

## CHUANG LIU

刘闯

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Distinguished Professor

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<http://philosophy.fudan.edu.cn/f9/5d/c14253a260445/page.htm>

<https://phil.ufl.edu/directory/dr-chuang-liu/>

### APPOINTMENTS

- Distinguished Professor, Department of Philosophy of Science & Logic, Fudan University (2017 – present)
- Professor, Department of Philosophy, University of Florida (2005 - 2018)
- Beiren Scholar<sup>1</sup> (with Shanxi University) (2010 – 2015)
- Yangtze River Scholar<sup>2</sup> (with Tsinghua University) (2009 - 2012)
- Visiting Fellow, Centre for Philosophy of Natural and Social Sciences, London School of Economics, London (Michaelmas Term, 1999)
- Associate Professor, Department of Philosophy, University of Florida (1997 – 2005)
- Assistant Professor, Department of Philosophy, University of Florida (1992 – 1997)

### AREA OF SPECIALIZATION

Philosophy and History of Science, Methodology of Science, Philosophy of Physics, Philosophy of Intelligence

### AREA OF COMPETENCE

Epistemology, Logic, Philosophy of Social Science

### EDUCATION

- 1991 Ph. D. History and Philosophy of Science, University of Pittsburgh
- 1987 M. A. History and Philosophy of Science, University of Pittsburgh
- 1982 B. S. Physics, East China Normal University, Shanghai, China

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<sup>1</sup> Granted and funded by Shanxi Province, China.

<sup>2</sup> Granted by the Ministry of Education of China and funded by the Lee Foundation in Hong Kong.

## AWARDS and FUNDING

教育部第八届中国高校人文社会科学研究优秀成果奖一等奖 2020  
 百人计划特聘客座教授（山西大学）2010 – 2013  
 长江学者客座教授（清华大学）2009 - 2012  
 National Science Foundation (NSF) Fellowship Grant: SES, NSF 05-588, 2006  
 Humanities Scholarship Enhancement Fund (UF) 2005-06  
 National Science Foundation (NSF) Fellowship Grant: STS, NSF 97-142, 2000  
 CLAS Research Fund (UF) 2000  
 FAH Scholarship Enhancement Fund (UF) 1998  
 DSR Research Development Award (UF) 1994  
 DSR Research Development Award (UF) 1992  
 National Endowment for Humanities (NEH) Summer Seminar Award, 1992

## ACADEMIC SERVICES

复旦大学智能科学与智能哲学研究中心主任  
 中国科学院哲学研究所学术所长  
 International Relations Committee, Philosophy of Science Association (USA)  
 Asian Philosophy of Science Association, President  
 Philosophy of Science, Editorial Board  
 Foundations of Physics, Board of Associate Editors  
 Philosophy of Physics, Editorial Board  
 Notre Dame Philosophical Review, Editorial Board  
 《认知科学》学术委员  
 《自然辩证法通讯》编委  
 《Frontier of Philosophy in China》编委

## Referee for Journals and Publishers

Philosophy of Science  
 The British Journal for the Philosophy of Science  
 Synthese  
 Erkenntnis  
 Studies for the History and Philosophy of Modern Physics  
 International Studies in the Philosophy of Science  
 Foundations of Physics

National Science Foundation (fellowship proposals)

Oxford University Press  
 Cambridge University Press

## **Selected Publications**

### Books

- 2016 *Substance and Method: Studies in Philosophy of Science* Singapore: World Scientific Publishing (获教育部第八届高校文科奖一等奖)
- 2013 *Scientific Explanation and Methodology of Science* Singapore: World Scientific Publishing (edited with G. C. Guo)
- 2002 *The Logic of Thermo-Statistical Physics* Berlin: Springer-Verlag (with G. Emch)

### Articles (refereed)

- 2025. 极值原理：目的因果解释之新探。《自然辩证法通讯》47（4）26-39。
- 2024. （与苏无忌）马尔可夫毯：工具还是实体？《哲学分析》87（5）137-147。
- 2024. 伦理与演化博弈：道德起源与本质的哲学研究。《哲学动态》（3）91-101。
- 2023. 自然理性内化与心智因果起源的哲学探究. 2023（11），《中国社会科学》，124-207。
- 2023. 自由能与演化博弈：自组织系统基本原理的哲学探究，2023-10-25《哲学分析》
- 2023. 在科学解释中，为何不能抛弃目的因，2023-09-22《中国科学报》
- 2023. 认知困境与能动推理：认知外在主义研究，2023-06-05《科学技术哲学研究》
- 2023. 认知鸿沟之上的自然之桥 《新文科教育研究》2023 第 1 期，62-80
- 2023. 何为现代科学？从库恩到《知识机器》《哲学分析》14（1）：172-184
- 2023. 时空、引力与量子纠缠 《自然辩证法研究》39（1）：9-52

