

Curriculum Vitae

Xiang Chen

*Department of Philosophy
California Lutheran University
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EDUCATION

Ph.D., Science and Technology Studies (Specializing in Philosophy of Science), Virginia Polytechnic Institute and State University, May 1992. Dissertation: "Theories, Experiments and Human Agents."

M.S., Science and Technology Studies (Specializing in Philosophy of Science), Virginia Polytechnic Institute and State University, October 1988. Thesis: "Conceptual Problems and Theory Appraisal."

M.A., Philosophy and History of Science, Department of Philosophy, Zhongshan University, January 1985. Thesis: "On Structural Explanations."

B.A., Philosophy, Department of Philosophy, Zhongshan University, January 1982.

AREAS OF SPECIALIZATION

Philosophy of Science
Cognitive Studies of Science
History of Science

AREAS OF COMPETENCE

Logic (Symbolic Logic, Inductive Logic, Critical Thinking)
Applied Ethics (Biomedical Ethics, Environmental Ethics, Social Ethics)
Analytic Philosophy (Wittgenstein, Logical Positivism)
Philosophy of Technology (Computer Technologies, Bio/Medical Technologies)
Eastern Philosophy (Confucianism, Taoism, Buddhism)

ACADEMIC APPOINTMENTS

Professor, Department of Philosophy, California Lutheran University, 2003-present.

Chair, Department of Philosophy, California Lutheran University, 2003-2006, 2010-present.

Director, Harold Stoner Clark Lectures, California Lutheran University, 1993-2003.
Associate Professor, Department of Philosophy, California Lutheran University, 1998-2003.
Senior Resident Fellow, Dibner Institute for the History of Science and Technology, Massachusetts Institute of Technology, 1998-1999.
Assistant Professor, Department of Philosophy, California Lutheran University, 1992-1998.
Graduate Teaching Fellow, Center for Study of Science in Society, Virginia Polytechnic Institute and State University; 1987-1992.
Lecturer, Department of Philosophy, Zhongshan University, Guangzhou, China, 1985-1986.

AWARDS/HONORS

Honorary Professor, Department of Philosophy, Zhongshan University, 2001 to present.
Honorary Professor, Institute of Philosophy, Southern China Normal University, 2005 to present.
The He Fu-Tian Endowment, Zhongshan University: Fellowship for participating in the He Fu-Tian Lectures, January 2002.
Zhongshan University: Award for the Publication of “Cognitive Mechanisms for Evaluating Incommensurable Theories,” 2001.
Dibner Institute for the History of Science and Technology, MIT: Dibner Institute fellowship for Senior Resident Fellow, 1998-1999.
Dibner Institute for the History of Science and Technology, MIT: Grant for participating in the First International Laboratory for the History of Science, Cape Cod, MA, June 1998.
The Seven Pine Symposium: Grant for participating in the conference on “Historical Perspectives and Philosophical Problems in the Unification of Physics,” Wisconsin, May 1997.
California Lutheran University: The Hewlett Grant for Faculty Research and Development, 1992-2002.
National Endowment for the Humanities: Research stipend for participating in the Summer Seminar on “Methodological Debates in 19th Century Physics,” Johns Hopkins University, June-July, 1992.
Honorary Fellow, Department of Philosophy, University of Minnesota, 1986.

PUBLICATIONS

i) Books

Andersen, Hanne, Peter Barker, and Xiang Chen. 2006. *The Cognitive Structure of Scientific Revolutions*. Cambridge: Cambridge University Press.
Chen, Xiang. 2000. *Instrumental Traditions and Theories of Light: The Uses of Instruments in the Optical Revolution*. Dordrecht: Kluwer Academic.

ii) Edited Collections

- Li, Ping, and Xiang Chen (Eds). 2004. *Cognitive Studies of Science and Reasoning*. Nanchang: Jiangxi People's Press.
- Li, Ping, Zhilin Zhang, Huaxia Zhang, and Xiang Chen (Eds.). 2004. *Science, Cognition and Consciousness*. Nanchang: Jiangxi People's Press.

