**YAO, Siyu 姚思羽**

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**EDUCATION**

**INDIANA UNIVERSITY**, Bloomington, IN, US

Department of History and Philosophy of Science and Medicine

*Ph.D., Philosophy of Science*, Sep 2019 – now

*Ph.D. Minor*: Cognitive Science

*M.A., Philosophy of Science*, Sep 2019 – May 2022

**PEKING UNIVERSITY**, Beijing, China

Department of Philosophy and Religious Studies

*M.A., Philosophy of Science*, 2016-2019

**PEKING UNIVERSITY**, Beijing, China

College of Chemistry and Molecular Engineering

*B.Sc., Chemistry*, 2012-2016

**AREAS OF INTERESTS**

* **General philosophy of science**:
  + inference, confirmation, evidence, scientific explanation, and scientific methodology.
* **Philosophy of special sciences**:
  + machine learning, cognitive science, astronomy, and historical sciences.
* **Intellectual history of science**:
  + *Naturphilosophie* in German Idealism and Romanticism.
* **Philosophy**
  + Phenomenology, German Idealism.

**PUBLICATION**

Articles:

Siyu Yao. 2023. “Excavation in the Sky: Historical Inference in Astronomy.” *Philosophy of Science,* 1-15. doi:10.1017/psa.2023.22

**Siyu Yao**, Joshua Nunley, and Eduardo J. Izquierdo. Forthcoming. “Go by Its Name: Evolution and Analysis of Conceptual Referential Communication.” *Proceedings of the Artificial Life Conference 2023 (ALIFE 2023)*.

**Siyu Yao** and Amit Hagar. “Who makes the choice? Artificial Neural Networks in Science and Non-Uniqueness.” Under review.

Yuan-Bo Cai, **Si-Yu Yao**, Mo Hu, Xiaoyun Liu and Jun-Long Zhang, “Manganese protoporphyrin IX reconstituted myoglobin capable of epoxidation of the C=C bond with Oxone®,” *Inorg. Chem. Front.*, 2016, 3, 1236-1244.

In preparation:

Siyu Yao, “Why is it (still) Difficult to Understand Black-Box Models? Explainable Artificial Intelligence and the Experimenters’ Regress”

Siyu Yao, “The Inference of the First Three minutes: Cosmology, Physics, and quantum physics.” *Bloomsbury Handbook for the philosophy of Big History/ The Historical Sciences*.

Master Thesis

Siyu Yao. *Schelling’s Critique and Development of Kant’s Theory of Dynamics*. Beijing: Peking University, Jun 2019.

**ACADEMIC ACTIVITIES**

Peer-Reviewed Conference Presentations

* Canadian Society for the History and Philosophy of Science Annual Meeting, Toronto, Canada, May 2023 (online attendance)

“Why is it (still) Difficult to Understand Black-Box Models? Explainable Artificial Intelligence and the Experimenters’ Regress”

* Philosophy of Science Association 28th Biennial Meeting, Pittsburgh, USA, November 2022

“Excavation in the Sky: Historical Inference in Astronomy”

* The Future of the Past: Philosophical Issues in the “Historical Sciences”, Online, August 2022

“Excavation in the Sky: Historical Inference in Astronomy and the Concept of Trace”

* Society for Philosophy of Science in Practice 9th Biennial Meeting, Ghent, Belgium, July 2022

“Who Makes the Choice? Artificial Neural Networks in Science and the Non-Uniqueness Problem”, collaborative work with Amit Hagar

* Canadian Society for the History and Philosophy of Science Annual Meeting, Online, May 2022

“Excavation in the Sky: Historical Inference in Astronomy and the Concept of Trace”

Colloquium Presentations

* Hanson Presentation, Department of History and Philosophy of Science and Medicine, Indiana University, Bloomington, USA, October 2022

“Excavation in the Sky: Historical Inference in Astronomy”

* Graduate Student Conference, Department of Philosophy and History of Ideas, Aarhus University, Aarhus, Denmark, Spring 2018

“Goethe’s *ad hominem* Approach in Natural Philosophy”

Posters

* Philosophy of Science Association 28th Biennial Meeting, Pittsburgh, USA, November 2022

“Explanatory Correlate vs Explanation: Theory, Practice, and Research Program for Consciousness”

* Society for Philosophy of Science in Practice 9th Biennial Meeting, Ghent, Belgium, July 2022

“Dynamic or Mechanistic Explanation? Theory and Practice in the Explanation of Consciousness”

* Philosophy of Science Association 27th Biennial Meeting, online, 2020/2021

“The Concept of Minimal Self-Consciousness in Psychological Disorders”

Cancelled due to Covid-19. Accepted into PSA Virtual Poster Gallery.