- 2022. (with 苏无忌) 超级任务：现代的芝诺悖论 《自然辩证法通讯》 44 (12) : 32-40
- 2021. 与博弈何干？——再议演化博弈论 《自然辩证法通讯》 43(12): 22-32
- 2021. 国际哲学与科学交叉学科研究进展评述 《中国科学院院刊》 36(01): 17-27, (与 朱科夫)
- 2021. Perception & Epistemic Entitlement. *Frontiers of Philosophy in China*, 16(1): 121-150
- 2021. Perception and Fine Art: From Art History to Science 《艺术史与艺术哲学》 (第二辑), 沈语冰主编, 37-75
- 2020. A Tale of Two Equations: Ludi Vitae or Motus Vita? *Fudan Journal of the Humanities and Social Sciences*, 13(3), 337-355.
- 2020. 存在与无限| Existence and Infinity 《自然辩证法通讯》 42 第7期:24-40.
- 2019. "Infinite Idealization and Contextual Realism", *Synthese* 196:1885-1918.
- 2016. "Against a New Fictionalism: A Hybrid View of Scientific Models," *International Studies in the Philosophy of Science* 30: 1-16.
- 2015. "Symbolic vs. Modelistic Elements in Scientific Modeling," *Theoria* 30: 287-300.
- 2015. "Re-inflating the Conception of Scientific Representation," *International Studies in the Philosophy of Science* 29: 41-59.
- 2015. "Invariance and Scientific Representation," *Frontiers in Philosophy in China*, 10: 647-667.
- 2013. "Deflationism on Scientific Representation," V. Karakostas and D. Dieks (eds.), *EPSA11 Perspectives and Foundational Problems in Philosophy of Science*, Switzerland, Springer International Publishing, 93-102.
- 2012. "A Study of Model and Representation Based on a Duhemian Theme," in *Philosophy and Cognitive Science, SAPERE 2*. L. Magnani and P. Li (eds.), Berlin: Springer-Verlag, pp 115-141.
- 2005. "Review: *Symmetries in Physics: Philosophical Reflections* (CUP, 2003)" *International Studies in the Philosophy of Science* 19: 85-88.
- 2005. (with G. Emch) "Explaining Quantum Spontaneous Symmetry Breaking," *Studies in History and Philosophy of Modern Physics* 36: 137-163.

- 2004. "Approximations, Idealizations, and Models in Statistical Mechanics," *Erkenntnis* **60**: 235-263.
- 2004. "Laws and Models in a Theory of Idealization," *Synthese* **138**: 363-385.
- 2004. "The Possibility of Unifying Gravity and Quantum Gauge Fields," *International Studies in the Philosophy of Science* **17**: 143-159.
- 2003 "Classical Spontaneous Symmetry Breaking," *Philosophy of Science* **70**(S): S1219-S1232.
- 2003. "Spontaneous Symmetry Breaking and Chance in Classical World," *Philosophy of Science* **70**: 590-608.
- 2003. "Ming-Jia (the Logician) and Zeno: A Comparative Study," in Bo Mou ed. *Comparative Approaches to Chinese Philosophy* (Aldershot, UK: Ashgate Publishing Lit.) pp. 297-306
- 2001. "Infinite Systems in SM Explanations: Thermodynamic Limit, Renormalization (semi-) Groups, and Irreversibility," *Philosophy of Science* **68**(S): S325-344.
- 2000. "Coins and Electrons: A Unified Understanding of Probabilistic Objects," in *Logic, Probability and Science*, ed. N. Shanks, *Poznan Studies in the Philosophy of Science and Humanities*, vol. 71, Amsterdam: Rodopi, pp. 243-260 (including a commentary by Steven French and author's reply).
- 1999. "Explaining the Emergence of Cooperative Phenomena," *Philosophy of Science* **66**(S): S92-S106.
- 1999. "Approximation, Idealization, and the Laws of Nature," *Synthese* **118**: 229-256.
- 1998. "Theories and Models II: Issues and Applications," *International Studies in the Philosophy of Science* **12**: 111-128.
- 1997. "Theories and Models I: the Semantic View Revisited," *International Studies in the Philosophy of Science* **11**: 147-164.
- 1996. "Potential, Propensity and Categorical Realism," *Erkenntnis* **45**: 45-68.
- 1996. "Gauge Invariance, Cauchy Problem, Indeterminism, and Symmetry Breaking," *Philosophy of Science* **63**(S): S71-S80.
- 1996. "Holism and Particularism: A Lesson from Classical and Quantum Physics," *Journal for General Philosophy of Science* **26** : 267-279.
- 1994. "Is There a Relativistic Thermodynamics: A Case Study of the Meaning of Special Relativity," *Studies in History and Philosophy of Science* **25**: 983-1004.

