

Brian T. Pentland
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I. GENERAL INFORMATION

Education

Doctor of Philosophy in Management, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA, June 1991.

Bachelor of Science, Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, June 1981.

Employment

Eli Broad College of Business, Michigan State University

- Main Street Capital Corporation Intellectual Capital Endowed Professor, August 2016-present.
- Director, Center for Business and Social Analytics, August 2016-2019.
- Professor, Department of Accounting and Information Systems, 2004-present.
- Director, PhD Program in Business Information Systems, 2003-2012.
- Acting Associate Dean for Doctoral Programs, July 2004-July 2006.
- Associate Professor, Department of Accounting and Information Systems, 2000-2004.
- Assistant Professor, School of Labor and Industrial Relations, 1995-2000.

Anderson Graduate School of Management, UCLA

- Assistant Professor, Information Systems, 1992-1995.

University of Michigan, Ann Arbor

- Assistant Professor, Organizational Behavior and Human Resource Management, 1991-1992.

IntelliCorp, Mountain View, CA

- Technical Sales Support Engineer, 1986-87.

Xenergy, Inc. Burlington, MA

- Software Engineer, 1981-84.

II. APPOINTMENTS, HONORS, AND RECOGNITIONS

Visiting Faculty and Other Appointments

Faculty of Economics and Business Administration, Vrije Universiteit Amsterdam

- KIN Research Fellow, 2017-present
- Amsterdam Business Research Institute (ABRI) Visiting Professorship, 2017

Faculty of Commerce, University of Capetown, South Africa

- Visiting Academic, April 2017

Queensland University of Technology, Brisbane, Australia

- Visiting research fellow, January 2016

BI Norwegian School of Business, Oslo, Norway

- Visiting research fellow, March 2014, March 2015, March 2016

Auckland University of Technology, Auckland, New Zealand

- Visiting research fellow, July-August, 2013

London School of Economics and Political Science

- Arthur Anderson Visiting Fellow of Accounting and Finance, May 1998.

Institute for Public Policy Studies, University of Michigan

- Ameritech Postdoctoral Fellowship in Information and Organizations, 1991-92.

Honors and Awards

- Executive MBA Instructor of Excellence Award, Spring 2023.
- Executive MBA Instructor of Excellence Award, Spring 2022.
- Runner-up, Best Published Paper, CTO Division of the Academy of Management 2022.
- TISR Innovative Research Approach Award, 2021.
- Executive MBA Instructor of Excellence Award, Spring 2021.
- Practice Implications Best Paper Finalist, Academy of Management Review, August 2020.
- Elected to Macro Organizational Behavior Society (MOBS), June 2020.
- Main Street Capital Partners Intellectual Capital Endowed Professor, August 2016-present.
- William J. Beal Outstanding Faculty Award, Michigan State University, 2015-2016.
- Faculty Excellence in Research Award, Department of Accounting and Information Systems, Michigan State University, 2015 – 2016.
- John D. and Dortha J. Withrow Teacher-Scholar Award, Eli Broad College of Business, 2013.
- 2009 *Administrative Science Quarterly* Scholarly Contribution Award (with Martha Feldman)
- Advanced Institute of Management Research (AIM) Visiting International Fellows, 2008-2009.
- Faculty Excellence in Research Award, Department of Accounting and Information Systems, Michigan State University, 2002 – 2003.
- Early Career Workshop, ACM Special Interest Group on Computers and Society, Sept, 1990.
- Louis R. Pondy Award for Best Paper Based on a Dissertation, 1991 Academy of Management Division of Organization and Management Theory.
- Tau Beta Pi Engineering Honor Society, Massachusetts Institute of Technology.

