# Jonathan A. Morell, Ph.D.

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blog: www.evaluationuncertainty.com

## **Current positions:**

- Director of Evaluation, Fulcrum Corporation
- Editor in Chief Evaluation and Program Planning

### **Summary of current work**

- Outcome monitoring of R&D
- Evaluation of safety innovations
- Evaluation methodology for unintended consequences
- Application of complex system behavior in evaluation
- Evaluation of R&D for energy and environment technology
- Planning and evaluation of large-scale organizational change
- Monitoring and Impact Evaluation of Research and Development

#### **Publications**

Parunak H. V.D. and Morell, J.A. (2014) <u>Emergent Consequences: Unexpected Behaviors in a Simple Model to Support Innovation Adoption, Planning, and Evaluation</u> in Kennedy W.G., Agarwal N. and Yang, J. S. eds. *Social Computing, Behavioral-Cultural Modeling, and Prediction* 7th International Conference, SBP 2014 Washington, DC, USA, April 1-4, 2014

Ranney, J., Zuschlag, M., Morell, J.A., Coplen, M.K. Multer, J., Raslear, T.G. (2013)

<u>Demonstration Pilots and Their Impact: Fourteen Years of Safety-Culture-Improvement Efforts by the Federal Railroad Administration</u> *TR News Transportation Research Board* #286 May-June

Morell, J.A., Hilscher, R., Magura, S. and Ford, J. (2010) <u>Integrating Evaluation and Agent-Based Modeling: Rationale and an Example for Adopting Evidence-Based Practices</u> Journal of Multi-Disciplinary Evaluation, Vol. 6, No 14, 35 - 57

Morell, J.A. (2010) Evaluation in the Face of Uncertainty: Anticipating Surprise and Responding to the Inevitable Guilford Press N.Y.

Morell, J.A. (2005) Why are there unintended consequences of program action, and what are the implications for doing evaluation? *American Journal of Evaluation*, 26, 4, 444 - 463

Morell, J.A. (2005) Product evaluation Encyclopedia Of Evaluation Sandra Mathison, Ed. Sage Publications, Thousand Oaks CA

Morell, J.A. (2005) Complex adaptive systems Encyclopedia of Evaluation Sandra Mathison, Ed. Sage Publications, Thousand Oaks CA

Morell, J. A. (2004) Evaluating the Impact of Electronic Business Systems: Lessons Learned from Three Cases at the Defense Logistics Agency

- Morell, J.A. (2004) Harnessing Technology for Evaluation: A Conversation With Jonny Morell *The Evaluation Exchange*, Volume X, No. 3, Fall 2004
- Morell, J. A. (2003) Evaluating the impact of an electronic business system in a complex organizational setting: The case of Central Contractor Registration, *Evaluation and Program Planning* 26, 4, 429-440
- Morell, J.A (2000) Internal evaluation: A synthesis of traditional methods and industrial engineering. *American Journal of Evaluation* 1, 41-52
- Morell, J.A. and Brown, M. E. (1999) Business-to-Business EC Activity in Small Manufacturers *Journal of Electronic Commerce* 12 #2
- Morell, J.A., and Hetzner, W.A. (1998) Creating Support Web Sites: What Worked, What Didn't, and Why *EDI Forum: The Journal of Electronic Commerce* 11, 3, 42 47
- Morell J. A. (1997) Metrics and Models for the Evaluation of Supply Chain Integration *EDI Forum*, 10, 1, 14-23
- Morell, J.A., and Stewart S (1996) Standards development for information technology: Best practices for the United States chapter in *Developing Standards for the National Information Superhighway* MIT press
- Morell J.A (1996) Guest Editorial: Thinking about best practices for standards" *StandardView* 4,1,1-3, ACM, New York
- Morell, J.A., Neal R.W., and Fries V. (1995) EDI: A Double-Edged Sword" *Actionline*, Nov. 40-43
- Morell, J. A., Neal, W., and Fries, V. (1995) Making Electronic data interchange: Add value to small and medium sized manufacturing V. *Electronic Markets* 16/17, 9-10
- Morell, J.A. (1995) The Role of Information Technology in Strategies for Organizational Improvement *International Journal of Computer Applications in Technology* 8, 1-2, 103 106
- Morell, J.A. (1995) Integrating technological change into planning: The case for an Interdisciplinary perspective *Socio-Economic Planning Sciences* 219-226
- Morell, J. and Stewart, S. L. (1994) Best Practices for IT Standards Development -- Toward Discovery and Application *IEEE Standards Bearer* 8,4, 4 5
- Morell, J.A. (1994) Standards and the market acceptance of Information technology: An exploration of relationships *Computer Standards and Interfaces* 16: 321-329 Morell, J.A. (1992) Industrial productivity: New perspectives for a traditionally trained evaluator *Evaluation Practice*, 13, 2, 125 134) Morell, J.A. (1991) Modernizing information systems: A comparison of scientific and technological research perspectives *Evaluation and Program Planning* 14,391-395
- Fleisher, M. and Morell, J.A (1991) The impact of computer systems: Revolution or incremental change?" Chapter 1 in: J. Morell and M. Fleischer (eds) *Advances in the Implementation and Impact of Computer Systems* JAI publications, Greenwich CT
- Rogers, G.O., Sorensen, J.H. and Morell, J.A (1991) Using information systems in emergency management in: J. Morell and M. Fleischer (eds) *Advances in the Implementation and Impact of Computer Systems* JAI publications, Greenwich CT.

