# Curriculum Vitae

## Jeremy Seligman

**Current Position**

Senior Lecturer, Dept. of Philosophy, The University of Auckland, New Zealand (since 2002)

**Education**

1991  University of Edinburgh, PhD, Cognitive Science
1986  Oxford University, BA, Mathematics and Philosophy

**Employment History**

1998-2002 Lecturer, Dept. of Philosophy, The University of Auckland, New Zealand
1995-1998 Associate Professor, Institute of Philosophy, National Chung Cheng University, Taiwan
1994-1995 Visiting Assistant Professor, Dept. of Philosophy, Indiana University,  U.S.A.
1992-1993 S.E.R.C. (U.K.) Post-doctoral fellow, visiting ILLC, The University of Amsterdam
1991-1992 S.E.R.C. (U.K.) Post-doctoral fellow, visiting Indiana University
1989-1991 Research Associate, HCRC, Edinburgh University

**Teaching**

As chair of the academic board for Logic and Computation, a subject for undergraduate and postgraduate degrees in the Faculty of Arts and the Faculty of Science, I have been involved in the planning and development of both the degree programme and individual courses.  I have taught extensively both mathematical and philosophical logic at all levels, from large undergraduate classes with 500 students to small postgraduate seminars with 3 students, and postgraduate supervision.

I am also involved in our Asian philosophy programme and I teach a regular undergraduate course in classical Chinese philosophy.

**Research**

My main area of research is the philosophy of information. I take a mathematical approach, developing models to investigate the relationship between the metaphysics, logic, and epistemology of information flow. Initially, my work focussed on models of situation theory, the attempt by Jon Barwise and John Perry (and others) to produce a general account of meaning and inference based on a metaphysics of situations, in contrast to the then dominant use of possible worlds.  Subsequently, I worked on models of diagrammatic reasoning, temporal reasoning in natural language, and general proof systems for reasoning in situation theory.

The latter project lead to a collaboration with Patrick Blackburn that resulted in the development of hybrid logic, an extension of modal logic with various devices for naming and variable binding. In this connection, I discovered the method of *internalization*, whereby a semantic theory can be formalized in a way that leads directly to a proof system.

With Jon Barwise, I developed a general model of information and information flow using the category of *classifications and infomorphisms*. Our inspiration was the pioneering work of Claude Shannon and its philosophical interpretation by Fred Dretske in his 1981 book "Knowledge and the Flow of Information".  We model information channels as networks of classifications and infomorphisms. Recently, I have returned to this project to address a lacuna concerning probabilistic reasoning. The necessary generalisation opens up a number of interesting topics, both philosophical and mathematical. On the philosophical side, my interest is in characterising the metaphysical presuppositions of probabilistic reasoning using situation theory. On the mathematical side, I am concerned with the abstract characterisation of consequence relations based on probabilistic reasoning.

In addition to the above, I have also written on the theory of truth and the philosophy of computation. In Chinese philosophy, I am particularly interested in the role of reason and logic in early Chinese thought and I have a recent paper on the role of reason and emotion in Mencius.

Most recently, I have been applying the methods of hybrid logic to topics in Social Choice Theory, in collaboration with Patrick Girard (Auckland), Guo Meiyun (South West University, China) and Liu Fenrong (Tsinghua University, China).

**Contribution to the Research Environment**

In addition to reviewing papers for numerous academic journals, I have been on the programme committee for many international conferences, including AiML (Advances in Modal Logic) and TARK (Theoretical Aspects of Reasoning about Knowledge). I am on the ASL (Association for Symbolic Logic) regional committee for Australasia.

More locally, in 2008, with Ed Mares (Victoria) I initiated North Island Logic, a series of joint workshops with the University of Victoria, Wellington, to facilitate the sharing of research between faculty and postgraduate students in our two universities. We have held annual meetings since then, and we intend to step this up to one meeting per semester.

**Publications**

SELIGMAN, J., MARES, E. and RESTALL, G., 'Situation Theory II: Constraints and Channels' *In J. van Benthem and A. Ter Meulen (ed.) Handbook of Logic and Language, second edition. Cambridge, MA, The MIT Press, Forthcoming 2010.*

SELIGMAN, J. 'Channels: from Logic to Probability' In G. Sommaruga (ed.) *Formal Theories of Information, Springer LNCS 5363, pp. 193–233, 2009.*

GIRARD, P. and SELIGMAN, J. 'An analytic logic of aggregation' In R. Ramanujam and S. Sarukkai (eds.) *Proc. of the Third Indian Conference on Logic and Applications, Springer LNAI 5378, pp. 148–163, 2009.*

SELIGMAN, J. 'The Scope of Turing's Analysis of Effective Procedures' *Minds and Machines, Vol 12,* 203-220, 2002.

