

VITA

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EDUCATION: Ph.D. Human Development; University of Chicago; 1973.
Dissertation: A Model of Developmental and
Psychological Processes.

Clinical Internship; University of Chicago Counseling Center; 1969-
1971.

M.S. Statistics; University of Chicago; 1970.

B.S. Mathematics; University of Chicago; 1966.

PROFESSIONAL EXPERIENCE:

Henry R. Luce Professor in
Cognitive Robotics and The Philosophy of Knowledge
Philosophy, Cognitive Science, Psychology, Biology, Counseling, Computer Science
Lehigh University - 1990 to present.

Director, Institute for Interactivist Studies, Lehigh University
2000 to present

Director, Complex Systems Research Group, Lehigh University
1999 to 2005

Director, Cognitive Science Program, Lehigh University,
1992 to 2003.

Psychologist License, State of Pennsylvania, 1991

Professor, Educational Psychology
University of Texas at Austin - 1986 to 1990.

Associate Professor, Educational Psychology
University of Texas at Austin - 1979 to 1986.

Assistant Professor, Educational Psychology
University of Texas at Austin - 1972 to 1979.

Research Consultant; The Center for Psychosocial Studies,
Chicago; 1977 to 1980.

A center devoted to the development of a critique of social processes and institutions from a psychological perspective. Its then current focus was on the nature and construction of social meaning. My involvement derived from the center's interest in my models of psychological and sociological processes.

Certification and Licensing; Texas Board of Examiners
of Psychologists; 1975.

Research Consultant; National Opinion Research Center,
University of Chicago; 1973 to 1977.

Multiple-stage least squares analyses of continuous national survey data with respect to structural systems models of contemporaneous and time lagged national influences.

Contract Instructor; California School of Professional
Psychology, Los Angeles; Summer 1975.

Visiting Senior Study Director; National Opinion Research
Center, University of Chicago; May 1973 to August 1973.

A continuous full probability national survey, whose clients were primarily federal agencies, including HEW, DOA, DOT, and FEO. My responsibilities were most centrally involved with the agency relationships in Washington, D.C., project management, and the design of a software system and computer language for the file maintenance and statistical analysis of the data.

Research Consultant; University of Chicago Industrial
Relations Center; Summer 1970 to Summer 1972.

The focal project that I was involved with was the design and analysis of a large scale model of organizational processes. The model was a two layer hierarchically embedded structural model involving several sets of social psychological variables on work groups as the primary analytic units. Longitudinal data was collected from a large service corporation over a three year period.

Psychotherapist; Chicago Counseling and Psychotherapy Research Center; Summer
1971 to Summer 1972.

The center was organized by the members of the University of Chicago Counseling Center on their own time and at their own expense when the clinical program was eliminated at the University. The Center was conceived of as a community service organization with low fees and extensive community

contacts. We were engaged primarily in individual therapy, but with some group, family, and child therapy.

Research Statistician; Illinois State Commission on Drug Abuse;
Summer 1970 to 1971.

My primary involvement was with the development of explanatory and predictive models for such variables as cessation of criminal activities, holding a job, successful heroin detoxification, length of stay in treatment, optimal treatment mode for various personality types, etc.

Group Leader; Employment Service Institute;
Fall 1970 to Fall 1971.

Computer Programmer; various settings; 1964 to 1978.

Psychotherapist; Private Practice; 1975 to 1990.

TEACHING EXPERIENCE:

Courses Taught:

Advanced Seminar in Cognition: Representation and Cognition#
 Figures and Themes in 19th Century Philosophy: Pragmatism#
 Cognitive Robotics#
 Introduction to Linguistics
 Senior Seminar in Cognitive Science
 Cognitive Modeling#
 Current Topics in Cognition
 Psycholinguistics#
 Seminar - Communication and Language#
 Artificial Intelligence
 Philosophy of Biology
 Systematics and Evolution
 Action, Free Will, and Fate
 The Minds of Men and Robots
 Philosophy Faculty Seminar: The Origins and Errors of Analytic Philosophy#
 Philosophy Faculty Seminar: A Naturalism of Persons#
 Philosophy Faculty Seminar: Ontological Psychology#
 Philosophy Faculty Seminar: The Whole Person#
 Ontological Psychology#
 Philosophy of Science#
 Research Methodology#
 Linear Models and Decisions#
 Child Development - Cognitive#
 Child Development - Language#
 Child Development - Social#
 Construction of Personality#
 Seminar on Personality#
 Motivation and Emotion
 Personality and Mental Health
 Ethics, Values, and Psychology#
 Biological Bases of Behavior
 Fortran Computer Programming#
 Individual in Society
 Individual Through the Life Cycle
 Introduction to Developmental, Social, and Personality
 Introduction to Individual Counseling
 Client Centered Therapy#
 Experiential Psychotherapy#
 Existential Psychotherapy
 Philosophical Foundations of Psychotherapy#
 Counseling Practicum Seminar
 Advanced Seminar in Psychotherapy#

#These courses are original developments of mine

PROFESSIONAL MEMBERSHIPS:

American Association for the Advancement of Science
 American Association for Artificial Intelligence
 American Mathematical Society
 American Philosophical Association
 American Psychological Association
 American Psychological Society
 Association for Symbolic Logic
 Cognitive Science Society
 International Society for History, Philosophy, and Social Studies of Biology
 International Society for Theoretical Psychology
 International Society for the Study of Behavioural Development
 Jean Piaget Society
 Linguistic Society of America
 Mathematical Association of America
 Philosophy of Science Association
 Society for Machines and Mentality
 Society for Philosophy and Psychology
 Society for Research in Child Development
 The Mind Association

EDITORIAL BOARDS

Editor *New Ideas in Psychology*
Journal of Cognitive Systems Research
Science & Consciousness Review

BOARD MEMBERSHIPS:

Board member, *Jean Piaget Society*, as of 2005.

AWARDS AND RECOGNITIONS:

Awards.

Henry R. Luce Professorship in Cognitive Robotics and the Philosophy of Knowledge. Three Year Extension Award. Henry R. Luce Foundation. \$350,000 1995-1998.

Associate Investigator: Reduction and emergence in non-linear dynamical systems. 3 Year Funding 1998-2000. Australian Research Council. University of Newcastle, Australia

Principal Investigator. National Science Foundation: Biocomplexity: Complex Systems from Physics to Biology - Incubation Award. 1 year: 2000-2001. \$99,970. Lehigh University Complex Systems Group.

International Associate, International Research Exchange Grant, Australian Research Council, 2001: Investigation of foundational concepts and principles for complex organised autonomous systems. Universities of Newcastle [Australia], the Basques [Spain], and Lehigh [USA].

Recognitions.