III. GRANTS AND FUNDS

- Principal Investigator (with Ken Frank and Julie Ryan Wolf) “COLLABORATIVE RESEARCH: Disruption and Resilience in Healthcare Routines Following Adverse Events.” National Science Foundation, (9/1/2021, BCS-2120530, \$310,161)
- Principal Investigator (with Ken Frank, Julie Ryan Wolf and Alice Pentland) “COLLABORATIVE RESEARCH: Antecedents of Complexity in Healthcare Routines.” National Science Foundation, (9/1/2017, SES- 1734237, \$340,452)
- Principal Investigator (sole) “Path dependence in repetitive patterns of action.” National Science Foundation, (9/23/2010, SES-1026932, \$345,878)

- Co-Principal Investigator (with Kent Miller), “Formation and Dynamics of Organizational Routines.” National Science Foundation, (8/15/2009, SES-0924786, \$370,000)
- Pilot Funding for External Grant Initiatives (with Kent Miller), Eli Broad College of Business, (January 2008, \$15,000), Agent-based modeling of organizational routines.
- PricewaterhouseCoopers Foundation, Summer Research Award for development of instructional materials in Information Technology General Controls (May 1, 2006, \$10,000)
- Co-Principal Investigator (with Moon Jung Chung and Patrick Kwon), Electronics Research Institute (of Korea), XML-based system for collaborative process management (2/1/2002, \$100,000)
- Co-Principal Investigator (with Moon Jung Chung), “Scalable Enterprise Systems: More is Different” MSU Intramural Research Grant Program, Incubator Proposal (12/15/2000, \$72,423)
- Co-Principal Investigator (with Moon Jung Chung and Patrick Kwon), “More is Different - A Grammatical Approach to Scalable Enterprise Systems.” National Science Foundation, (9/15/2000, DMI-0075396, \$146,086)
- Principal Investigator, Citigroup Behavioral Sciences Research Council, “Lexical and Sequential Variety in the USCC Investigations Unit”, (1999-2000, \$71,000)
- Principal Investigator, Citicorp Behavioral Sciences Research Council, “Lexical and Sequential Variety in Organizational Processes: A Preliminary Study”, (1997-1999, \$14,500)
- Principal Investigator, MIT Center for Coordination Science, “Agile Manufacturing in the Process Handbook”, ORD#61-8410, (1996-1997, \$25,391)
- Principal Investigator, MSU All-University Outreach Planning Grant, “Process Redesign on the WWW”, (1996, \$6,700)
- Co-investigator (with Malone, T. W., Crowston, K. G., Lee, J.) on National Science Foundation Grant #IRI-9224093, Information Technology and Organizations Program. "Tools for Inventing Organizations: Toward a Handbook of Organizational Processes." (\$632,800)
- Research award, UCLA Academic Senate Committee on Research, 1993, 1994, 1995
- W.K. Kellogg Foundation's Presidential Initiatives Fund, Interdisciplinary conference on "Generative Theories of Organization," University of Michigan, January 1992.

IV. PUBLICATIONS

Invited Journal Publications

1. Wurm, Becker, Pentland, Lyytinen, Weber, Grisold, Mendling, and Kremser (2023). Digital Twins of Organizations: A Socio-Technical View on Challenges and Opportunities for Future Research, *Communications of the Association for Information Systems*
2. Feldman, M. S. and Pentland, B. T. (2022). Routine Dynamics: Towards a Critical Conversation. *Strategic Organization*, 20 (4), 846-859.
3. Mendling, J. Pentland, B.T., Recker, J. (2020) "Building a Complementary Agenda for Business Process Management and Digital Innovation," *European Journal of Information Systems (EJIS)*, 29(3), 208-219.

4. Feldman, M.S. Pentland, B. T., D'Adderio, L. and Lazaric, N. (2016) "Beyond routines as things: Introduction to the special issue on routine dynamics," *Organization Science*, 27(3), 505-513.
5. Pentland, B. T. (2011) "The foundation is solid if you know where to look: Comments on Felin and Foss," *Journal of Institutional Economics*, 7(2), 279-293.
6. Pentland, B. T. (2000) "Will Auditors take over the World? Program, Technique and the Verification of Everything," *Accounting, Organizations and Society*, 25(3): 307-313.