iii) Articles

- Chen, Xiang. Why do people misunderstand climate change? Heuristics, mental models and ontological assumptions. *Climatic Change*. (Forthcoming)
- Chen, Xiang. 2010. Paradigm. In *Encyclopedia of Research Design*, edited by N. Salkind, 2: 993-995. Thousand Oaks: Sage Publications.
- Chen, Xiang. 2010. A different kind of revolutionary change: Transformation from object to process concepts. *Studies in the History and Philosophy of Science* 41: 182-191
- Chen, Xiang, and Peter Barker. 2009. Process concepts and cognitive obstacles to change: Perspectives on the history of science and science policy. *Centaurus* 51: 314-20.
- Chen, Xiang. 2009. The role of interests in scientific change: Lessons from cognitive psychology. *Journal of Psychology of Science and Technology* 2: 13-28.
- Chen, Xiang. 2007. The object bias and the study of scientific revolutions: Lessons from developmental psychology. *Philosophical Psychology* 20: 479-503.
- Chen, Xiang. 2005. Visual photometry in the early 19th century: A "good" science with "wrong" measurements. In *Wrong for the Right Reasons*, edited by J. Buchwald and A. Franklin, 161-83. Netherlands: Springer.
- Chen, Xiang. 2005. Transforming temporal knowledge: Conceptual change between event concepts. *Perspectives on Science* 13: 49-73.
- Chen, Xiang. 2004. Scripts and conceptual change. In *Science, Cognitive, and Consciousness*, edited by P. Li, X. Chen, and H.X. Zhang, 96-117. Nanchang: Jiangxi People's Press.
- Chen, Xiang. 2003. Object and event concepts: A cognitive mechanism of incommensurability. *Philosophy of Science* 70: 962-74.
- Chen, Xiang. 2003. Why did Herschel fail to understand polarization? The differences between object and event concepts. *Studies in the History and Philosophy of Science* 34: 491-513.
- Barker, Peter, Xiang Chen, and Hanne Andersen. 2003. Kuhn on concepts and categorization. In *Thomas Kuhn*, edited by T. Nickles, 212-45. Cambridge: Cambridge University Press.
- Chen, Xiang. 2002. Philosophy of science. In *Contemporary Inquiries into the Foundational Issues of Philosophy*, edited by B. Mou, 394-401. Beijing: The Commercial Press.
- Chen, Xiang. 2002. Incommensurability of paradigms and rational appraisal of science. In *Contemporary Inquiries into the Foundational Issues of Philosophy*, edited by B. Mou, 3-27. Beijing: The Commercial Press.
- Chen, Xiang. 2002. The 'platform' for comparing incommensurable taxonomies: A cognitive-historical analysis. *Journal for General Philosophy of Science* 33: 1-22.
- Chen, Xiang. 2001. Cognitive mechanisms for evaluating incommensurable theories. *Philosophical Research* 9: 16-23.

- Chen, Xiang. 2001. Perceptual symbols and taxonomy comparison. *Philosophy of Science* 69: 200-212.
- Chen, Xiang. 2001. Optics. In *Reader's Guide to the History of Science*, edited by Hessenbruch, 534-35. London: Fitzroy Dearborn.
- Chen, Xiang. 2001. Measuring reflective power with the eye. *Physics in Perspective* 3: 439-61.
- Chen, Xiang. 2000. To see or not to see: The uses of photometers and measurements of reflective power. *Perspective on Science* 8: 1-28.
- Chen, Xiang, and Peter Barker. 2000. Continuity through revolutions: A frame-based account of conceptual change during scientific revolutions. *Philosophy of Science* 67: S208-223.
- Chen, Xiang. 1999. Instrumental unification: Optical apparatus in the unification of dispersion and selective absorption. *Studies in History and Philosophy of Modern Physics* 30: 519-542.
- Chen, Xiang, Hanne Andersen, and Peter Barker. 1998. Kuhn's theory of scientific revolutions and cognitive psychology. *Philosophical Psychology* 11: 5-28.
- Barker, Peter, and Xiang Chen. 1998. A critical bibliography of historical orientation philosophy of science. *CSSS Working Papers* 4: 1-41.
- Chen, Xiang. 1998. Dispersion, experimental apparatus, and the acceptance of the wave theory of light. *Annals of Science* 55: 401-20.
- Chen, Xiang. 1997. Thomas Kuhn's latest notion of incommensurability. *Journal for General Philosophy of Science* 28: 257-73.
- Chen, Xiang. 1997. The debate on the polarity of light during the optical revolution. *Archive for History of Exact Sciences* 50: 359-93.
- Andersen, Hanne, Peter Barker, and Xiang Chen. 1996. Kuhn's mature philosophy of science and cognitive psychology. *Philosophical Psychology* 9: 347-63.
- Chen, Xiang. 1996. Recent progress in the studies of incommensurability. In *Science, Philosophy and Culture*, edited by H.X. Zhang, 169-90. Guangzhou: Zhongshan University Press.
- Chen, Xiang. 1995. Taxonomic changes and the particle-wave debate in early nineteenth-century Britain. *Studies in History and Philosophy of Science* 26: 251-71.
- Chen, Xiang. 1994. How do scientists have disagreements about experiment?: Incommensurability in the use of goal-derived categories. *Perspectives on Science* 2: 275-301.
- Chen, Xiang. 1994. The rule of reproducibility and its applications in experiment appraisal. *Synthese* 99: 87-109.
- Chen, Xiang. 1994. Experimental skills and experiment appraisal. In *Scientific Methods: Conceptual and Historical Problems*, edited by P. Achinstein, 45-65. Melbourne, FL: Krieger.
- Chen, Xiang, and Peter Barker. 1992. Cognitive appraisal and power: David Brewster, Henry Brougham, and the tactics of the emission-undulatory controversy during the early 1850s. *Studies in History and Philosophy of Science* 23: 75-101.
- Chen, Xiang. 1990. Local incommensurability and communicability. In *PSA 1990, vol. 1*, edited by A Fine, M. Forbes, and L Wessels, 67-76. East Lansing: Philosophy of Science Association.