- Symposium on Foundational Questions in Linguistics. With commentary by Petr Sgall, Victor Yngve, Richard Janney, E. Itkonen. Organized by Jacob Mey and Richard Janney of the *Journal of Pragmatics*. Symposium organized around my work in linguistics at the International Congress of Linguists, Quebec, Canada, August 11, 1992.
- Fulbright student attending Lehigh in order to work with me. Sonia Jiménez-Suárez, a Fulbright student from the University of the Andes, Bogota, Colombia, on psychopathology and psychotherapy. 1992.
- Invited for six week visit to University of Newcastle, Australia, to work with Professor Cliff Hooker and his graduate students. June, July, 1995.
- Presented the Inaugural Master Class in Cognitive Science at Philosophy And Computers & Cognitive Science (PACCS), State University of New York, Binghamton, September 18, 1998.
- Six week visit from Dr. Wayne Christensen, from University of Newcastle, Australia, to work on my model, November-December, 1998.
- Organized an International conference on Adaptive Agent Dynamics and Cognition, Lehigh University, April 23-25, 1999.
- Three week visit from Dr. Wayne Christensen, from University of Newcastle, Australia, to work on my model, May 1999.
- Sabbatical visit, six weeks, to work on my model by Richard Campbell, Professor, from Australian National University, Canberra, Australia, April-May, 2000.
- First Prize, Best Paper Award - General Systems, Anticipation, and Epistemology at CASYS 2000, Fourth International Conference on Computing Anticipatory Systems, August 7-12, 2000, Liege, Belgium.
- Three week visit to work on my model by Professor Georgi Stojanov, from SS. Cyril and Methodius University, Skopje, Macedonia, September, 2000.
- Invited Faculty, Bolzano International Schools in Cognitive Analysis, Bolzano, Italy, September 18-22, 2000.
- Inaugural Address for Cognitive Science Program, Montclair State University, New Jersey, October 11, 2000.
- Invited plenary address: An Integration of Motivation and Cognition. *Development and Motivation Conference*, April 16-18, 2002, Bowness, The Lake District, England.
- Invited plenary address: Process and Emergence: Normative Function and Representation. *Processes — Analysis and Application of Dynamic Categories. An Interdisciplinary Workshop on Non-Reductive Theories of Processes*. June 5-8, 2002, Sandbjerg Castle, Sønderborg, Denmark. Sponsored by the University of Aarhus, Denmark.

Invitation to *Getting beyond Genes, Neurons, and Individual Minds*. University of Minnesota, Minneapolis, April 18-20, 2003. Organizer: Evelyn Fox Keller.

Invitation as a Primary Lecturer, University of Geneva, Archives Jean Piaget, Advanced course of the Foundation Piaget on *Norms and Development*, September 22-27, 2003.

Invited faculty for the Herbstakademie, *Complex Systems in Psychology*; Monte Verità, Ascona, Switzerland, October 18-22, 2003.

Invited Plenary Talk Austrian Society for Cognitive Science. Conference on *Cognitive Science and Cybernetics*. Vienna, Austria, 13-15 November, 2003.

Invited Plenary Speaker *Creativity and Education*. Taipei, Taiwan 20 – 22 May 2005.

Invited Plenary Speaker *Jean Piaget Society* meetings. Vancouver, 2 June 2005.

Editor *New Ideas in Psychology* Elsevier Publishers, as of January 1, 2005.

Invited Plenary Speaker *American Association for Artificial Intelligence Fall Symposium: From Reactive to Anticipatory Cognitive Embodied Systems*, 3-6 November 2005, Arlington, Virginia.

PUBLICATIONS AND OTHER CONTRIBUTIONS:

Books

- Bickhard, M. H. (1980). *Cognition, Convention, and Communication*. New York: Praeger Publishers.
- Bickhard, M. H., Richie, D. M. (1983). *On the Nature of Representation: A Case Study of James Gibson's Theory of Perception*. New York: Praeger Publishers.
- Campbell, R. L., Bickhard, M. H. (1986). *Knowing Levels and Developmental Stages*. Contributions to Human Development. Basel, Switzerland: Karger.
- Bickhard, M. H., Terveen, L. (1995). *Foundational Issues in Artificial Intelligence and Cognitive Science: Impasse and Solution*. Elsevier Scientific. Paperback edition: (1996).

Monographs

- Bickhard, M. H. (1980). A Model of Developmental and Psychological Processes. *Genetic Psychology Monographs*, **102**, 61-116.
- Bickhard, M. H. (2003). An Integration of Motivation and Cognition. In Smith, L., Rogers, C., Tomlinson, P. (Eds.) *Development and motivation: joint perspectives*. Leicester: British Psychological Society, Monograph Series II, 41-56.

Chapters

- Bickhard, M. H. (1980). On Models of Knowledge and Communication. In Maya Hickmann (Ed.) *Proceedings of a Working Conference on the Social Foundations of Language and Thought*. Center for Psychosocial Studies, Chicago.
- Bickhard, M. H. (1987). The Social Nature of the Functional Nature of Language. In Maya Hickmann (Ed.) *Social and Functional Approaches to Language and Thought*. Academic.
- Bickhard, M. H. (1989). The Nature of Psychopathology. In Lynn Simek-Downing (Ed.) *International Psychotherapy: Theories, Research, and Cross-Cultural Implications*. Westport, CT: Praeger Press.
- Bickhard, M. H. (1991). Cognitive Representation in the Brain. Invited chapter in *Encyclopedia of Human Biology*. Vol. 2. Academic Press, 547-558.
- Bickhard, M. H. (1991). The Import of Fodor's Anti-Constructivist Argument. In Les Steffe (Ed.) *Epistemological Foundations of Mathematical Experience*. New York: Springer-Verlag, 14-25.

- Bickhard, M. H. (1991). A Pre-Logical Model of Rationality. In Les Steffe (Ed.) *Epistemological Foundations of Mathematical Experience*. New York: Springer-Verlag, 68-77.
- Bickhard, M. H. (1992). How Does the Environment Affect the Person? Invited chapter in L. T. Winegar, J. Valsiner (Eds.) *Children's Development within Social Contexts: Metatheory and Theory*. Erlbaum, 63-92.
- Bickhard, M. H. (1992). Scaffolding and Self Scaffolding: Central Aspects of Development. Invited chapter in L. T. Winegar, J. Valsiner (Eds.) *Children's Development within Social Contexts: Research and Methodology*. Erlbaum, 33-52.
- Campbell, R. L., Bickhard, M. H. (1992). A Deconstruction of Fodor's Anticonstructivism. In L. Smith (Ed.) *Jean Piaget: Critical Assessments*. Routledge, chapter 72, 134-148. (Reprint of 1987)
- Bickhard, M. H. (1992). Piaget on Variation and Selection Models: Structuralism, logical necessity, and interactivism. In L. Smith (Ed.) *Jean Piaget: Critical Assessments*. Routledge, chapter 83, 388-434. (Reprint of 1988)
- Bickhard, M. H. (1995). World Mirroring versus World Making: There's Gotta be a Better Way. In L. Steffe, J. Gale (Eds.) *Constructivism in Education*. (229-267). Erlbaum.
- Bickhard, M. H. (1995). Is Cognition an Autonomous Subsystem? In Seán Ó Nualláin, Paul McKeivitt (Eds.) *AISB-95 Workshop on Reaching for Mind: Foundations of Cognitive Science*, Sheffield, England, 3-7 April, 1995. The Tenth Biennial Conference on AI and Cognitive Science organised by the Society for the Study of Artificial Intelligence and Simulation of Behaviour and the Department of Computer Science at the University of Sheffield.
- Bickhard, M. H. (1996). The Emergence of Representation in Autonomous Embodied Agents. Papers from the *1996 AAAI Fall Symposium on Embodied Cognition and Action*. Chair: Maja Mataric. Nov 9-11, MIT, Cambridge, MA. Technical Report FS-96-02. Menlo Park, CA.: AAAI Press.
- Bickhard, M. H. (1996). Troubles with Computationalism. In W. O'Donohue, R. F. Kitchener (Eds.) *The Philosophy of Psychology*. (173-183). London: Sage.
- Bickhard, M. H. (1997). Is Cognition an Autonomous Subsystem? In S. O'Nuallain, P. McKeivitt, E. MacAogain (Eds.). *Two Sciences of Mind*. (115-131). John Benjamins.
- Bickhard, M. H. (1997). Cognitive Representation in the Brain. In Dulbecco (Ed.) *Encyclopedia of Human Biology*. 2nd Ed. (865-876). Academic Press.
- Bickhard, M. H. (1998). Constructivisms and Relativisms: A Shopper's Guide. In M. R. Matthews (Ed.) *Constructivism in Science Education: A Philosophical Debate*. (99-112). Kluwer Academic.