Peer Reviewed Journal Publications

7. Hansson, M., Hærem, T., and Pentland, B.T. (2022) "The Effect of Repertoire, Routinization and Enacted Complexity: Explaining Task Performance Through Patterns of Action," *Organization Studies*. DOI: 10.1177/01708406211069438
8. Pentland, B.T., Yoo, Y., Recker, J., and Kim, I. (2022) "From Lock-in to Transformation: A Path-centric Theory of Emerging Technology and Organizing," *Organization Science*, 33(1): 194-211. DOI: 10.1287/orsc.2021.1543
9. Pentland, B.T., Vaast, E. and Ryan Wolf, J. (2021) "Theorizing process dynamics with directed graphs: A diachronic analysis of digital trace data," *MIS Quarterly*, 45(2) 967-984.
10. Pentland, B.T., Liu, P. Kremser, W., and Hærem, T. (2021) "Do small variations accumulate into big changes?" In Lounsbury, M., Anderson, D.A. and Spee, P. (Eds.) *On Practice and Institution: New Empirical Directions* (Research in Sociology of Organizations, Vol 71), p. 29-44.
11. Kassens-Noor, E., Dake, D., Decaminada, T., Kotval-K, Z., Qu, T., Wilson, M., & Pentland, B. (2020). "Sociomobility of the 21st century: Autonomous vehicles, planning, and the future city," *Transport Policy*, 99, 329-335.
12. McKnight, H., Liu, P, and Pentland, B.T. (2020) "Trust change in information technology products," *Journal of Management Information Systems*, 37(4), 1015-1046.
13. Pentland, B.T., Mahringer, C., Dittrich, K., Feldman, M.S. and Ryan Wolf, J. (2020) "Process Multiplicity and Process Dynamics: Weaving the Space of Possible Paths," *Organization Theory*, 1(3), 1-21.
14. Pentland, B.T., Recker, J., Ryan Wolf, J., and Wyner, G. (2020) "Bringing Context into the Analysis of Process with Digital Trace Data," *The Journal of the Association for Information Systems (JAIS)*, 21(5),1214-1236. DOI: 10.17705/1jais.00635
15. Pentland, B.T., Liu, P. Kremser, W., and Hærem, T. (2020) "Dynamics of Drift in Digitized Processes," *MIS Quarterly*, (44:1), 19-47.
16. Goh, K. and Pentland, B. T. (2019) "From Actions to Paths to Patterning: Toward a Dynamic Theory of Patterning in Routines," *Academy of Management Journal*, 62(6), 1901-1929.
17. Kremser, W., Pentland, B.T. and Brunswicker, S. (2019) "Interdependence within and between routines: A performative perspective," *Research in Sociology of Organizations*, Vol 61, p. 79-98.
18. Pentland, B. T., Pentland, A. P. and Calantone, R. (2017) "Bracketing off the actors: Towards an action-centric research agenda," *Information and Organization*, 27, 137-143.
19. Pentland, B.T., Recker, J. and Wyner, G. (2017) "Rediscovering Handoffs," *Academy of Management Discoveries*, 3(3), 284-301. doi:10.5465/amd.2016.0018
20. Hærem, T. Pentland, B. T., and Miller, K. D. (2015) "Task complexity: Extending a core concept," *Academy of Management Review*, 40(3): 446-460. (finalist for the 2020 AMR Managerial Practice Award).