- Morell J.A. and Sutherland, D. (1990) Managerial employment and Information technology An exploration of organizational dynamics *Office System Research Association Journal* Spring, 15 25
- Morell, J. A. (1990) Evaluation Status of a loose coalition Evaluation Practice 11,3, 213 219
- Morell, J.A. (1990) The impact of information technology on research *Computers in Social Science*, 2, 255 271 JAI Press, Greenwich CT
- Morell, J.A. and Fleisher, M. (1988) "The use of office automation by managers: How much and to what purpose?" *Information and Management* 14, 205 210
- Morell, J.A., and Fleisher, M. (1988) Managers and office automation: A framework for understanding potential *Office Systems Research Journal* 7, 1, 19 25
- Fleisher, M. and J. A. Morell, (1988) The use of office automation by managers: A survey *Information Management Review* 4, 1, 29 40
- Morell, J. A. Planning in prevention: Implications from a general model chapter 1 pages 9-20 in Jared Hermalin and Jonathan A. Morell *Prevention Planning in Mental Health* 1987, Sage Publications
- Morell, J. A. and J. Leemon (1987) Assessment of an effort to integrate computer functions in an engineering design firm *Data Base* 18, 2 17-21
- Morell, J. A. (1986) Why should community psychologists be concerned with new generation information technologies? *The Community Psychologist* 19,2, 20
- Fleischer M. and Morell, J. A. (1985) The organizational and managerial consequences of computer technology *Computers in Human Behavior* 1. 83 93 Pergamon Press
- Morell, J. A., and Weirich, T. W. (1983) Determining the costs of evaluation: Principles from mental health chapter 6 pages 81-100 in *The Costs of Evaluation* eds. Marvin C. Alkin and Lewis C. Solomon Sage, Thousand Oaks CA
- Morell, J. A. (1982) Threats to the utility of social science *American Behavioral Scientist* 26, 2, 265 280
- Morell, J. A., (1981) Evaluation in prevention: Implications from a general model *Prevention in Human Services* . 1, 7 44
- Morell, J. A. (1979) Follow-up research as an evaluation strategy chapter 9, pages 217-248 in Theodore Abramson, Carol Kehr Tittle and Lee Cohen *Handbook of Vocational and Educational Evaluation* Sage, 1979
- Morell J.A. (1979) Program evaluation In social research Pergamon Press 1979
- Morell, J. A. Evaluating outcome in correctional drug abuse rehabilitation programs Chapter 4 pages 79 104 in Jerome J. Platt, Christina Labate and Robert J. Wicks, eds. *Evaluative Research in Correctional Drug Abuse Treatment* Lexington Books
- Flaherty, E. W., and Morell, J. A. (1978) Evaluation: manifestations of a new field *Evaluation* and *Program Planning* 1, 1-10

### **Research Briefs, Department of Transportation**

<u>Another C3RS Site Improves Safety at Midterm</u> Federal Railroad Administration RR 13-49 December 2013

<u>Derailments Decrease at a C3RS Site at Midterm</u> Federal Railroad Administration RR12-04 April 2012

Confidential Close Call Reporting System: Preliminary Evaluation Findings RR08-33 Dec 2008