**AWARDS AND FELLOWSHIPS**

* NSF Travel Grant Award for Philosophy of Science Association 28th Biennial Meeting (Fall 2022)
* Norwood Russell Hanson Prize for Outstanding Graduate Student Papers, Department of History and Philosophy of Science and Medicine, Indiana University Bloomington (2022-2023)
* Indiana University College of Arts and Sciences Graduate Travel Award (Spring 2022)
* Indiana University College of Arts and Sciences Graduate Fellowship (Fall 2019 – Spring 2020)
* Fellowship of the International Centre for Philosophy in North-Rhine-Westphalia, Germany (Summer 2018)
* Peking University Graduate Academic Scholarship (Fall 2016 – Spring 2019)
* Peking University Graduate Special Scholarship (Fall 2017)
* Undergraduate Research Funded by Peking University Education Foundation (Summer 2014 – Fall 2015)
* Peking University New Undergraduate Student Scholarship (Fall 2012)

**TEACHING**

Indiana University

* HPSC-X200 Scientific Reasoning. Main instructor. (Spring 2023)
* COLL-X101 Experimental Topics. “Cyberpunk History and Philosophy”. Joint instruction with Jared Neumann. (Fall 2020)
* COLL-C104 Critical Approaches: Social and Historical. “What is Science and Who Cares?” (discussion section). Main instructor: Prof. Jordi Cat. (Spring 2021, Spring 2022)
* HPSC-X200 Scientific Reasoning (discussion section). Main instructor: Prof. Jordi Cat. (Fall 2020, Fall 2021, Fall 2022)

Peking University

* “Dialectics of Nature” Teaching Assistant. Main instructor: Prof. Yuanbiao Ren. (Fall 2017)

**OTHER WORKING EXPERIENCES**

**Department of History and Philosophy of Science, Indiana University Bloomington**, IN, USA

*Student Assistant*, Jun 2020 – Aug 2020

* + Organizing abstracts and paper submissions to the Integrated HPS (&HPS) Conferences and constructing a database for past conference records. Project funded by NSF.

*Graduate Student Social Coordinator*, Jun 2021 – May 2022

* + Planning social events and communicating those events to the other grad students.

*GPSG Coordinator*, Aug 2022 – May 2023

* + Representative for the department in the Graduate and Professional Student Government.

**Graduate and Professional Student Government, Indiana University Bloomington**, IN, USA

*Member of the Awards Committee*, Oct 2022 – Jun 2023

* + Reviewing and distributing awards for graduate academic travel grants and research grants.

**Institute of Humanities and Social Sciences, Peking University**, Beijing, China

*Student Assistant*, Jan 2017 – Jan 2018

* + Translation of scholar handbooks and websites from Mandarin to English.
  + Organization and documentation of academic lectures.

**Department of Philosophy, Peking University**, Beijing, China

*Student Assistant*, Sep 2017 – Aug 2018

* + Organization of the World Congress of Philosophy (WCP) 2018.

**College of Chemistry and Molecular Engineering, Peking University**, Beijing, China

*Research Assistant*, *Bioinorganic Laboratory*, Dec 2013 – Jul 2014

* + Independent research: Synthesis and fluorescent properties of Platinum reconstituted myoglobins. Funded by Peking University Education Foundation.
  + Collaborated research: Catalytic properties Manganese reconstituted myoglobins.

**Zhengjian Kendo Dojo**, Bejing, China

*Kendo Instructor*, 2016-2019

**LANGUAGES AND SKILLS**

* Mandarin (native)
* English (fluent)

● German (equivalent to B1)

● Japanese (JLPT N2)

● Latin (2 years)

● Programming (python, Matlab, C++)

● Kendo (4th Dan)