21. Wimble, M. Tripp, J. & Pentland, B.T. (2015) "Want pudding? An analytic model of the benefits and constraints of process standardization," *Journal of Management Systems*, 25(1): 25-44.
22. Miller, K.D., Choi, S. and Pentland, B.T. (2014) "The role of transactive memory in the formation of organizational routines," *Strategic Organization*, 12(2): 109-133.
23. Pentland, B. T. (2013) "Desperately seeking structure: Grammars of action in information systems research," *The DATA BASE for Advances in Information Systems*, 44(2): 7-18.
24. Pentland, B. T., Feldman, M. S., Becker, M. and Liu, P. (2012) "Dynamics of Organizational Routines: A generative model," *Journal of Management Studies*, 49(8), 1484-1508.
25. Miller, K.D., Pentland, B.T. and Choi, S. (2012) "Dynamics of performing and remembering organizational routines," *Journal of Management Studies*, 49(8), 1536-1558.
26. Pentland, B. T., T. Hærem and D. Hillison (2011) "The (n)ever changing world: Stability and change in organizational routines," *Organization Science*, 22(6), 1369-1383.
27. Pentland, B. T., T. Hærem and D. Hillison (2010) "Comparing Organizational Routines as Recurrent Patterns of Action," *Organization Studies*, 31(7), 917-940.
28. Boland, R., Newman, M. and Pentland, B.T. (2010) "Hermeneutical Exegesis in Information Systems Design and Use," *Information and Organization*, 20, 1-20.
29. Ramiller, N. C. and Pentland, B. T. (2009) "Managerial Relevance in Information Systems Research: The Untold Story," *The Journal of the Association for Information Systems (JAIS)*, 10(6), 474-494.
30. Pentland, B. T. and Feldman, M. S. (2008) "Designing Routines: On the folly of designing artifacts, while hoping for patterns of action," *Information and Organization*, 18(4), 235-250.
31. Lee, J., Wyner, G and Pentland, B. T. (2008) "Constraining the Search Space with Grammar-Based Design" *MIS Quarterly*, 32(4), 757-778.
32. Pentland, B. T. and Feldman, M. S. (2007) "Narrative Networks: Patterns of technology and organization," *Organization Science*, 18(5), 781-795.
33. Pentland, B. T. and Feldman, M. S. (2005) "Organizational routines as a unit of analysis," *Industrial and Corporate Change*, 14(5), 793-815.
34. Pentland, B. T. (2003) "Sequential variety in work processes," *Organization Science*, 14(5): 528-540.
35. Pentland, B. T. (2003) "Conceptualizing and Measuring Variety in Organizational Work Processes," *Management Science*, 49(7): 857-870.
36. Feldman, M. S. and Pentland, B. T. (2003) "Reconceptualizing Organizational Routines as a Source of Flexibility and Change," *Administrative Science Quarterly*, 48(1), 94-118. (Equal contribution; authorship is alphabetical.)
37. Johnson, P., Moffett, M., & Pentland, B. T. (2002) "Lessons learned from VCommerce: A virtual environment for interdisciplinary learning about software entrepreneurship," *Communications of the ACM*.
38. Chung, M.J., P. Kwon and B. Pentland (2002) "Making Process Visible: A Grammatical Approach To Managing Design Processes," *Journal of Mechanical Design*. 124: 364-74.
39. Kwon, P. M. J. Chung, and B. Pentland, (2002) "A Grammar-Based Framework for Integrating Design and Manufacturing," *Journal of Manufacturing Science and Engineering*. 124: 899-907.
40. Pentland, B. T., (1999) "Building process theory with narrative: From description to explanation," *Academy of Management Review*, 24(4): 711-724.

41. Malone, T. W., Crowston, K. G., Lee, J., Pentland, B., Dellarocas, C., Wyner, G., Quimby, J., Osborn, C. S., Bernstein, A., Herman, G., Klein, M., & O'Donnell, E. (1999) "Tools for inventing organizations: Toward a handbook of organizational processes," *Management Science*, 45, 3 (March), 425-443.
42. Pentland, B. T. & Carlile, P. (1996) "Audit the Taxpayer, not the return: Tax Auditing as an Expression Game," *Accounting, Organizations and Society*, 21(2/3): 269-287.
43. Pentland, B. T. (1995) "Read me what it says on your screen: The interpretative problem in technical service work," *Technology Studies*, 2(1): 50-79.
44. Pentland, B. T. (1995) "Grammatical Models of Organizational Processes," *Organization Science*, 6(5): 541-556.
45. Pentland, B. T. (1995) "Information Systems and Organizational Learning: The Social Epistemology of Organizational Knowledge Systems," *Accounting, Management and Information Technologies*, 5(1): 1-22.
46. Pentland, B. T. & Rueter, H. H. (1994) "Organizational Routines as Grammars of Action," *Administrative Science Quarterly*, 39(3): 484-510.
47. Pentland, B. T. (1993) "Getting Comfortable with the Numbers: Auditing and the Micro-production of Macro-order," *Accounting, Organizations and Society*, 18(7): 605-620.
48. Pentland, B. T. (1992) "Organizing Moves in Software Support Hot Lines" *Administrative Science Quarterly*, 37(4): 527-548.