- Chen, Xiang. 1990. Young and Lloyd on the particle theory of light: A response to Achinstein. *Studies in History and Philosophy of Science* 21: 665-76.
- Chen, Xiang. 1988. Reconstruction of the optical revolution: Lakatos vs. Laudan. In *PSA 1988 Vol. 1.*, edited by A. Fine and J. Leplin, 103-9. East Lansing: Philosophy of Science Association.
- Zhang, Huaxia, and Xiang Chen. 1986. The structures of explanations and structural explanations. *Journal of Natural Dialectics* 4: 23-31.
- Chen, Xiang. 1984. The discovery of the law of free fall. *Bulletin of Physics* 5: 55-59.
- Chen, Xiang. 1984. Correspondence rules and the processes of cognition. *Journal of Social Sciences* 4: 14-20.
- Chen, Xiang, and Li Li. 1984. Understanding the relations between structures and functions: A historical review. *Exploration* 6: 52-57.
- Chen, Xiang. 1983. On the method of structural explanations. *Information of Nature* 4: 38-42.
- Chen, Xiang. 1983. On the method of reductive explanations. *Graduate Students Journal of Zhongshan University* 2: 12-24.
- Chen, Xiang. 1983. Comments on the problem of induction. *Jianghai Academic Journal* 5: 25-30.

PRESENTATIONS

- “Innate Knowledge and Cognitive Obstacles,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, January 2011.
- “Emergent Processes and Global Warming: A Cognitive Analysis,” keynoted presentation at the International Conference on the Cross-Cutting Issues of Contemporary Philosophy of Science and Philosophy of Mind, Southern China Normal University, Guangzhou, China, December 2010.
- “Misunderstanding of the Climate Change,” invited presentation at the School of Public Administration, Southern China Normal University, Guangzhou, China, January 2009.
- “Global Warming and the Cognitive Process,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, December 2008.
- “Interests and Conceptual Changes: A Frame Analysis,” keynoted presentation at the International Conference of Concept Types and Frames, University of Düsseldorf, Germany, August 2007.
- “The Object Bias and Human Nature,” invited presentation at Southern China Normal University, Guangzhou, China, January 2007.
- “Cognition and History: Three Responses to *The Cognitive Structure of Scientific Revolutions*,” symposium organized and chaired at the History of Science Society Meeting, Vancouver, November 2006.
- “Bioethics and Human Dignity,” invited presentation at Southern Medical University, Guangzhou, China, May 2006.
- “Bioethics and the Principle of Informed Consent,” invited presentation at the School of Medicine, Zhongshan University, Guangzhou, China, May 2005.

