

Curriculum Vitae

Dr. CHETAN PRAKASH

March 25, 2023

Current Positions:

Emeritus Professor of Mathematics, CSUSB

Affiliated Member, Association for Mathematical Consciousness Science

Founder President and Head Aikido Instructor, [Redlands Aikikai, a School of Meditative and Martial Arts](#) affiliated with [Aikido Schools of Ueshiba](#)

Contact:

Mobile: (951)-743-5941

email: chetan.prakash@amcs.science; cprakash@csusb.edu

Web Page: <https://www.math.csusb.edu/faculty/prakash/>

Higher Education

Ph. D. (1982) and M.S. (1979) in Applied Mathematics, Cornell University

M.Sc. (1973) and B.Sc. (1971) in Physics Honours, University of Delhi (St. Stephen's College)

Other Education

Senior Instructor, Aikido Schools of Ueshiba: 6th Degree black belt (as of January 2015), Aikido World Headquarters, Tokyo

Certified Instructor, Russian Martial Art "Ryabko Systema," Systema Headquarters, Toronto 2010-2013

Academic Positions

University of California at Irvine

Department of Mathematics: Visiting Assistant Professor 1987-88, Assistant Professor 1983-84 and Irvine Lecturer 1981-83

Cognitive Sciences Group (School of Social Sciences): Visiting Professor, 1997-98; Visiting Associate Professor, 1992; Visiting Associate Researcher, 1987-1989

California State University, San Bernardino (1984-2018):

Professor, Department of Mathematics,

Director, Center for the Study of Consciousness

Affiliated Faculty, CSU Intelligence Community Center of Academic Excellence

Instructor, Departments of Physics, Political Science, Kinesiology & CSUSB Extension

Indian Statistical Institute: Visiting Fellow, 1982

Research Interests

Mathematical Consciousness Science

Aikido: Meditative & Martial Arts

Public Service

Founder and Head Aikido Instructor, [Redlands Aikikai, a School of Meditative and Martial Arts](#) (1994-present); Founder and Faculty Advisor, CSUSB Aikido Club Dojo (1989-1994)

Founding Member of the Executive Board, [Aikido Schools of Ueshiba](#) (2015- 2020; Vice-President 2017-2019). International Liaison (2020-present).

Founding President of the Board, Yeru Bon Center for Indigenous Tibetan Traditions, Los Angeles (2002-2013)

Book

[Observer Mechanics, a Formal Theory of Perception](#), by Bruce Bennett, Donald Hoffman and Chetan Prakash, Academic Press, New York. 1989.

Selected Publications

Hoffman, D.D., Prakash, C., Chattopadhyay, S. Conscious Agents and the Subatomic World, essay selected for Linda G. O'Bryant Noetic Sciences Research Prize, 2023.

[Fusions of Consciousness](#). Donald D Hoffman, Chetan Prakash, Robert Prentner. *Entropy* **2023**, 25(1), 129; <https://doi.org/10.3390/e25010129>

[Fitness Beats Truth in the Evolution of Perception](#). C. Prakash, K. Stevens, D. Hoffman, M. Singh, C. Fields. *Acta Biotheoretica*, **2020**, 1-23; DOI 10.1007/s10441-020-09400-0

[Fact, Fiction and Fitness](#). C. Prakash, D. Hoffman, Chris Fields, R. Prentner, M. Singh. *Entropy* **2020**, 22(5), 514; DOI 10.3390/e22050514

[On Invention of Structure in the World: Interfaces and Conscious Agents](#). C. Prakash. *Foundations of Science* 25(1), 121-134 (*Proceedings of the Symposium "Worlds of Entanglement,"* 2017). DOI 10.1007/s10699-019-09579-7

[Conscious Agent Networks: Formal Analysis and Application to Cognition](#). C. Fields, D. Hoffman, C. Prakash, M. Singh, *Cognitive Systems Research*. 47: 186-213. DOI: [10.1016/J.Cogsys.2017.10.003](https://doi.org/10.1016/J.Cogsys.2017.10.003).

[Eigenforms, Interfaces and Holographic Encoding: Toward an Evolutionary Account of Objects and Spacetime](#). *Constructivist Foundations* vol.12 No. 3. C. Fields, D. Hoffman, C. Prakash, R. Prentner. 15 July 2017.

[The Interface Theory of Perception](#). *Psychonomics Bulletin and Review*. D. Hoffman, M. Singh, C. Prakash. September 18, 2015. DOI 10.3758/s13423-015-0890-8. Target article for special virtual edition.

[Objects of Consciousness](#). *Frontiers in Psychology: Perception Science*. D. Hoffman, C. Prakash, June 2014.