- Bickhard, M. H. (1998). Whither Representation? In M. A. Gernsbacher, S. J. Derry (Eds.) *Proceedings of the Twentieth Annual Conference of the Cognitive Science Society*, University of Wisconsin-Madison, August 1 - 4, 1998, 150-155. Erlbaum.
- Bickhard, M. H. (1998). A Process Model of the Emergence of Representation. In G. L. Farre, T. Oksala (Eds.) *Emergence, Complexity, Hierarchy, Organization*, Selected and Edited Papers from the *ECHO III Conference*. *Acta Polytechnica Scandinavica*, Mathematics, Computing and Management in Engineering Series No. 91, Espoo, Finland, August 3 - 7, 1998, 263-270.
- Bickhard, M. H. (1998). Robots and Representations. In R. Pfeifer, B. Blumberg, J.-A. Meyer, S. W. Wilson (Eds.) *From Animals to Animats 5*. (58-63). *Proceedings of the Fifth International Conference on Simulation of Adaptive Behavior*. Zurich, Switzerland, August 17 - 21, 1998. MIT.
- Bickhard, M. H. (1998). Genuine Representation in Artificial Systems. In G. Antoniou, J. Slaney (Eds.) *Advanced Topics in Artificial Intelligence*. (27-38). Springer.
- Bickhard, M. H. (1999). Representation In Natural and Artificial Agents. E. Taborsky (Ed.) *Semiosis. Evolution. Energy: Towards a Reconceptualization of the Sign*. (15-25). Aachen: Shaker Verlag.
- Bickhard, M. H. (1999). The Dynamics of Representation. In B. Hayes, C.A. Hooker, R. Heath, A. Heathcote (Eds.) *Proceedings of the Fourth Australian Cognitive Science Conference*. Newcastle: University of Newcastle, Australia. ISBN 0 7259 1059 3 <http://psychology.newcastle.edu.au/~heath/cogsci97/>
- Bickhard, M. H. (1999). How to Fill Empty Symbols. In B. Hayes, C.A. Hooker, R. Heath, A. Heathcote (Eds.) *Proceedings of the Fourth Australian Cognitive Science Conference*. Newcastle: University of Newcastle, Australia. ISBN 0 7259 1059 3 <http://psychology.newcastle.edu.au/~heath/cogsci97/>
- Bickhard, M. H. (2000). Dynamic Representing and Representational Dynamics. In E. Dietrich, A. Markman (Eds.) *Cognitive Dynamics: Conceptual and Representational Change in Humans and Machines*. (31-50). Erlbaum.
- Bickhard, M. H. (2000). Emergence. In P. B. Andersen, C. Emmeche, N. O. Finnemann, P. V. Christiansen (Eds.) *Downward Causation*. (322-348). Aarhus, Denmark: University of Aarhus Press.
- Bickhard, M. H. (2000). Motivation and Emotion: An Interactive Process Model. In R. D. Ellis, N. Newton (Eds.) *The Caldron of Consciousness*. (161-178). J. Benjamins.
- Bickhard, M. H. (2001). The Emergence of Contentful Experience. In T. Kitamura (Ed.) *What Should be Computed to Understand and Model Brain Function?* (217-237). Singapore: World Scientific.
- Bickhard, M. H. (2001). Function, Anticipation, Representation. In D. M. Dubois (Ed.) *Computing Anticipatory Systems. CASYS 2000 - Fourth International Conference*. (459-469). Melville, NY: American Institute of Physics.

- Bickhard, M. H. (2003). The Biological Emergence of Representation. In T. Brown, L. Smith (Ed.) *Emergence and Reduction: Proceedings of the 29th Annual Symposium of the Jean Piaget Society*. (105-131). Erlbaum.
- Bickhard, M. H. (2003). Mind as Process. In F. G. Riffert, M. Weber (Eds.) *Searching for New Contrasts*. (285-294). Vienna: Peter Lang.
- Bickhard, M. H. (2003). Process and Emergence: Normative Function and Representation. In: J. Seibt (Ed.) *Process Theories: Crossdisciplinary Studies in Dynamic Categories*. Dordrecht: Kluwer Academic.
- Bickhard, M. H. (2004). The Social Ontology of Persons. In J. I. M. Carpendale, U. Muller (Eds.) *Social Interaction and the Development of Knowledge*. (111-132). Mahwah, NJ: Erlbaum.
- Bickhard, M. H. (2006). Developmental Normativity and Normative Development. In L. Smith, J. Voneche (Eds.) *Norms in Human Development*. (57-76). Cambridge: Cambridge University Press.

Articles

- Bickhard, M. H., Ford, B. L. (1976). Adler's Concept of Social Interest: A critical explication. *Journal of Individual Psychology*, 32, No. 2, 27-49.
- Moore, N., Bickhard, M. H., Cooper, R. G. (1977). The Child's Development of the Concept of Family. *Resources in Education and ERIC Document Reproduction Services*.
- Bickhard, M. H. (1978). A Reply to "Social Interest: A Reply to Bickhard and Ford." *Journal of Individual Psychology*, 34, No. 1, 27-35.
- Bickhard, M. H. (1978). The Nature of Developmental Stages. *Human Development*, 21, 217-233.
- Bickhard, M. H., Ford, B. L. (1979). Subjective Adaptationalism: An Adlerian metapsychology. *Journal of Individual Psychology*, 35, No. 2, 162-186.
- Bickhard, M. H. (1979). On Necessary and Specific Capabilities in Evolution and Development. *Human Development*, 22, 217-224.
- Bickhard, M. H. (1980). Functionalism in Adlerian Psychology. *Journal of Individual Psychology*, 36, No. 1, 66-74.
- Bickhard, M. H. (1980). Outline of a Theory of Psychological Processes. Unpublished manuscript edited and included in *Piaget's Genetic Epistemology 1965-1980*. R. Vuyk, New York: Academic Press.
- Bickhard, M. H. (1980). Approaches to the Study of Mind. *Cognition and Brain Theory*, 3, No. 4, 146-152.
- Bickhard, M. H. (1982). Automata Theory, Artificial Intelligence, and Genetic Epistemology. *Revue Internationale de Philosophie*, 36, No. 142-143, 549-566, Invited paper for a special issue on Jean Piaget.