Book Chapters

49. Pentland, B.T., Wolf, J. R., Xie, Y., Kim, I., Frank, K. and Pentland, A. P. (In Press) Processual Shadows: What Can We See with Digital Trace Data? in *Organizing in the Digital Age: Understanding the Dynamics of Work, Innovation, and Collective Action* (Barrett, M., Vaast, E., Langley, A. and Tsoukas, H. Eds.). Oxford University Press.
50. Pentland, B.T. and Goh, K. (2021) Organizational Routines and Organizational Change, In Poole, M.S. and Van de Ven, A.H. (Eds), *Oxford Handbook of Organizational Change and Innovation, 2nd Edition.*, pp. 339-363.
51. Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (2021) What is routine dynamics? In Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (Eds), *Cambridge Handbook of Routine Dynamics*, Cambridge University Press.
52. Pentland, B. T. and Kim, I. (2021) Narrative networks in routine dynamics. In Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (Eds), *Cambridge Handbook of Routine Dynamics*, Cambridge University Press.
53. Mahringer, C. and Pentland, B. T. (2021) Sequence analysis in routine dynamics. In Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (Eds), *Cambridge Handbook of Routine Dynamics*, Cambridge University Press.
54. Pentland, B.T. and Liu, P. (2017) Network Models of Organizational Routines: Tracing Associations Between Actions, in S. Jain and R. Mir (Eds.), *Routledge Companion to Qualitative Research in Organization Studies*.
55. Pentland, B. T. (2016) "Risk and routine in the digitized world," in *Riskwork: The Everyday Life of Risk Management* (M. K. Power, Ed.), Oxford University Press.
56. Pentland, B. T., Hærem, T. (2015) "Organizational Routines as Patterns of Action: Implications for Organizational Behavior," *Annual Review of Organizational Psychology and Organizational Behavior, Vol 2*, 465-488.

57. Pentland, B. T. and Jung, Eun Ju (2016) "Evolutionary and Revolutionary change in path dependent patterns of action" in *Organizational routines: A process perspective*. (C. Rerup, J. Howard-Grenville, and H. Tsoukas, Eds.), Oxford University Press.
58. Pentland, B. T. and Harminder Singh (2012) "Materiality: What are the consequences?" in P. Leonardi, B. Nardi and J. Kallinikos (Eds), *Materiality and Organizing*, Oxford University Press.
59. Pentland B, T. Hærem and D. Hillison (2009) "Using workflow data to explore the structure of an organizational routine" in M. Becker and N. Lazaric (Eds), *Organizational routines: Advancing empirical research*, Edward Elgar, Cheltenham (UK), p. 47-67.
60. Feldman, M.S. and Pentland, B.T. (2008) "Issues in Empirical field studies of Organizational Routines" *Handbook of Organizational Routines*, M. Becker (Ed). Cheltenham: Edward Elgar: 281-300.
61. Feldman, M.S. and Pentland, B.T. (2008) "Routine dynamics" In David Barry & Hans Hansen (Eds.) *Handbook of New and Emerging Approaches to Management and Organization*. Thousand Oaks, CA: Sage: 302-315.
62. Feldman, M.S. and Pentland, B.T. (2008) "Organizational Routines" *International Encyclopedia of Organization Studies*, Stuart Clegg and James Bailey, (Eds.) Thousand Oaks, CA: Sage.
63. Pentland, B. T. (2007) "Ecological Models of Inter-Organizational Routines in Electronic Commerce" in *Handbook of Information Technology in Organizations and Electronic Markets*, Edited by A. Salazar and S. Sawyer, World Scientific Press.
64. Feldman and Pentland (2006) "Reconceptualizing Organizational Routines as a Source of Flexibility and Change" In Nooteboom, B. (Ed). *Knowledge and Learning In The Firm, Vol 2*, Edward Elgar, Cheltenham (UK). (Reprinted from *ASQ* 2003)
65. Feldman, Martha and Brian Pentland (2005) "Organizational Routines and the Macro-Actor" In B. Czarniawska and T. Hernes (Eds.) *Actor-Network theory and organizing*. Stockholm: Liber and CBS Press. (p. 91-111)
66. Pentland, B. T. (2005) "Getting Comfortable with the Numbers: Auditing and the Micro-production of Macro-order" In Peter Moizer, Kevin Keasey, Steve Thompson, and Mike Wright (Eds.) *Governance and Auditing*, Elsevier, London. (Reprinted from Pentland, 1993).
67. Pentland, B. T. (2003) "Grammatical Models of Organizational Processes" In Malone, Herman and Crowston (Eds.), *Organizing Business Knowledge: The MIT Process Handbook*. Stanford, CA: Stanford University Press. (Reprinted from Pentland, 1995).
68. M.J. Chung, P. Kwon, B.T. Pentland (2003) "Design and Manufacturing Process Management in a Supply Chain Environment" In Vittal Prabhu and Sounder Kumara (Eds), *Scalable Enterprise Systems Research*, Kluwer Academic Publishers, Boston. pp. 33-64.
69. Pentland, B. T. (2001) "Big Brother Goes Portable: Enduser Computing in the Internal Revenue Service" in J. Yates and J. Van Maanen, (Eds.), *Information Technology and Organizational Transformation*, Thousand Oaks, CA: Sage. pp.185-204.
70. Pentland, B. T. (1999) "Organizations as Networks of Action" in J. Baum and B. McKelvey, (Eds.), *Variations in Organization Science: In Honor of Donald T. Campbell*, Thousand Oaks, CA: Sage., pp. 237-253.
71. Pentland, B. T. (1997) "Bleeding Edge Epistemology: Practical Problem Solving in Software Support Hot Lines" in Barley, S.R. & Orr, J.E. *Between Craft and Science: Technical Work in U.S. Settings* Ithaca, NY: ILR Press, 1997.