- 1994. “The Aharonov-Bohm Effect and the Reality of Wave Packets,” *British Journal for the Philosophy of Science* **45**: 977-1000.
- 1993. “The Arrow of Time in Quantum Gravity,” *Philosophy of Science* **60**: 619-637.
- 1992. “Einstein and Relativistic Thermodynamics in 1952,” *British Journal for the History of Science* **25**: 185-206.

### **Selected Conference Papers (refereed)**

- 2016. “Fictionalism on Models and Fictional Models in Science,” given at the *Pacific APA2016*, March 30 – April 3, San Francisco, CA.
- 2015. (with W. Wang) “Scientific Modeling and Fictionalism,” presented at the *15<sup>th</sup> Congress of Logic, Methodology, and Philosophy of Science*, Helsinki, August 3-9.
- 2011. “Anti-Deflationism in Scientific Representation,” presented at the *3<sup>rd</sup> Conference of the European Philosophy of Science Association*, Athens, October 5-8.
- 2008. “Quantum measurement as spontaneous symmetry breaking,” invited lecture at the international conference: *Symmetry as a Modern Scientific Concept: Historical and Philosophical Perspectives*, at the Lorentz Center, University of Leiden, Leiden, the Netherlands, from 11 Mar 2008 through 14 Mar.
- 2007. “The emergence of the classical world at the thermodynamic limit,” invited lecture at *Boston Colloquium for Philosophy of Science: Explanation in Physics*, Boston University, April 16.
- 2002. “Chance and Spontaneous Symmetry-Breaking,” presented at *the APA Eastern Division meeting*, Philadelphia, December 29.
- 2002. “Spontaneous Symmetry Breaking: Its Meaning from a Simple Mechanical Model,” presented at *the biennial meeting of the Philosophy of Science Association (PSA)*, Milwaukee, November 7-10.
- 2000. “Infinite Systems in SM Explanations: Thermodynamic Limit, Renormalization (semi-) Groups, and Irreversibility,” presented at *the biennial meeting of the Philosophy of Science Association (PSA)*, Vancouver, BC, November 2-5.
- 1998. “Explaining the Emergence of Cooperative Phenomena,” presented at *the biennial meeting of the Philosophy of Science Association (PSA)*, Kansas City, October 22-25.

- 1998. “Approximate Enough and Idealization,” presented at *the APA Pacific Division meeting*, Los Angeles, March.
- 1997. “Decoherence and Quantum Probability,” presented at *the APA Central Division meeting*, Pittsburgh, April.
- 1996. “Gauge Invariance, Cauchy Problem, Indeterminism, and Symmetry Breaking,” presented at *the biennial meeting of the Philosophy of Science Association*, Cleveland, October.
- 1996. “Models and the Semantic Approach,” presented at *the 22nd annual meeting of Philosophy of Science at the International University Center*, Dubrovnik, Croatia, April.
- 1995. “Propensity and Quantum Reality,” presented at *the APA Eastern Division meeting*, New York City, December 27.
- 1995. “Gauge Invariance and its Metaphysical Nature,” presented at the *10<sup>th</sup> International Congress of Logic, Methodology and Philosophy of Science*, Florence, Italy, August.
- 1995. “The Necessary A Posteriori Truth in Ethical Naturalism,” presented at *the APA Central Division meeting*, Chicago, April.
- 1994. “Realism and Substantivalism: Of Arguments against Metaphysical Realism and Manifold Substantivalism,” presented at *the APA Eastern Division meeting*, Boston, December.
- 1993. “Planck and The Special Theory of Relativity,” presented at *the History of Science Society annual conference*, Santa Fe, NM, November.