- Bickhard, M. H., Cooper, R. G., Mace, P. E. (1985). Vestiges of Logical Positivism: Critiques of Stage Explanations. *Human Development*, 28, 240-258.
- Campbell, R. L., Bickhard, M. H. (1987). A Deconstruction of Fodor's Anticonstructivism. *Human Development*, 30, 48-59.
- Richie, D. M., Bickhard, M. H. (1988). The Ability to Perceive Duration: Its Relation to the Development of the Logical Concept of Time. *Developmental Psychology*, 24, 318-323.
- Bickhard, M. H. (1988). Piaget on Variation and Selection Models: Structuralism, logical necessity, and interactivism. *Human Development*, 31, 274-312.
- Bickhard, M. H. (1988). The Necessity of Possibility and Necessity. Review of Piaget's *Possibility and Necessity* *Harvard Educational Review*, 58, No. 4, 502-507.
- Bickhard, M. H., Campbell, R. L. (1989). Interactivism and Genetic Epistemology. *Archives de Psychologie*, 57(221), 99-121.
- Bickhard, M. H. (1989). Ethical Psychotherapy and Psychotherapy as Ethics. *New Ideas in Psychology*, 7(2), 159-164.
- Wedemeyer, N. V., Bickhard, M. H., Cooper, R. G. (1989). The Development of Structural Complexity in the Child's Concept of Family: The Effect of Cognitive Stage, Sex, and Intactness of Family. *Journal of Genetic Psychology*, 150(4), 341-357.
- Bickhard, M. H. (1991). How to Build a Machine with Emergent Representational Content. *CogSci News*, 4(1), 1-8.
- Bickhard, M. H. (1991). Homuncular Innatism is Incoherent: A reply to Jackendoff. *The Genetic Epistemologist*, 19(3), 5.
- Campbell, R. L. Bickhard, M. H. (1991). If Human Cognition is Adaptive, Can Human Knowledge Consist of Encodings? Commentary on "Is Human Cognition Adaptive?" by John R. Anderson *Behavioral and Brain Sciences*, (14), pp. 488-489.
- Christopher, J. C., Bickhard, M. H. (1992). Remodeling the As If in Adler's Concept of the Life Style. *Journal of Individual Psychology*, 76-85.
- Bickhard, M. H., Campbell, R. L. (1992). Some Foundational Questions Concerning Language Studies: With a Focus on Categorical Grammars and Model Theoretic Possible Worlds Semantics. *Journal of Pragmatics*, 17(5/6), 401-433. Target article for commentary in a special double issue.
- Campbell, R. L., Bickhard, M. H. (1992). Clearing the Ground: Foundational Questions Once Again. *Journal of Pragmatics*, 17(5/6), 557-602.
- Bickhard, M. H. (1992). The Strange Case of Bi-Photo-ism: Paul Churchland as the 8th Annual Selfridge Lecturer in Philosophy. *CogSci News*, 5(1), 5-6.

- Bickhard, M. H. (1992). Commentary on the Age 4 Transition. *Human Development*, 35(3)182-192.
- Bickhard, M. H. (1992). Myths of Science: Misconceptions of science in contemporary psychology. *Theory and Psychology*, 2(3), 321-337.
- Campbell, R. L., Bickhard, M. H. (1992). Types of Constraints on Development: An Interactivist Approach. *Developmental Review*, 12(3), 311-338.
- Christopher, J. C., Bickhard, M. H., Lambeth, G. S. (1992). Splitting Kernberg: A Critique of Otto Kernberg's Notion of Splitting. *Psychotherapy*, 29(3), 481-485.
- Campbell, R. L., Bickhard, M. H. (1993). Knowing Levels and the Child's Understanding of Mind. *Behavioral and Brain Sciences*, 16(1), 33-34.
- Bickhard, M. H. (1993). Foundations of Language Studies. In Crochetière, A., Boulanger, J., Ouellon, C. (Eds.) *Proceedings of the XVth International Congress of Linguists. Vol. I.* (237-242). Québec: Les Presses de L'Université Laval.
- Bickhard, M. H. (1993). Representational Content in Humans and Machines. *Journal of Experimental and Theoretical Artificial Intelligence*, 5, 285-333.
- Bickhard, M. H. (1993). On Why Constructivism Does Not Yield Relativism. *Journal of Experimental and Theoretical Artificial Intelligence*, 5, 275-284.
- Bickhard, M. H. (1993). Staircase? How Can We Tell? Review of *The Mind's Staircase* by Robbie Case. *American Journal of Psychology*, 106(4), 577-633.
- Bickhard, M. H., Christopher, J. C. (1994). The Influence of Early Experience on Personality Development. *New Ideas in Psychology*, 12(3), 229-252.
- Bickhard, M. H. (1994). Rocks, Frogs, and the Cartesian Gulf: Toward a Naturalism of Persons. *New Ideas in Psychology*, 12(3), 267-276.
- Christopher, J. C., Bickhard, M. H. (1994). The persistence of basic mistakes: Re-exploring psychopathology in Individual Psychology. *Journal of Individual Psychology*, 50, 223-231.
- Bickhard, M. H. (1995). Transcending False Dichotomies in Developmental Psychology — Review of *Beyond Modularity*. by A. Karmiloff-Smith. *Theory and Psychology*, 5(1), 161-165.
- Bickhard, M. H. (1995). Intrinsic Constraints on Language: Grammar and Hermeneutics. *Journal of Pragmatics*, 23, 541-554.
- Bickhard, M. H. (1995). Review of *Understanding Origins*. *Philosophical Psychology*, 8(1), 112-116.
- Bickhard, M. H. (1995). Who Interprets the Isomorphisms? *New Ideas in Psychology*, 13(2), 135-137.
- Bickhard, M. H. (1996). Sobre los principios de la ética en Counseling y Psicoterapia. *Revista Argentina de Clínica Psicológica*, V(1), 37-49.

- Bickhard, M. H., Campbell, R. L. (1996). Topologies of Learning and Development. *New Ideas in Psychology*, 14(2), 111-156.
- Bickhard, M. H., Campbell, R. L. (1996). Developmental Aspects of Expertise: Rationality and Generalization. *Journal of Experimental and Theoretical Artificial Intelligence*, 8(3/4), 399-417.
- Bickhard, M. H. (1997). Constructivisms and Relativisms: A Shopper's Guide. *Science Education*, 6, 29-42.
- Bickhard, M. H. (1997). Review of *The Search for Mind*. *Minds and Machines*, 7, 125-128.
- Bickhard, M. H. (1997). Emergence of Representation in Autonomous Agents. *Cybernetics and Systems: Special Issue on Epistemological Aspects of Embodied Artificial Intelligence*, 28(6), 489-498.
- Bickhard, M. H. (1997). Piaget and Active Cognition. *Human Development*, 40, 238-244.
- Bickhard, M. H. (1998). Levels of Representationality. *Journal of Experimental and Theoretical Artificial Intelligence*, 10(2), 179-215.
- Bickhard, M. H. (1998). Constraints on the Architecture of Mind. *New Ideas in Psychology*, 16(2), 97-105.
- Levine, A., Bickhard, M. H. (1999). Concepts: Where Fodor Went Wrong. *Philosophical Psychology*, 12(1), 5-23.
- Bickhard, M. H. (1999). Interaction and Representation. *Theory & Psychology*, 9(4), 435-458.
- Bickhard, M. H. (1999). On the Cognition in Cognitive Development. *Developmental Review*, 19, 369-388.
- Bickhard, M. H. (2000). Information and Representation in Autonomous Agents. *Journal of Cognitive Systems Research*, 1(2). <http://www.elsevier.nl>.
- Bickhard, M. H. (2000). Review of B. Shanon, *The Representational and the Presentational*. *Minds and Machines*, 10(2), 313-317.
- Bickhard, M. H. (2000). Autonomy, Function, and Representation. *Communication and Cognition — Artificial Intelligence*. Special issue on: The contribution of artificial life and the sciences of complexity to the understanding of autonomous systems. Guest Editors: Arantza Exteberria, Alvaro Moreno, Jon Umerez. 17(3-4), 111-131.
- Bickhard, M. H. (2000). A Historical Approach to Teaching Introductory Cognitive Science. *CogSci News*, 11(1,2), 2-3.
- Bickhard, M. H. (2001). The Tragedy of Operationalism. *Theory and Psychology*, 11(1), 35-44.