SELIGMAN, J. 'Internalization: The Case of Hybrid Logics' *Journal of Logic and Computation, Vol. 11,* 671-689, 2001.

SELIGMAN, J. 'The Substance of Deflation' In J. Peregrin (ed.) *Truth and Its Nature (If Any).* Dordrecht, Kluwer Academic Publishers, 173-186, 1999.

BLACKBURN, P. and SELIGMAN, J. ' What are Hybrid Languages?' In M. Kracht, et al (ed.) *Advances in Modal Logic, Volume 1.* Stanford, CSLI Publications, 41-62, 1998.

BARWISE, J and SELIGMAN, J. *Information Flow: The logic of distributed systems.* Cambridge, Cambridge University Press, 274 pages, 1997.

MOSS, L. and SELIGMAN, J. ' Situation Theory' In J. van Benthem and A. Ter Meulen (ed.) *Handbook of Logic and Language.* Cambridge, MA, The MIT Press, 239-309, 1997.

SELIGMAN, J. ' The Logic of Correct Description' In M. de Rijke, et al (ed.) *Advances in Intensional Logic.* Dordrecht, Kluwer Academic Publishers, 107-136, 1997.

SELIGMAN, J. (ed) *Logic, Language and Computation, Vol. 1.* Stanford, CSLI Publications, 590 pages, 1996.

BLACKBURN, P. and SELIGMAN, J. 'Hybrid Languages' *Journal of Logic, Language and Information, Vol. 4,* 251-272, 1995.

MOSS, L. and SELIGMAN, J. ' Classification Domains and Information Links: A Brief Survey' In J. van Eijck and A. Visser (ed.) *Logic and Information Flow.* Cambridge, MA, The MIT Press, 112--124, 1994.

SELIGMAN, J. and TER MEULEN, A. 'Dynamic Aspect Trees' In M. Masuch and L. Polos (ed.) *Applied Logic: How, What and Why.* Dordrecht, Kluwer Academic Publishers, 287-321, 1994.

BARWISE, J. and SELIGMAN, J. 'The Rights and Wrongs of Natural Regularity' *Philosophical Perspectives, Vol. 8,* 331-365, 1994.

SELIGMAN, J. 'An Algebraic Appreciation of Venn Diagrams' *The 9th Amsterdam Colloquium, Proceedings,* December 14-17, Amsterdam, The Netherlands, 607-625, 1993.

BARWISE, J. and SELIGMAN, J. 'Imperfect Information Flow' *The 8th IEEE Conference in Logic and Computer Science, Proceedings,* June 20-23, Montreal, Quebec,1993.

SELIGMAN, J. 'Situated Consequence in Elementary Situation Theory' *Indiana University Logic Group IULG-92-16,* Indiana University, 27 pages, 1992.

SELIGMAN, J. 'A Cut-free Sequent Calculus for Elementary Situated Reasoning' *Research Paper HCRC-RP 22*, Human Communication Research Centre, University of Edinburgh, 1991.

SELIGMAN, J. 'Physical Situations and Information Flow' In M. Gawron et al (ed.) *Situation Theory and its Applications, Vol. II.* Stanford, CSLI Publications, 257-292, 1991.

SELIGMAN, J. 'Perspectives in Situation Theory' In R. Cooper et al (ed.) *Situation Theory and its Applications, Vol. I.* Stanford, CSLI Publications, 147-191, 1990.

CHATER, N. and SELIGMAN, J. 'Devlin on Information and Cognition' *Research Paper EUCCSS/RP-31*, Centre for Cognitive Science, University of Edinburgh, 16 pages, 1989.

## Recent Presentations

10 October 2009, invited speaker: "Looking for a unified theory of information and communication" **The Second International Workshop on Logic, Rationality and Interaction (LORI-II)**, South-West University, Chongqing, China.

4 November 2009, "The Logic of Relative Certainty", **Eighth International Conference on Logic and Cognition (ICLC2009)**, Sun Yat-Sen University, Guangzhou, China

9 February, 2010, invited speaker: "Information - Do we know what we are talking about?" **Philosophy of the Information and Computing Sciences**, Lorentz Center, Leiden University, The Netherlands.

March and April, 2010, lecture series: "Situation Theory and Channels", Logic seminar, Tsinghua University, Beijing, China.

10 April, 2010, "The Logic of Relative Certainty", Logic seminar, Peking University, Beijing, China.

25 April, 2010, invited speaker: "The Logic of Community", **National Logic Conference** (王宪钧先生诞辰 100 周年纪念暨全国现代逻辑学术研讨会), Peking University, Beijing, China