Recent Invited Lectures/Presentations/Interviews

"Conscious Dynamics, Polytopes & Physical Interfaces," Invited talk at Models of Consciousness, Stanford University, September 9, 2022

[Interview with Deepak Chopra](#) and [Participation in Deepak Chopra Keynote](#), Society for Brain Mapping and Therapeutics, Convention, Los Angeles, July 10, 2021

"Interface Theory of Perception, Conscious Realism & the Morality of Robots," Special Address at session on "Can a robot be a moral agent?" United Nations India-Jindal Global University Virtual Dialogue on the Ethics of Artificial Intelligence. May 24, 2021.

[“Structure Invention by Conscious Agents,”](#) Invited talk at Models of Consciousness, Mathematical Institute, University of Oxford, September 9-12, 2019.

“Conscious Agents and Structure Invention.” Invited talk at 2nd Workshop on Biological Mentality, Center for the Physics of Living Organisms Michigan Technological University, September 2018

[“Interfaces, Conscious Agents and the Invention of Structure,”](#) Invited talk at online seminar: Progress and Visions in the Scientific Study of the Mind-Matter Relation, June 2018

“Is the world more or less as – and only as – we see it? Mathematics suggests not,” invited talk and interview: [“Is Mathematics Part of Reality?”](#) at Science and Non-Duality, San Jose, October 2017.

“Interface Theory of Perception and Conscious Realism,” invited talk at Worlds of Entanglement conference, Free University, Brussels (VUB), September 2017

[“Conscious Agents and the Invention of Structure in the World: Some Mathematical Theorems,”](#) invited conference talk at Science and Non-Duality, San Jose, October 22, 2016

“Conscious Agents and the Invention of Space: Two Theorems,” invited talk at Toward a Science of Consciousness 2016, Arizona State University at Tucson, April 2016

“Aikido: The Dynamic Physical Embodiment of Non-Duality,” invited session at Science and Non-Duality, San Jose, October 23, 2015

“Conscious Realism: Two Theorems,” invited conference talk at Science and Non-Duality, San Jose, October 23, 2015

“Conscious Agent Theory: A formal theory of consciousness,” invited talk at Toward a Science of Consciousness 2015, University of Helsinki, 9-13 June 2015

Earlier Publications

[A Primer on Observer Theory](#), *Proceedings of the Varna Conference on Geometry, Integrability and Quantization*, Varna, Bulgaria. C. Prakash, 2001.

[Observer theory, Bayes theory, and psychophysics](#). In D. Knill and W. Richards (editors): *Perception as Bayesian inference*, Cambridge University Press. B. Bennett, D. Hoffman, C. Prakash, S. Richman, 1995.

[Recognition polynomials](#). *Journal of the Optical Society of America*, A, 10, 4, 759–764, 1993. B. Bennett, D. Hoffman, C. Prakash.

[Unity of perception](#). *Cognition*, **38**, 295–334. B. Bennett, D. Hoffman, C. Prakash, 1991

[Structure from two orthographic views of rigid motion](#). *Journal of the Optical Society of America*, A, **6**, 1052–1069. B. Bennett, D. Hoffman, J. Nicola, C. Prakash, 1989.

[Inferring structure from motion: A homotopy algorithm](#). *Proceedings of the IEEE Workshop on Visual Motion, Irvine*, 238–245. B. Bennett,

D. Hoffman, J. Nicola, C. Prakash, 1989.

Perception and computation. *IEEE First International Conference on Computer Vision, London*, 356--364. B. Bennett, D. Hoffman, C. Prakash, 1988.

High Temperature Differentiability of the Lattice Gibbs States by Dobrushin Uniqueness Techniques, *Journal of Statistical Physics*, 31, No. 1, 1983. Also title of Ph. D. thesis, Cornell University, 1981.

Recent Grant

Elvia & Federico Faggin Foundation research grant for Conscious Agent Theory, jointly with Donald Hoffman, Chris Fields and Manish Singh, April 2015 – December 2020.

Selected University Service

Director, Center for the Study of Consciousness

(formerly Center for Scholarship on Spirituality): Organized and hosted three conferences:

"*The Art of Peace*," 2003,

"*Nourishing the Mind, Body and Spirit in Troubled Times: a Conference for Educators, Counselors and the General Public*" (jointly with Claremont Graduate School's Center for Holistic Education), 2009 and

"*Spirituality and Scholarship*," 2011

Faculty Advisor, Indian Students Association 2001-2012

Faculty Advisor, Aikido Club and teacher of Aikido Club classes 1989-2010

Instructor in Aikido, Department of Kinesiology (2002-2010) and CSUSB Extension (1994-2004)

President, Asian Faculty Staff and Students Association 2005-06