- Bickhard, M. H. (2001). Why Children Don't Have to Solve the Frame Problems: Cognitive Representations are not Encodings. *Developmental Review, 21*, 224-262.
- Christopher, J. C., Bickhard, M. H., Lambeth, G. S. (2001). Otto Kernberg's Object Relations Theory: A Metapsychological Critique. *Theory and Psychology, 11*(5), 687-711.
- Bickhard, M. H. (2001). Error Dynamics: The Dynamic Emergence of Error Avoidance and Error Vicariants. *Journal of Experimental and Theoretical Artificial Intelligence, 13*, 199-209.
- Bickhard, M. H. (2002). Critical Principles: On the Negative Side of Rationality. *New Ideas in Psychology, 20*, 1-34.
- Christensen, W. D., Bickhard, M. H. (2002). The Process Dynamics of Normative Function. *Monist, 85*(1), 3-28.
- Campbell, R. L., Christopher, J. C., & Bickhard, M. H. (2002). Self and Values: An Interactivist Foundation for Moral Development. *Theory and Psychology, 12*(6), 795-823.
- Bickhard, M. H., Campbell, D. T. (2003). Variations in Variation and Selection: The Ubiquity of the Variation-and-Selective Retention Ratchet in Emergent Organizational Complexity. *Foundations of Science, 8*(3), 215-282.
- Bickhard, M. H. (2003). Variations in Variation and Selection: The Ubiquity of the Variation-and-Selective Retention Ratchet in Emergent Organizational Complexity, Part II: Quantum Field Theory. *Foundations of Science, 8*(3), 283-293.
- Bickhard, M. H. (2003). Some notes on internal and external relations and representation. *Consciousness & Emotion, 4*(1), 101-110.
- Bickhard, M. H. (2004). Process and Emergence: Normative Function and Representation. *Axiomathes — An International Journal in Ontology and Cognitive Systems, 14*, 135-169.
- Bickhard, M. H. (2004). A Challenge to Constructivism: Internal and External Sources of Constructive Constraint. *Human Development, 47*, 94-99.
- Bickhard, M. H. (2004). Normativity and Mind. Review of *Duality of the Mind: A Bottom Up Approach Toward Cognition*. by Ron Sun. *Contemporary Psychology, 49*(2), 156-158.
- Bickhard, M. H. (2004). Why Believe in Beliefs? *Behavioral and Brain Sciences, 27*(1), 100-101.
- Stojanov, G., Bickhard, M. H. (2004). Representation: Emulation and Anticipation. *Behavioral and Brain Sciences, 27*(3), 418.
- Bickhard, M. H. (2005). Consciousness and Reflective Consciousness. *Philosophical Psychology, 18*(2), 205-218.
- Bickhard, M. H. (2005). Anticipation and Representation. In C. Castelfranchi (Ed.) *From Reactive to Anticipatory Cognitive Embodied Systems*. (1-7). AAAI Fall Symposium, Technical Report FS-05-05. Menlo Park, CA: AAAI Press.

Bickhard, M. H., Campbell, R. L. (2005). Editorial: New Ideas in Psychology. *New Ideas in Psychology*, 23(1), 1-4.

Workshops and Symposia

Personality, Psychopathology, and Psychotherapy: Some new orientations. February 26 & 27, 1983, Invited workshop at the International Conference on Psychotherapy, Bogota, Colombia.

Personality, Psychopathology, and Psychotherapy. August 14, 15, 16, 1985, Invited workshop at the University of the Andes, Bogota, Colombia.

Interactivism and Developmental Psychology. Organizer and Chair of a symposium at the Jean Piaget Society Meetings, May 30, 1986, Philadelphia.

The Age 4 Transition. Organizer, Chair, and Discussant of a symposium at the Society for Research in Child Development meetings, April 18, 1991, Seattle.

Foundational Questions in Linguistics. Focal presentation in a specially organized symposium of the same name with commentary from Petr Sgall, Victor Yngve, Richard Janney, and E. Itkonen and my responses. Organized by Jacob Mey and Richard Janney of the *Journal of Pragmatics*. International Congress of Linguists, Quebec, Canada, August 11, 1992.

Creativity and Cognition: Questions of Epistemology. Two day workshop on parts of my model. Instituto Superior de Psicologia Aplicada, Lisbon, Portugal, December 15 & 16, 1994.

Interactivism: Dynamics, Function, Representation, Rationality. Invited by Professor Cliff Hooker, Department of Philosophy, University of Newcastle. Newcastle, NSW, Australia. June 19, 1995 - July 12, 1995.

The Emergence of Representation in Autonomous Embodied Agents. *1996 AAAI Fall Symposium on Embodied Cognition and Action*. Chair: Maja Mataric. Nov 9-11, MIT, Cambridge, MA.

The Dynamics of Representation. *Workshop on Dynamical Models of Mind, Fourth Australasian Cognitive Science Society Meetings*, University of Newcastle, Newcastle, Australia, September 25, 1997.

An Interactive Model of Language. *Symposium on Interaction, Communication, and Meaning: The Pragmatic Dimension of Language, Jean Piaget Society Meetings*, Chicago, Illinois, June 13, 1998.

The Dynamical Birth of Representation. *BISCA 2000 Bolzano International Schools in Cognitive Analysis*. Faculty member. Bolzano, Italy, September 18-22, 2000.

Organized *Interactivist Summer Institute 2001*. Lehigh University, Bethlehem, Pennsylvania, 23-27 July 2001.

Getting beyond Genes, Neurons, and Individual Minds. University of Minnesota, Minneapolis, April 18-20, 2003. Organizer: Evelyn Fox Keller.

Organized *Interactivist Summer Institute 2003*. Copenhagen, Denmark, 22-26 July 2003.

Organized *Interactivist Summer Institute 2005*. Clemson, South Carolina, 19-23 September, 2005.

Perception Action Workshop University of Connecticut 21 April 06

Kazimierz Naturalizing Epistemology Workshop Kazimierz, Poland 1-5 September 06

Papers

Problems in system theoretic empirical research. Presented at the *American Sociological Association Meetings*, September 1971, Denver, Colorado. Mark H. Bickhard, J. R. Murray.

Simultaneous equation models for organizational behavior. Presented at the Spring Meeting of the *Psychometric Society*, March 1972, Princeton, New Jersey. Mark H. Bickhard, J. R. Murray.

The child's development of the concept of family. Paper presented at the meeting of the *Society for Research in Child Development*, March 1977, New Orleans. Nancy Moore, Mark H. Bickhard, Robert Cooper.

Social interest: A pragmatist interpretation. Annual Conference of the *North American Society of Adlerian Psychology*, May 1978, Washington, D. C.

On models of knowledge and communication. Invited paper at a conference sponsored by the Center for Psychosocial Studies, September 1978, Chicago.

Knowing levels and developmental stages: An alternative conception, applied to formal operations. Annual symposium of the *Jean Piaget Society*, June 2-4, 1983, Philadelphia. Robert L. Campbell, Mark H. Bickhard

Competence and performance: An inappropriate defense of structural stages. Annual symposium of the *Jean Piaget Society*, May 31 - June 2, 1984, Philadelphia. Robert L. Campbell, Mark H. Bickhard

The social nature of the functional nature of language. Invited paper in the session on Language, Understanding, and Hermeneutics at the *Gordon Research Conference on the Foundations of Cybernetics* New Hampton, N.H. August 27 - 31, 1984.

