of Philosophy, Cognitive and Information Sciences

Expected 2027

Vassar College, Poughkeepsie, NY
Bachelor of Arts, Cognitive Science and Philosophy
Minor, Japanese

2022

- Overall GPA: 3.99/4.00
- Honors: *Phi Beta Kappa, Sigma Xi, Psi Chi, cum laude generali et cum laude in materia subiecta*

RESEARCH INTERESTS

Computational Modeling; Cognitive Alignment; Language Evolution and Change; AI; HMI, Translation

PUBLICATIONS

Bruna, P. J., Andrews, J., & de Leeuw, J. R. (2023). *Psychophysical Adaptive Procedure: Developing a New, Generalizable Method* [Manuscript in preparation].

Andrews, J. & **Bruna, P. J.** (2023). *Probing the Methodology and Interpretation of Learned Categorical Perception Research* [Manuscript in preparation].

Bruna, P. J. (2021). *Exploring Semantic Relatedness Judgments in the Structure of a Semantic Network* [Unpublished manuscript]. Department of Cognitive Science, Vassar College. <https://osf.io/sj7tg/>

de Leeuw, J. R., Andrews, J., Barney, L., Bigler, M., **Bruna, P. J.**, Chen, Y., Cherry, R., Dowie, D. R., Forbes, E., Haffey, B., Hu, X., Jaklitsch, M., Leopold, N., Lewis, C., MacDonald, D., McShaffrey, C., Nakayama, K., Olstad, W., Peng, R., ... Zhang, L. (2021). Words May Jump-Start Meaning More Than Vision: A Non-Replication of Early ERP Effects in Boutonnet and Lupyan (2015). *Collabra: Psychology*, 7(1). <https://doi.org/10.1525/collabra.29763>

Bruna, P. J. (2019). A Review of Bryan W. Van Norden, Taking Back Philosophy. *Vassar College Journal of Philosophy*, 6, 73–75. <https://www.vassar.edu/sites/default/files/2021-08/philosophy-journal-spring-2019.pdf>

TALKS AND POSTER PRESENTATIONS

Bruna, P. J. (2023, July 19). *Semantics and Syntax Co-emerge in Adaptive Reservoir Network Dynamics* [Talk]. Diverse Intelligences Summit, University of St. Andrews, St. Andrews, Scotland.

Bigler, M. & **Bruna, P. J.** (2020, Sep 30). *Probing the Methodology and Interpretation of Learned Categorical Perception Research* [Poster presentation]. 35th Annual URSI Symposium, Vassar College, Poughkeepsie, NY, United States. https://www.vassar.edu/sites/default/files/2021-06/URSI_11_andrewsj_mbigler_pbruna.pdf

Bruna, P. J. (2020, Mar 27). *Hearing That It Is Silent: How to Hallucinate a Non-Perception* [Paper talk]. 10th

Annual Mid-Hudson Valley Undergraduate Philosophy Conference, Marist College, Poughkeepsie, NY, United States. (Canceled due to COVID-19)

Bruna, P. J. & Marks, P. (2019, Sep 25). *Psychophysical Adaptive Procedure: Developing a New, Generalizable Method* [Poster presentation]. 34th Annual URSI Symposium, Vassar College, Poughkeepsie, NY, United States. https://osf.io/4ahd9/?view_only=0b55b01f9eea4ed1a0402589087a0a71

PROFESSIONAL MEMBERSHIPS

<i>Phi Beta Kappa</i>	Since 2022
<i>Sigma Xi</i> , The Scientific Research Honor Society	Since 2022
<i>Psi Chi</i> , International Honor Society in Psychology	Since 2021

HONORS AND AWARDS

Graduate Fellowship Incentive Award – \$200 <i>University of California, Merced</i>	2022
The Jamie Nisse Greenberg Philosophy Prize – \$900 <i>Vassar College</i>	2022
Best Technical Write-Up <i>Mid-Hudson IEEE Undergraduate Capstone Project Awards</i>	2022

SCHOLARSHIPS, FELLOWSHIPS, AND GRANTS

Chancellor's Recruitment Fellowship – \$45,000 + tuition <i>University of California, Merced</i>	2022 – 2023
*Foreign Language and Area Studies (FLAS) Fellowship – \$22,500 + tuition <i>U.S. Department of Education</i>	2022 – 2023
Adolph Sutro Fellowship – \$10,000 <i>Vassar College</i>	2022
Critical Language Scholarship for advanced Japanese, alternate <i>U.S. Department of State; American Councils for International Education</i>	2022
Frances Lehman Loeb 1928 Scholarship – \$44,000 <i>Vassar College</i>	2021 – 2022
Research Award – \$4,000 <i>Vassar College</i>	2021
Frances Lehman Loeb 1928 Scholarship – \$44,000 <i>Vassar College</i>	2020 – 2021
Undergraduate Research Summer Institute (URSI) – \$5,000 <i>Vassar College</i>	2020

* Awarded, but declined

Frances Lehman Loeb 1928 Scholarship – \$42,500

Vassar College

2019 – 2020

Undergraduate Research Summer Institute (URSI) – \$5,000

Vassar College

2019

1956 Memorial Scholarship – \$42,000

Vassar College

2018 – 2019

RESEARCH AND TEACHING EXPERIENCE

Teaching Assistant, Cognitive Science Department

Vassar College

2021 – 2022

Research Mentor, Undergraduate Research Summer Institute

Vassar College

2021

Research Assistant, Cognitive Science Department

Vassar College

2018 – 2021

INTERNSHIPS

Intern, Cognitive Science Department

Vassar College

2021 – 2022

Research Fellow, Undergraduate Research Summer Institute

Vassar College

2019, 2020

WORKSHOPS AND TRAINING PROGRAMS

Complexity-GAINs International Summer School

(Topic - Intelligence & Representation: Models of the world in natural and artificial systems)

Isaac Newton Institute for Mathematical Sciences, University of Cambridge

2023

Diverse Intelligences Summer Institute

University of St. Andrews

2023

Key Connections

The Phi Beta Kappa Society

2022

Pittsburgh Summer Program in Philosophy of Science and Specialized Sciences

University of Pittsburgh; Carnegie Mellon University

2020

SKILLS

Technical: Neural Networks, Semantic Networks, Agent-Based Models, Bayesian Statistics,

Behavior-Based Robotics

Computer: R, JavaScript, jsPsych, Python, C/C++, PyTorch, TensorFlow

Equipment: High-Performance Computing, Geodesic EEG System, Netstation 5.4, KISS IDE

Language: English (native), Japanese (advanced)