72. Van Maanen, J. & Pentland, B. T. "Cops and Auditors: The Rhetoric of Records." In Sitkin, Sim B. & Robert J. Bies (Eds.), *The Legalistic Organization*, Beverly Hills: Sage, 1994, pp. 53-90.
73. Pentland, B. T. "The Implementation of End User Computing in the Internal Revenue Service." in Thomas J. Allen and Scott Morton, Michael S. (Eds.) *Information Technology and the Corporation of the 1990s*, New York: Oxford University Press, 1994.

Peer Reviewed Publications in International Conference Proceedings

74. Wolf, J. R., Xie, Y., Zhang, Li, Pentland, A. P., & Pentland, B. T. Visualization of Covid-19 pandemic influence on healthcare routines in dermatology using electronic health record data, International Society of Investigative Dermatology, May 10-13, 2023, Tokyo, Japan.
75. Pentland, B.T., Kim, I., Zhang, Q., and Ryan Wolf, J. (2022) Effects of Concurrency in Complex Service Organizations: Evidence from Electronic Health Records, in *Business Process Management Forum: BPM Workshops 2022*, Muenster, Germany.
76. Becker, M. and Pentland, BT. (2022) "Digital Twins of Organizations: Are you serious?" In *Business Process Management Forum: BPM Workshops 2021*, Rome, Italy.
77. Kim, I., Frank, K., Wolf, J.R., & Pentland, B.T. (2021) "Predicting Process Structure after a Disruption: An Example from the Clinical Documentation Process" In *Business Process Management Forum: BPM Workshops 2021*, Rome, Italy.
78. Wolf, J. R., Kim, I., Xie, Y., Pentland, A. P., & Pentland, B. T. (2021). Suitability of Clinical Workflows for automation. Society of Investigative Dermatology Annual Meeting, May 5-8, 2021. *Journal of Investigative Dermatology*, 141(5), S66.
79. Ryan Wolf J, Xie Y, Kim I, Pentland AP, Pentland BT. (2020) "Visit complexity reflects billed level of service and documentation burden," Society of Investigative Dermatology Annual Meeting, May 13-16, 2020. *Journal of Investigative Dermatology*, 2020, 140(7), Supplement: S1-S144.
80. Kim, I., Pentland, B. T., Ryan, J. L., Xie, Y., Frank, K., & Pentland, A. P. (2019) Effect of Attribute Alignment on Action Sequence Variability: Evidence from Electronic Medical Records, In *Business Process Management Forum: BPM Forum 2019*, Vienna, Austria, September 2019, Proceedings. Springer., pp. 183-194.
81. Ryan Wolf J, Xie Y, Kim I, Pentland AP, Frank K, Pentland BT. "Team documentation influences clinic complexity and patient satisfaction." Society of Investigative Dermatology Annual Meeting, May 8-11, 2019, Chicago, IL. *Journal of Investigative Dermatology*, 2019, 139(5), Supplement: S1-S214
82. Pentland, B.T., Recker, J. and Kim, I. (2017) Capturing reality in flight? Empirical tools for strong process theory, *Thirty Eighth International Conference on Information Systems*, Seoul, South Korea.
83. Hansson, M., Pentland, B. T., & Hærem, T. (2017). Identifying Mid-Range Patterns of Action: Tools for the Analysis of Organizational Routines. In *Academy of Management Proceedings* (Vol. 2017, No. 1, p. 11476). Academy of Management. doi: 10.5465/AMBPP.2017.11476abstract
84. Ryan, J. L., Pinto, D., Pentland, A. P., & Pentland, B. T. (2016) Complexity thermometer: Unraveling complexity of clinic process. *Journal of Investigative Dermatology*, 136(5), S26.
85. Pentland, B.T., Recker, J. and Wyner, G. (2016) Conceptualizing and Measuring Interdependence between Organizational Routines, *Thirty Seventh International Conference on Information Systems*, Dublin, Ireland.