A deconstruction of Fodor's anticonstructivism. Annual symposium of the *Jean Piaget Society* June 8, 1985, Philadelphia. Robert L. Campbell, Mark H. Bickhard

Interactivism and Genetic Epistemology. *Symposium on Interactivism and Developmental Psychology*, *Jean Piaget Society*, May 30, 1986, Philadelphia, Mark H. Bickhard, Robert L. Campbell.

Knowing Levels and the Development of Natural Kind Categories. *Symposium on Interactivism and Developmental Psychology*, *Jean Piaget Society*, May 30, 1986, Philadelphia, Robert L. Campbell, Mark H. Bickhard.

- Problems in Assumptions Underlying the Piagetian Model of the Logical Time Concept. *Symposium on Interactivism and Developmental Psychology, Jean Piaget Society*, May 30, 1986, Philadelphia, D. Michael Richie, Mark H. Bickhard.
- The Organizational Effects of Repetitive Experience. *Symposium on Interactivism and Developmental Psychology, Jean Piaget Society*, May 30, 1986, Philadelphia, Robert G. Cooper, Mark H. Bickhard.
- Knowing Levels: The Interactive Approach to Stages. *Symposium on Post-Piagetian Stage Theory, Society for Research in Child Development*, April 23, 1987, Baltimore, Robert L. Campbell, Mark H. Bickhard.
- Piaget's Rejection of Variation and Selection Constructivism. *Jean Piaget Society*, May 29, 1987, Philadelphia.
- Knowing Levels and Postformal Stages. *Third Beyond Formal Operations Symposium*, June 25, 1987, Harvard University. Robert L. Campbell, Mark H. Bickhard
- Contributions to a Model of Developmental Processes and Constraints. *Third Beyond Formal Operations Symposium*, June 25, 1987, Harvard University.
- Rationality and Necessity. Conference on *Epistemological Foundations of Mathematical Experience*, University of Georgia, Athens, Georgia, February 26, 1988.
- Types of Constraints on Development: An Interactivist Approach. *Jean Piaget Society Meetings*, Philadelphia, June 2, 1988. Robert L. Campbell, Mark H. Bickhard
- Reflection and Rationality. *Jean Piaget Society Meetings*, Philadelphia, June 3, 1988.
- Scaffolding and Self Scaffolding: Central Aspects of Development. *Jean Piaget Society Meetings*, Philadelphia, June 1, 1989.
- Ontological Psychology: A Manifesto and Outline of Issues. *Jean Piaget Society Meetings*, Philadelphia, May 31, 1990.
- Topologies of Learning and Development: An Unsolved Problem. *Jean Piaget Society Meetings*, Philadelphia, June 2, 1990.
- The Argument Concerning Domain Specific versus Domain General Processes of Development. *Jean Piaget Society Meetings*, Philadelphia, May 30, 1991.
- The Emergent Constitution of Persons and Relationships. *Jean Piaget Society Meetings*, Montreal, May 29, 1992.
- A Model of Rationality - Implications for Expertise. Third International Conference on *Human and Machine Cognition: Expertise in Context*. Seaside, Florida, May 15, 1993.
- Two Cognitive Aspects of Expertise: Rationality and Generalization. Invited plenary paper. *FLAIRS94*, Pensacola, Florida, May 7, 1994.

- Interactive Representation and Autonomous Agents. Conference on *The Role of Dynamics and Representation in Adaptive Behaviour and Cognition*. Invited plenary paper. University of the Basque Country, San Sebastian, Spain, December 9, 1994.
- Interaction and Representation. *Australian Association for the History, Philosophy, and Social Studies of Science*. University of New South Wales, Sydney, Australia. July 10, 1995.
- How to Fill Empty Symbols. *Fourth Australasian Cognitive Science Society Meetings*, University of Newcastle, Newcastle, Australia, September 28, 1997.
- Representation in Natural and Artificial Agents. *Semiosis, Evolution, and Energy*. University of Toronto, Toronto, Canada, October 18, 1997.
- Intrinsic Constraints on Language. *The Ways of Worldmaking: The Reality of Constructivism II*, Heidelberg, April 30 - May 3, 1998.
- An Interactive Model of Language. *Symposium on Interaction, Communication, and Meaning: The Pragmatic Dimension of Language* at the *Jean Piaget Society* meetings, Chicago, June 11-13, 1998.
- Genuine Representations in Artificial Systems. Track on Foundations at the *11th Australian Joint Conference on Artificial Intelligence AI '98*, Griffith University, Brisbane, Australia, July 13-17, 1998.
- Whither Representation? *Cognitive Science Society*, Madison, Aug 1-4, 1998.
- A Process Model of the Emergence of Representation. *Third International Conference on Emergence: Emergence, Complexity, Hierarchy, Organisation III (ECHO III)* under the auspices of the *International Society for the Study of Emergence*, Helsinki, August 3-7, 1998.
- Interaction and Representation. *From Animals to Animats: The Fifth International Conference of the Society for Adaptive Behavior*, University of Zurich, August 17-21, 1998.
- The Biological Emergence of Representation. *Emergence and Reduction: The 29th Annual Symposium of the Jean Piaget Society*. Invited paper. Mexico City, June 2-5, 1999.
- Function and Representation: The naturalistic emergence of normative phenomena. *Australasian Association of Philosophy*. Invited paper. Melbourne, Australia, July 4-9, 1999.
- The Ontological Emergence of Representation in Autonomous Agents. Invited paper. *International Society for the History, Philosophy, and Social Sciences of Biology*. Oaxaca, Mexico, July 7-11, 1999.
- The Biological Foundations of Cognitive Science. Invited paper. *The 4th Annual Meeting of the Cognitive Science Society of Ireland*. Dublin, Ireland, August 16-20, 1999.

- The Dynamic Emergence of Representation. Invited paper. *Representation in Mind*. University of Sydney, Sydney, Australia, June 27-29, 2000.
- Function, Anticipation, Representation. Invited paper. *CASYS 2000: Fourth International Conference on Computing Anticipatory Systems*. Liege, Belgium, August 7-12, 2000.
- From Metaphysics to Rational Agents. *Interactivist Summer Institute 2001*. July 23, 2001. Lehigh University, Bethlehem, Pennsylvania.
- The Interactivist Model and Analytic Philosophy. *Interactivist Summer Institute 2001*. July 25, 2001. Lehigh University, Bethlehem, Pennsylvania.
- Interactivism, Neuroethology, and the Explanation of Behavior. With Cliff Hooker, University of Newcastle, Australia. *Interactivist Summer Institute 2001*. July 26, 2001. Lehigh University, Bethlehem, Pennsylvania.
- Comments on Sher on The Formal-Structural View of Logical Consequence. *Interactivist Summer Institute 2001*. July 26, 2001. Lehigh University, Bethlehem, Pennsylvania.
- Cognition as Emergent from Autonomy. Invited paper. Conference organized on occasion of Bickhard, Hooker, Moreno visit. Conference on *The Ontology of Autonomy: Implications and Emergents*. Australia National University, Canberra, Australia, February 12, 2002.
- An Integration of Motivation and Cognition. Invited plenary presentation at the *Development and Motivation Conference*, 16-18 April 2002, Bowness, The Lake District, England.
- Process and Emergence: Normative Function and Representation. Processes - Analysis and Application of Dynamic Categories. An Interdisciplinary Workshop on *Non-Reductive Theories of Processes*. June 5 - 8, 2002 Sandbjerg Castle, Sønderborg, Denmark Sponsored by the University of Aarhus, Denmark June 7, 2002. Invited plenary talk.
- Cognitive Representation and Action. *Digital Interaction and Constructivism Seminar*. The IT University of Copenhagen, Monday 10 June 2002 Conference organized on the occasion of my visit.
- Transcending Hume: Fact and Norm in Development. *Jean Piaget Society*, Chicago, June 7, 2003.
- Interactivism: From Parmenides to Persons. *Interactivist Summer Institute 2003*. Copenhagen, Denmark, 22 July 2003.
- Two New Principles of Interactivist Architecture: Microgenesis and Themes. *Interactivist Summer Institute 2003*. Copenhagen, Denmark, 26 July 2003.
- Frontiers of Interactivism. *Interactivist Summer Institute 2003*. Copenhagen, Denmark, 26 July 2003.