#### **Conference Presentations**

Morell, J.A. and Ranney, J., Davey M. Using Quantitative and Qualitative Data to Construct Post-hoc Logic of Program Outcome: Description of Process Evaluation American Evaluation Association, Denver Oct  $15^{th} - 18^{th}$ 

Ranney, J., Morell, J.A. and Davey M. Using Quantitative and Qualitative Data to Construct Post-hoc Logic of Program Outcome: Populating the Model with Data Evaluation American Evaluation Association, Denver Oct  $15^{th} - 18^{th}$ 

Morell, J.A. (2014) What to Do When Impacts Shift and Evaluation Design Requires Stability? Evaluation American Evaluation Association, Denver Oct 15<sup>th</sup> – 18<sup>th</sup>

Morell, J.A. (2014) <u>Converting an Intellectual Understanding of Complexity into Practical Tools</u> Evaluation American Evaluation Association, Denver Oct 15<sup>th</sup> – 18<sup>th</sup>

Morell, J.A. (2013) The State of Evaluation Practice in the Early 21st Century: How Has the Theme of Evaluation 2013 Influenced Our Beliefs? Organizer, Moderator, Conference Plenary Evaluation American Evaluation Association, Washington DC Oct 14<sup>th</sup> – 19<sup>th</sup>

Morell, J.A. (2013) Panel organizer Using Qualitative Data to Inform Quantitative Hypothesis Testing in Mixed Model Designs: Four Examples from Federal Program Evaluation American Evaluation Association, Washington DC Oct  $14^{\rm th}-19^{\rm th}$ 

Morell J.A. (2013) Agile Evaluations: What Practices Can Help Satisfy Evolving Demands for Agile Oversight? – Discussant

Morell, J.A. (2012) Combining Traditional Methods and Computer Simulation Over the Evaluation Life Cycle: Implications for Models, Metrics, and Methodology American Evaluation Association Minneapolis MN Oct 22-27.

Morell, J.A. (2012) Discussant, session integration role:, 1) Adaptive Study Designs and Strategies used in Evaluating Large-scale Complex Interventions, 2) Identifying Unintended Consequences of Development Programs, 3) Systems in Evaluation: Discovering the Practical and Useful in a Complex world. American Evaluation Association Minneapolis MN Oct 22-27.

Morell, J.A. and Sridharan, S. (2011) Evaluation in the Face of Uncertainty: Resolving the Tension Between Need for Design Integrity and Need to Adopt Evaluation to Shifting Outcomes (Think Tank) American Evaluation Association Anaheim CA November 2-5

Coplen, M. Ranney, J. and Morell, J. (2011) Logic Modeling and Performance Measurement for Transforming and Sustaining Organizational Performance (Think Tank) American Evaluation Association Anaheim CA November 2-5

- Morell, J.A., and Azzam, T. (2011) Surprise in Evaluation: Values and Valuing as Expressed in Political Ideology, Program Theory, Metrics, and Methodology (Think Tank) American Evaluation Association Anaheim CA November 2-5
- Morell, J.A. (2011) <u>Evaluation of Unintended Consequences of Development Efforts: Building Evaluation Capacity in Support of Development and Democracy</u>: State Department's conference: Diplomacy, Development, and Defense -- Evaluating Foreign Policy Success, June 7-8, 2011, Washington DC.
- Morell, J.A., Ranney, J. and Zuschlag M. (2010) Evaluation Utilization and the Story of the Federal Railroad Administration's 10 Year Research and Development Effort to Change Safety Culture in the United States Rail Industry: Overview of Safety Culture Evaluation Designs American Evaluation Association San Antonio TX Nov 10 13.
- Magura, S., Hilscher, R. Belding, T. and Morell, J.A. (2010) Agent Based Modeling (ABM) Simulation for Program Evaluation American Evaluation Association San Antonio TX Nov 10 13
- Morell, J.A. (2010) Model Forms, Program Theory, And Unexpected Behavior: What Are the Implications For Program Implementation and Evaluation? Evaluation American Evaluation Association San Antonio TX Nov 10 13
- Morell, J.A. (2008) Taking a Systems Lens to Health Inequalities: Lessons from System Evaluation Approaches Evaluation and Inequalities Summer School Program, Edinburgh Evaluation Programme at the University of Edinburgh
- Morell, J.A.; Sridharan, S.; Pawson, R.; and Mark, M.; (2008) Evolutionary or Quasi-experimental Evaluation Approaches: Schism, Synthesis, or Peaceful Co-Existence? European Evaluation Society Lisbon Oct. 1-3
- Morell, J.A. (2008) Expert Lecture: Evaluating in the Face of Uncertainty: Anticipation and Agility to Improve Evaluation Quality American Evaluation Association Denver CO Nov 5-8
- Morell, J.A. (2008) Meta-logic Model for Evaluating Safety Programs: Uses and Limitations American Evaluation Association, Baltimore MD Nov. 7-10
- Coplen, M., and Morell, J.A. (2007) Impact of Federal Safety Risk Reduction Programs: Evaluation Experience and Lessons Learned From Three Government Agencies Efforts to Improve Industry Safety American Evaluation Association, Baltimore MD Nov. 7-10
- Morell, J.A., Eoyang, G., and Wasserman, D. (2007) Unintended Consequences of Program Action: When are They Problematic for Evaluation, and What Can We Do About Them? American Evaluation Association, Baltimore MD Nov. 7-10
- Morell, J.A. (2006) Why are there unintended consequences, and what are the implications for doing evaluation? (Presentations at Michigan State University and the University of Montreal part of a research program to collect cases.)
- Morell, J.A. (2005) Ignoring evaluation as adaptive behavior: Using multiple evaluations to shift rational choice Joint Meeting of the American Evaluation Association and Canadian Evaluation Society Toronto, Oct 24th 30th