86. Pentland, B.T., Recker, J. and Wyner, G. (2015) A thermometer for interdependence: Exploring patterns of interdependence using networks of affordances, *Thirty Sixth International Conference on Information Systems*, Ft. Worth, TX.
87. McKnight D. H., Liu, P. and Pentland, B.T. (2014) A Cognitive Process Model of Trust Change, *Thirty Fifth International Conference on Information Systems*, Auckland, NZ.
88. Pentland, B.T., Hærem, T., Khaledi, H. (2014) Using action networks to detect change in repetitive patterns of action, *Thirty Fifth International Conference on Information Systems*, Auckland, NZ.
89. Pentland, B. T., Singh, H., and Yakura, E.K. (2012) “Does business process management technology have unintended firm-level consequences?” *Thirty Third International Conference on Information Systems*, Orlando.
90. Gaskin, J. Y. Yoo, K. Lyttinen and B. T. Pentland, (2012) “The Effects of Digital Intensity on Combinations of Sequential and Configural Process Variety,” *Thirty Third International Conference on Information Systems*, Orlando 2012.
91. Wimble, M., Tripp, J., Pentland, B., and Hillison, D., (2010) “Want Pudding? An Analytic Model of the Benefits and Constraints of Process Standardization in Services” *Proceedings of the 31st International Conference on Information Systems*, December 2010, St. Louis, MO.
92. Pentland, B. (2004) “Towards an ecology of inter-organizational routines: A conceptual framework for the analysis of net-enabled organizations”, *CD-ROM Proceedings of Hawaiian International Conference on Systems Sciences (HICSS-37)*.
93. Zeng, Yichong, P. Kwon, B. T. Pentland and A. Chahine. (2003) “A Grammar-Based Approach to Capturing and Managing Processes: An Industrial Case Study,” *Transactions of NAMRI/SME, Volume XXXI*, May 20-23, 2003, McMaster University.
94. Ackerman, M, B. T. Pentland, S. Quereshi, and E. Yakura. (2002) “Visual elements in the discourse on information technology” in *Global and Organizational Discourse about Information Technology* (edited by Eleanor Wynn, Edgar A. Whitley, Michael Myers, and Janice I. DeGross), Boston: Kluwer Academic Publishers, p. 527-532.
95. P. Kwon, M.J. Chung, B. Pentland, and S. Kim. A Process Management System for Collaborative Manufacturing, (IMECE2002-32965) 2002 ASME International Mechanical Engineering Congress, New Orleans, LA.
96. M.J. Chung, P. Kwon and B. Pentland, “MIDAS: A Framework for Integrated Design and Manufacturing Processes, *Intelligent Systems in Design and Manufacturing III*, ed. By Gopalakrishnan and Gunaekaren, pp.348-355, Nov. 2000, Boston, Massachusetts.
97. P. Kwon, M.J. Chung and B. Pentland, "A Formal Approach to Integrate Design and Manufacturing Processes," CD-Rom Proceedings of DETC Design Automation Conference, September 2000, Baltimore, Maryland.
98. Pentland, B. (1999). “Narrative Methods in Collaborative Systems Research”, *CD-ROM Proceedings of Hawaiian International Conference on Systems Sciences (HICSS-32)*.
99. Malone, T. W., Crowston, K., Lee, J. and Pentland, B. "Tools for inventing organizations: Toward a handbook of organizational processes." *Proceedings of the 2nd IEEE Workshop on Enabling Technologies Infrastructure for Collaborative Enterprises*, Morgantown, WV, April 20-22, 1993.
100. Pentland, B. T. “Use and Productivity in Personal Computing: An Empirical Test.” *Proceedings of the Tenth International Conference on Information Systems*, 211-222, December 1989, Boston, MA.