- “Informed Consent and Moral Principles,” invited presentation at the Center for Community Health, UCLA, Los Angeles, November 2005.
- “The Current States of Bioethics in the United States,” invited presentation at the School of Public Administration, Southern China Normal University, Guangzhou, China, June 2005.
- “Bioethics and Philosophy of Science,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, June 2005.
- “Scripts and Conceptual Change,” keynoted presentation at the International Conference of Philosophy and Cognitive Science, Guangzhou, China, June 2004.
- “Barsalou’s Theory of Perceptual Symbols,” invited presentation at the Department of Philosophy, Southern China Normal University, Guangzhou, China, January 2002.
- “Object and Event Concepts: A Cognitive Mechanism of Incommensurability,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, January 2002.
- “Instrumental Traditions and Scientific Revolutions,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, January 2002.
- “Perceptual Symbols and Taxonomy Comparison,” presentation at the Biennial Meeting of the Philosophy of Science Association, Vancouver, November, 2000.
- “The Platform for Evaluating Incommensurable Theories: A Cognitive-Historical Analysis,” presentation at the Conference of Incommensurability, Hanover, Germany, June 1999.
- “Photometers and the Wave Theory of Light: Instrumental Traditions in the Optical Revolution,” presentation at the Dibner Colloquia, MIT, Cambridge, October 1998.
- “Continuity through Revolution: A Frame-based Account of Conceptual Change during Scientific Revolutions,” presentation at the Biennial Meeting of the Philosophy of Science Association, Kansas City, October 1998.
- “Kuhn, Cognitive Science, and Conceptual Change,” symposium organized at Twentieth Annual Conference of the Cognitive Science Society, Madison, August 1998.
- “What Are the Necessary Conditions for Scientific Revolutions?” commentary on Philip Ivanhoe, “China and the Scientific Revolution,” at American Philosophical Association, Pacific Division Meeting, Los Angeles, March 1998.
- “Instruments as Paradigms: Richard Potter and His Photometers,” presentation at the History of Science Society Meeting, San Diego, November 1997.
- “Unification in Early Nineteenth-Century Optics,” invited presentation at The Seven Pines Symposium, Lewis, Wisconsin, May 1997.
- “Dispersion, Refractive Index, and the Acceptance of the Wave Theory of Light,” presentation at the History of Science Society Meeting, Atlanta, November 1996.
- “A Frame-Based Account of Scientific Revolutions,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, May 1996.
- “The Role of Procedural Knowledge in the Optical Revolution,” presentation at the History of Science Society Meeting, Minneapolis, October 1995.
- “The Cognitive Mechanisms of Incommensurability,” invited presentation at the Department of

- Philosophy, Zhongshan University, Guangzhou, China, December 1994.
- “Unarticulated factors in Scientific Revolutions,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, December 1994.
- “Kuhn’s Theory of Kinds and His Analogy of Bilingualism,” invited presentation at the Department of Philosophy, Zhongshan University, Guangzhou, China, December 1994.
- “The Popularity of Humboldtian Science and the Longevity of the Particle-Wave Debate,” presentation at the Philosophy of Science Association and the History of Science Society Joint Meeting, New Orleans, October 1994.
- “Taxonomic Changes and The Optical Revolution,” presentation at the History of Science Society Meeting, Santa Fe, November 1993.
- “The Rule of Reproducibility and Wittgenstein’s Philosophy” invited presentation at the Department of Philosophy, Queen’s University, Canada, February 1992.
- “A Politician Returned to Science: Henry Brougham and the Optical Revolution in the Early 1850s”, presentation at the Center for the Study of Science in Society Seminar Series, Virginia Polytechnic Institute and State University, February 1991.
- “Local Incommensurability and Communicability,” presentation at the Biennial Meeting of the Philosophy of Science Association, Minneapolis, October 1990.
- “A Reconstruction of the Optical Revolution: Lakatos vs. Laudan,” presentation at the Biennial Meeting of the Philosophy of Science Association, Evanston, October 1988.

TEACHING EXPERIENCE

Professor / Associate Professor / Assistant Professor, Department of Philosophy, California Lutheran University; 1992 to present.

Courses:

Logic
Topics in World Philosophy
Social Ethics
Technology and Value
Bioethics
Chinese Philosophy and Culture
Contemporary Philosophy: The Analytic Tradition
Philosophy of Science
Advanced Studies in Logic: Predicate and Modal Logic (Independent Study)
Advanced Studies in Analytic Philosophy: Wittgenstein (Independent Study)
Philosophical Foundation of Cognitive Psychology (Independent Study)

Graduate Teaching Fellow, Center for Study of Science in Society, Virginia Polytechnic Institute and State University; 1987-1992.

Courses:

Reason and Revolution in Science (for the Philosophy Department)
Science and Technology in Society (for the Philosophy Department)

Language and Logic (for the Philosophy Department)
Cultural Anthropology (for the Sociology Department)

Lecturer, Department of Philosophy, Zhongshan University, Guangzhou, China; 1985-1986.

Courses:

Methodology of Natural Sciences

Western Philosophy of Science

Philosophy of Natural Sciences

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