- Morell, J.A. (2005) Contending With unintended consequences: Theory and practice for evaluation Joint Meeting of the American Evaluation Association and Canadian Evaluation Society Toronto, Oct 24th 30th
- Morell, J.A. (2005) Why are there unintended consequences, and what are the implications for doing evaluation? Joint Meeting of the American Evaluation Association and Canadian Evaluation Society Toronto, Oct 24th 30th
- Schroeter, D.C. and Morell, J.A. (2005) Criteria for evaluating program sustainability within a multi-site context: A longitudinal approach Joint Meeting of the American Evaluation Association and Canadian Evaluation Society Toronto, Oct 24th 30th
- Morell, J.A. (2004) Evaluation in business and industry: Drawing parallels with other forms of evaluation Presidential Strand Address American Evaluation Association, Atlanta GA, November 3-6
- Morell, J.A. (2004) Evaluating sustainability: A view informed by complex adaptive systems American Evaluation Association, Atlanta GA, November 3-6
- Morell, J.A. (2003) Measuring the impact of information technology and electronic business systems in government settings American Evaluation Association, Reno NV Oct. 6-9,
- Morell, J.A. (2003) System behavior in the programs we evaluate: Implications for theory, measurement, and methodology American Evaluation Association Reno NV Oct. 6-9
- Andrea, D., Morell, J.A., and Swiecki, B. (2002) Event management in automotive supply chains: People, systems, and decisions technical presentation The Altarum Institute
- Morell, J.A. (2002) Complex system theory as an approach to building evaluation theory American Evaluation Association Arlington VA Nov 6-10
- Morell, J.A. (2002) Metrics development: Lessons learned from work with the defense E-Business program June 12, Integrated Acquisition Environment, Defense Logistics Agency
- Morell, J.A., McAlinden, S., Phelps, T., and Swiecki, G. (2002) Automotive suppliers and E-Business: Co-evolution and the shape of the future E-Automotive Summit, Aug. 3 5, Pasadena CA 2001
- Morell, J.A., Spicknall, M. and Bongiorni, B. (1999) Empirical data for better technology investment decisions American Evaluation Association, Chicago IL.
- Morell, J.A. (1999) Making the right choices for supply chain management: How to develop a practical strategy to meet business objectives CASA/SME Oct. 22, 1999
- Morell, J.A. (1997) Internal evaluation: A synthesis of traditional methods and industrial engineering American Evaluation Association, San Diego CA Nov 5 8
- Morell, J.A. (1992) Productivity improvement in knowledge intensive organizations: Integrating the physical, social, and informational environments Workshop sponsored by the Steelcase Corporation, Grand Rapids MI ITI TR-92-01
- Morell, J.A. (1992) Measuring the impact of knowledge work on organizational productivity workshop at the Industrial Technology Institute, 1992
- Morell, J.A. (1992) Promoting technology deployment Proceedings of the DARPA workshop: Information Technology and Concurrent Engineering June 8 12

Morell, J.A. New standards requirements to support enterprise integration in the automotive and electronics sectors