- Developmental Normativity and Normative Development. *Facts, Norms, and Development*. 16th Advanced Course, Fondation Archives Jean Piaget, University of Geneva, Geneva, Switzerland. 25 September 2003.
- The Dynamic Emergence of Representation. Invited Symposium: Dynamical Systems and the Mind. *Pacific Division American Philosophical Association Meetings*, Pasadena, California. 27 March 2004.
- Adéquation*: Relations of inorganic, organic, and epistemic development. Invited. *Jean Piaget Society*, Toronto, 3-5 June 2004.
- Piagetian Theory in Artificial Intelligence and Robotics Practice. Invited. *Jean Piaget Society*, Toronto, 3-5 June 2004.
- Notes on the Negative Side of Rationality: Critical Principles. *Cognitive Science Society* meetings, Chicago, 5-7 August 2004.
- Learning, Representation, and Novelty. Invited. *Performance Metrics for Intelligent Systems Workshop*. *National Institute of Standards and Technology*. Gaithersburg, Maryland, 26 August 2004.
- Negative Knowledge and Rational Creativity. Invited. *Performance Metrics for Intelligent Systems Workshop*. *National Institute of Standards and Technology*. Gaithersburg, Maryland, 26 August 2004.
- Substance Aporia and Their Dissolutions. Invited. *Dynamic Ontology*. Trento, Italy, 8-11 September 2004.
- Creativity and Rationality: Interrelationships and Implications for Education. Invited Plenary Speaker *Creativity and Education*. Taipei, Taiwan 20 May 2005.
- Are You Social? The Ontological and Developmental Emergence of the Person. Invited plenary presentation. *Jean Piaget Society Meetings*, Vancouver, 2 June 2005.
- Functional Scaffolding and Self-scaffolding. Invited. Session on Scaffolding. *Jean Piaget Society*, Vancouver, 3 June 2005.
- From Parmenides to Persons. *Interactivist Summer Institute 05*, Clemson, South Carolina, 19 September 2005.
- Jerry Fodor and Interactivism. With Susan Schneider. *Interactivist Summer Institute 05*, Clemson, South Carolina, 20 September 2005.
- Frontiers of Interactivism. *Interactivist Summer Institute 05*, Clemson, South Carolina, 22 September 2005.
- The Brain Doesn't Work That Way. *Interactivist Summer Institute 05*, Clemson, South Carolina, 22 September 2005.
- Anticipation and Representation. Invited plenary presentation. *From Reactive to Anticipatory Cognitive Embodied Systems*. AAAI 2005 Fall Symposium, Arlington, Virginia, 3 November 2005.

Process, Representation, Consciousness *Eastern Pennsylvania Philosophical Association* Susquehanna University Selinsgrove, PA 1 April 06

Toward a Naturalism of Intentionality and Consciousness Invited *Kazimierz Naturalizing Epistemology Workshop* Kazimierz, Poland 2 September 06

Working Conferences

Invited member at the Working Conference on the Social Foundations of Language and Thought, sponsored by the Center for Psychosocial Studies, September 1978, Chicago.

Invited member at the pre-conference study groups on: Psychotherapeutic Practice; The Social Impact of Psychotherapy; Research in Psychotherapy; Training in Psychotherapy at the International Conference on Psychotherapy, February 20, 21, & 22, 1983, Bogota, Colombia.

Invited presenter at the Gordon Research Conference on the Foundations of Cybernetics, the session on Language, Understanding, and Hermeneutics. New Hampton, N.H. August 27 - 31, 1984.

Session chair at the Gordon Research Conference on Cybernetics and Cognition, the session on Language and Communication, Wolfeboro, N.H. June 9 - 13, 1986.

Representational Content in Humans and Machines. Plenary Paper. The Second International Workshop on Human and Machine Cognition: Android Epistemology. May 9-11, 1991, Pensacola, Florida.

AAAI Fall 91 Symposium - Knowledge and Action at Social and Organizational Levels. Asilomar, Pacific Grove, California November 14 - 17, 1991.

World Mirroring versus World Making: There's Gotta be a Better Way. Plenary paper. Conference on Alternative Epistemologies in Education. Athens, Georgia, Feb 20-23, 1992.

Levels of Representationality. Plenary paper. Conference on The Science of Cognition. Santa Fe, New Mexico, June 15-18, 1992.

Emergence. Conference on *Downward Causation*. Chair: Peter Boegh Andersen. Aarhus University, Denmark. 23, 24 May 1997.

Process, Representation, Consciousness. Working conference on *Process and Cognition*. Verona, Italy, 12-13 September, 2004.

Workshop on *The Whole Person*. Greenville, South Carolina, 17-18 September, 2005.

Invited Talks

"A Model of Cognitive Development." Department of Psychology, Yale University, 1974.

- “A Model of Psychosocial Processes.” Department of Psychology, Yale University, 1975.
- “Structural Analyses.” National Opinion Research Center, University of Chicago, 1975.
- “A Mathematical Model of Psychological Processes.” Department of Psychology, University of Virginia at Charlottesville, 1976.
- “Language as an Action System.” Committee on Cognition and Communication, University of Chicago, 1977.
- “Communication Structures.” The Center for Psychosocial Studies, Chicago, May 1977.
- “Functional Models of Psychological Processes.” The Center for Psychosocial Studies, Chicago, September 1977.
- “The Concept of Mind in Psychology.” Rollins College, Winterpark, Florida, February 1978.
- “Cognition, Convention, and Communication.” Rollins College, Winterpark, Florida, February 1978.
- “An Adlerian Metapsychology.” California School of Professional Psychology, Los Angeles, March 1978.
- Panel member “The Historical Development of Adler's Theory.” Annual Conference of the North American Society of Adlerian Psychology, Las Vegas, May 1979.
- “Thinking About Cognition.” Human Experimental Group, Psychology Department, The University of Texas at Austin, January 1980.
- “A Model of Language and Language Acquisition.” Language Acquisition Group, The University of Texas at Austin, September 1981.
- “An Incoherence in the Assumption of Encoding as the Foundation for Epistemology.” Annual meeting of the American Society for Cybernetics, Washington, D. C., October 1981.
- Panel member “Language and Self Reference.” Annual meeting of the American Society for Cybernetics, Washington, D. C., October 1981.
- Panel member “The Relationship between Theory and Practice.” International Conference on Psychotherapy, Bogota, Colombia, February 24, 1983.
- Panel member “Social and Ideological Aspects of the Practice of Psychotherapy.” International Conference on Psychotherapy, Bogota, Columbia, February 25, 1983.
- “Cognitive Representation in the Brain: Cognition.” Clinical Neuroscience Conference on Cognitive & Linguistic Neuroscience, University of Texas Health Science Center at San Antonio, January 10, 1985.