Morell, J. A. (1990) Evaluation - status of a loose coalition Keynote Address, Eastern Evaluation Research Society, Villanova University,

Morell, J. A., Tornatzky, L. G., and Behm, J. (1990) CASE (Computer Aided Software Engineering) Implementation: Dynamics Through the Technology Life Cycle Software Engineering Institute, Carnegie Mellon University, Nov. 13

Morell, J.A. (1988) Diffusion of information through information centers' annual meeting of the Office Systems Research Association

Fleisher, M and Morell, J. A. (1986) Managers as information technology end users International Congress on Technology and Technology Exchange

Fleisher, M. and Morell, J.A. (1986) Managers as information technology end users Proceedings of the International Congress of Technology and Technology Exchange, October 6-8, Pittsburgh, Pennsylvania

### **Technical Reports**

Morell, J.A. (2013) *Outcome Monitoring for Research and Development: Prototype of a System* U.S. Department of Transportation, Federal Railroad Administration

Morell, J.A., Coplen M., et. al. (2009) Data-Informed Decision Making in the Department of Transportation: Lessons Learned from the Cross-modal Risk Assessment Initiative, U.S. Department of Transportation

Morell, J.A., Hanssen, C., Thompson, D., Wallace, R. and Wygant, B. (2006) Confidential Close Call Reporting in the Railroad Industry: A Literature Review to Inform Evaluation, Federal Railroad Administration

Morell, J.A. (ongoing) Intellectual property piracy assessment of entertainment software

Morell, J.A., (2003) Hetzner, W., Nicholas, F., and Geth, R. Final report for DLA aging aircraft initiative: Managing low volume parts

Andrea, D. J., and Morell, J.A (2003) Revenue and financial margin life cycle management. Center for Automotive Research, Management Briefing Seminar, Traverse City MI. August,

Morell, J.A., and Andrea, D. (2003) Process efficiency and design rework at early stages of the vehicle product life cycle

Morell, J.A., Swiecki, B.F., and Andrea, D.J. (2002) Computer assisted collaboration in the automotive industry: What are the complex problems and how are decisions made? Center for Automotive Research, The Altarum Institute November

Morell, J.A., Swiecki, B.F., and Andrea, D.J. (2002) Automotive suppliers and the revenue acquisition process: What's working, and what's not?

Morell, J.A., Swiecki, B.F (2002) E-readiness of the automotive supply chain: Just how wired is the supplier sector? The middle view up and down the supply chain (Second in the series, focus on mid-tier suppliers)

Morell, J.A., Swiecki, B.F (2001) E-readiness of the automotive supply chain: Just how wired is the supplier sector? (First in the series, focus on first tier suppliers)

Morell, J.A., and Phelps, T.A. (2000) A Review of Interoperability Issues In the Automotive Industry: A White Paper produced for NACFAM

Kohler, R.E., Morell, J.A. and Hetzner, W. Delphi requirements analysis for the defense sustainment consortium

Morell, J.A. et .al. (1999) Evaluation of the DoD's Electronic Commerce Resource Centers

J.A. Morell, et. al. (1997) Evaluation of Simulation for CNC Training in a Community College Setting

Morell, J.A. Virtual Focus Group - How will electronic commerce affect small and medium sized manufacturers?

Morell, J.A Web (1996) Use by manufacturing consultants: The case of field agents in the NIST/MEP System

Morell J.A, Neal W., and Fries V. (1995) EDI use in 255 manufacturing firms: A survey

Morell, J. A. (1992) Improving the deployment of open system technology: European lessons from the Manufacturing Automation Protocol

Morell, J.A. (1987) Personal and organizational consequences of microcomputer use in the naval military personnel command Oak Ridge National Laboratory TM-10498, C:\Documents and Settings\morellj\Desktop\short\_descriptions\computer\_use\_NMPC.htm

Morell, J. A. (1985) A Review of Social Science Perspectives on Event Classification and Offsite Notification in the Nuclear Industry Report prepared for the Oak Ridge National Laboratory as part of work for the Nuclear Regulatory Commission NRC FIN #BO-490

# Workshops, Webinars, Teaching, Technical Support

#### Webinars

- Strong evaluation designs for programs with unexpected consequences
   Population Health
   Intervention Research Network
- Logic Models As Simple Pictures and So Much More
- Integrating Agent-based modeling and traditional evaluation

#### Workshops Presently Active

- Conducting Program Evaluation by Combining "Traditional" Knowledge and Complex
   Adaptive System Understanding of how the World Works
   International Society for Systems
   Science (2014)
- Logic Models Beyond the Traditional View: Metrics, Methods, Expected and Unexpected Change
- Evaluation in the Face of Uncertainty (Based on: Morell, J.A. Evaluation in the Face of Uncertainty: Anticipating Surprise and Responding to the Inevitable, Guilford Press, NY, 2010)
- Program Logic, Program Theory, and Unintended Consequences: Understanding Relationships. Implementing Action

#### **Workshops**

Numerous training sessions on evaluation methods, evaluation of R&D, logic models, and the theory and practice of dealing with unintended consequences. (Workshops range from half day to two days.) Audiences include:

- American Evaluation Association
- Australasian Evaluation Society
- European Evaluation Society
- Federal Railroad Administration
- Michigan State University
- Transportation Review Board
- University of Edinburgh
- U.S. Department of Transportation
- Volpe National Transportation Systems Center
- Western Michigan University

#### Teaching

As Professor and Associate Director of the graduate program in Evaluation at the Hahnemann Medical College, I taught many evaluation and evaluation related courses

#### Technical Support

Digital Library in support of government Acquisition and Supply Chain Management

Assessing training needs for Intelligent Transportation Systems: a Web-based focus group

Manufacturing Information Resource Locator (Electronic Commerce Section): A Web-based technical assistance system for MEP field agents

Implementing EDI With Your Suppliers, 2 day course developed for the Automotive Industry Action Group

Electronic Commerce for Non-technical Managers: The Business Perspective, 1 day course developed for Thompson Electronic Commerce Resources

Implementation and Managing Change: A Guide for Assessing Information Technology, Morell, J. A., R. Gryder, and Fleisher, M 1987, Oak Ridge National Laboratory, Oak Ridge TN ORNL TM-10520

# **Editorial and Advisory Activity**

#### Present

Conference Co-Chair, Annual Meeting of the American Evaluation Association, 2013.

Editor -in-Chief Evaluation and Program Planning Elsevier

Advisory Board Environmental Evaluators Network

Review Board, NSF funded project: Evaluation Communities for Learning, Inquiry, and Practice about Systems (ECLIPS).

#### <u>Past</u>

e-Health Technology Initiative, Robert Wood Johnson Foundation

State Technology Evaluation, U.S. Department of Education

America Editor International Journal of Electronic Business Inderscience

Associate Editor for Electronic Commerce for the *International Journal of Services Technology Management* Inderscience

Editorial Board Standard View 1995 - 1998 ACM

Editor, Best Practices in the Development of Standards for Information Technology special issue of *StandardView* 

Editor, Electronic Commerce in Manufacturing and Transportation special issue of EDI Forum

Editor annual volume *Advances in the impact and implementation of computer systems* 1991-2 JAI press

Editorial board research annual Social Science and Computers 1991JAI press

Editorial Board Executive newsletter on Computer Aided Software Engineering 1990-91

Editorial Board Knowledge in Society 1988-94

Ms. Reviewer Computers in Human Behavior 1987-1990

### **Professional Association Activity**

Founding Member – Topical Interest Group Systems in Evaluation AEA

Chair, Electronic Communications Committee AEA

Active member and various leadership positions in Topical Interest Groups: Business and Industry; Research, Technology & Development; International and Cross Cultural AEA

President, Eastern Evaluation Research Association AEA

# **Awards and Honors -- American Evaluation Association**

1995 Robert Ingle Service Award

2010 Paul F. Lazarsfeld Evaluation Theory Award

# **Work History**

Fulcrum Corporation - present

Vector Research Center Government Solutions Inc. Ann Arbor, Michigan 2006 – 2010 Senior Policy Analyst

New Vectors, LLC 2005 – 2006 Senior Policy Analyst

Altarum Institute (successor to ERIM) 1998 – 2005 Senior Policy Analyst

Industrial Technology Institute, Ann Arbor MI: Principal Member of the Technical Staff, 1988 - 1998

Martin Marietta Energy Systems, Oak Ridge National Laboratory, TN: Technical Staff,

1985 – 1988 Technical Staff

Hahnemann University, Philadelphia PA: Associate Director and Professor, Graduate Program in Evaluation, 1975 - 1985

# **Education**

BA Sociology, McGill University, Montreal, Canada 1968 Ph.D. Social Psychology, Northwestern University, Evanston IL. 1974.