“Cognitive Representation in the Brain: Perception.” Clinical Neuroscience Conference on Cognitive & Linguistic Neuroscience, University of Texas Health Science Center at San Antonio, February 7, 1985.

“Cognitive Representation in the Brain: Language.” Clinical Neuroscience Conference on Cognitive & Linguistic Neuroscience, University of Texas Health Science Center at San Antonio, March 7, 1985.

“Cognitive Representation in the Brain: Psychopathology.” Clinical Neuroscience Conference on Cognitive & Linguistic Neuroscience, University of Texas Health Science Center at San Antonio, April 11, 1985.

“Developmental Psychology.” Invited lecture at the University of the Andes, Bogota, Colombia, August 20, 1985.

“The Nature of Psychopathology.” Invited talk for the Psychiatric training group, military hospital, Bogota, Colombia, August 21, 1985.

“Development, Language, and the Mind.” Invited lecture at the University of the Andes, Bogota, Colombia, August 22, 1985.

“An Interactivist Approach to Perception.” Invited talk at the User Interface Institute, IBM Thomas J. Watson Research Institute, Yorktown Heights, NY, June 5, 1986.

“Interactivism and Developmental Psychology.” Invited talk at Project Spectrum, Tufts University, Cambridge, Mass., June 6, 1986.

“Representation in the Mind: a Function, not a Thing.” Invited talk for the Center for the Enhancement of Human Performance at the University of Texas Health Science Center, San Antonio, Texas, July 22, 1986.

“The Nature of Representation.” Invited talk to the Common Sense Reasoning group, University of Texas Department of Computer Science, October 17, 1986.

“The Nature of Psychopathology.” Invited talk at Ingleside Hospital, Rosemead, California October 8, 1987.

Conference on *Exploring Creativity* Sponsored by the Graduate School and the Graduate Student Association of the University of Texas Health Sciences Center at San Antonio, and the Mind Science Foundation of San Antonio: “Creativity: A Humanist's Viewpoint.” Amy Freeman Lee; “Creativity: A Cognitive Viewpoint.” Mark H. Bickhard; “Creativity: A Physicist's Viewpoint.” Steven Weinberg. March 3, 1989

“Scaffolding and Self-Scaffolding.” Developmental Group, Department of Psychology, University of Texas, February 7, 1990

“An Introduction to Ontological Psychology.” Lehigh University, March 1, 1990.

“An Integration of Robotics and Artificial Intelligence.” Department of Computer Science and Electrical Engineering. Lehigh University, October 3, 1990

- The Age 4 Transition; Discussant. A symposium at the meetings of the Society for Research in Child Development. Seattle, Washington, April 18, 1991
- Reformulating Dualistic Theories in Developmental Research; Discussant. A symposium at the meetings of the Society for Research in Child Development. Seattle, Washington, April 19, 1991
- “A New Vision for Cognitive Science.” Beckman Institute, University of Illinois, Champaign-Urbana, February, 1993.
- “Scaffolding, Self-scaffolding, and Education.” University of Illinois, Champaign-Urbana, February, 1993.
- “Robots and Representations.” Colorado State University, Ft. Collins, Colorado, March 4, 1994.
- “Interaction and Representation.” Albright College, Reading, Pennsylvania, March 16, 1994.
- “Robots and Representation.” Vassar College, Poughkeepsie, NY, October 3, 1994.
- “Are We Emergent from Physics?” Newcastle Philosophy Club, University of Newcastle, Newcastle, Australia, September 23, 1997.
- “Foundations of Cognitive Science.” Centre Leo Apostel, Brussels, May 5, 1998.
- “Master Class in Cognitive Science.” SUNY Binghamton, Graduate Program in Philosophy and Computers & Cognitive Science, September 18, 1998.
- “Steps Toward a Process Metaphysics of Persons: Representation.” Colloquium. SUNY Binghamton, Graduate Program in Philosophy and Computers & Cognitive Science, September 18, 1998.
- “The Emergence of Function in Far from Equilibrium Systems.” Physics Department, Lehigh University, September 24, 1998.
- “The Emergence of Representation in Autonomous Embodied Agents.” NEC, Princeton, NJ, December 14, 1998.
- “Dynamics and Representation.” Institute for Human and Machine Cognition, University of West Florida, Pensacola, Florida, May 19, 2000.
- “The Dynamic Emergence of Representation.” Australian National University, Canberra, Australia, June 22, 2000.
- “Motivation and Cognition.” Australian National University, Canberra, Australia, June 23, 2000.
- “An Interactive Model of Representation.” Cognitive Science Program, Lund University, Sweden, July 24, 2000.
- “Representation in Natural and Artificial Agents.” SS. Cyril and Methodius University Cognitive Science Group. Skopje, Republic of Macedonia, September 23, 2000.

- “How to Put the Cognition in Cognitive Science.” Inaugural address for new Cognitive Science Program. Montclair State University, Montclair, New Jersey, October 11, 2000.
- “The Dynamic Emergence of Representation.” Five College Cognitive Science Program University of Massachusetts, Amherst, Massachusetts, November 9, 2000.
- “Dynamic Biology: Process, Emergence, Normativity.” Konrad Lorenz Institute, Altenberg, Austria. 23 June 2003.
- “Dynamics and Representing: An Emergent from the Problem of Interaction Selection.” University of Skövde, Skövde, Sweden, 12 August 2003.
- “Learning, Development, and Scaffolding.” University of Skövde, Skövde, Sweden, 13 August 2003.
- “Social Reality and Language.” University of Skövde, Skövde, Sweden, 14 August 2003.
- “Primary Consciousness and Reflective Consciousness.” University of Skövde, Skövde, Sweden, 25 August 2003.
- “An Integration of Motivation and Cognition.” Simon Fraser University, Vancouver, Canada, 12 March 2004.
- “A Career in Cognitive Science.” Towson University, Towson, Maryland, 16 July 2004.
- “Dissolving the Problems of Consciousness.” Lehigh Philosophy Department, Bethlehem, Pennsylvania, 22 February 2005.
- “Consciousness and Reflective Consciousness.” Moravian College, Bethlehem, Pennsylvania, 23 March 2005.
- “The Brain Doesn’t Work That Way: From Microgenesis to Cognition.” Franklin and Marshall College, Lancaster, Pennsylvania, 1 April 2005.
- “The Brain Doesn’t Work That Way: From Microgenesis to Cognition.” Lehigh Cognitive Science talk, Psychology Brown Bag, Bethlehem, Pennsylvania, 14 April 2005.
- “Exploring Instructional Design from the Negative Side of Rationality: An Interactive Discussion between Cognitive Theorists and Instructional Designers.” Roundtable Discussion, *Association for Educational Communications and Technology*, Orlando, Florida, 20 October 2005.
- “The Dynamic Emergence of Representation.” University of South Florida, Philosophy Department, Tampa, Florida, 21 October 2005.
- “Biological Foundations of Cognitive Science” *Cognitive Science Club* Kutztown University 9 December 05
- Process, Representation, Consciousness *Perception, Action Workshop* University of Connecticut 21 April 06