Edited Books

101. Feldman, M. S., Pentland, B. T., D'Adderio, L., Dittrich, D., Rerup, C. and Seidl, D. (Eds), (2021) *Cambridge Handbook of Routine Dynamics*, Cambridge University Press.
102. Boland, R., Limayem, M. and Pentland, B.T. (2008). *Proceedings of the 29th ICIS Conference*, Paris, France,
103. Steinfield, C., Pentland, B., Ackerman, M., Contractor, N. (Eds.) *Communities and Technologies 2007: Proceedings of the Third Communities and Technologies Conference*, Michigan State University (2007), Berlin: Springer. ISBN: 978-1-84628-904-0

White Papers

104. vom Brocke, J., van der Aalst, W.M.P, Grisold, T., Kremser, W., Mendling, J., Pentland, B., Recker, J., Roeglinger, M., Rosemann, M. Weber, B. (2021). Process Science: The Interdisciplinary Study of Continuous Change. Working Paper, available at *SSRN Electronic Library*, 2021.
105. Connected and Autonomous Vehicles in Society: An Agenda for Social and Policy Research, *Center for Business and Social Analytics*, September 5, 2018.
106. Pentland, B.T. "Networks of action in social science research", National Science Foundation SBE 2020 White Papers, September 2010. (www.nsf.gov/sbe/sbe_2020/index.cfm)

Patents Granted

1. Malone, T.W., Crowston, K., Lee, J., Pentland, B., & Dellarocas, C. Computer system for displaying representations of processes. US Patent No. 5,819,270 (October 6, 1998).
2. Malone, T.W., Crowston, K., Lee, J., Pentland, B., & Dellarocas, C. A computerized handbook of processes. European Patent No. 0692113 (October 14, 1998). Canadian Patent No. 2,156,917 (April 22, 2003).
3. Malone, T.W., Crowston, K., Lee, J., Pentland, B., & Dellarocas, C. Computer handbook of processes. US Patent No. 6,070,163 (May 30, 2000). US Patent No. 6,349,298 (February 19, 2002).

Presentations at Conferences (since 2000)

1. Keynote (presented with Martha S. Feldman), Routines.Research.Community, Johannes Kepler University, Linz, Austria, Sept 2022.
2. Processual Dynamics, International Conference on Business Process Management, Muenster, Germany, September 2022.
3. Panelist, Practice Perspectives on Grand Challenges, Academy of Management, Seattle, WA, August 2022.
4. Panelist, Workshop on Computational Theory Construction, Academy of Management, Seattle, WA, August 2022.
5. Keynote (virtual). "Digital Twins of Organizations: Are you serious?" In *Business Process Management, First International Workshop on Routines and BPM*, Rome, Italy.
6. Combining induction and abduction in process research, Virtual, Academy of Management, August 2021.
7. Building theory with simulation. Panel on Computationally Intensive Theory Development, Virtual, Academy of Management, August 2021.
8. Process Theory Development, Virtual, AMCIS, August 2021.
9. Discussant, Routine Dynamics: Looking forward at Twenty! Academy of Management, August 2020

10. "Tools for Analyzing Patterns of Action," Academy of Management, August 2020
11. Discussant, Organizing Work with Algorithmic Augmentation and Artificial Intelligence, Academy of Management, August 2020
12. Xie Y, Veazie P, Kim I, Pentland A, Pentland B, Ryan Wolf J. "Visit Complexity: A novel measure of healthcare resource allocation in disparity study". Academy Health 2020 Annual Meeting (Virtual meeting). July 28-August 6, 2020.
13. Keynote address (virtual). Routines.Research.Community Workshop, TU-Delft, The Netherlands, May 2020.
14. Pentland, B. T., Singh, H., Chen, J., Pothugunta, K. "Does Machine Learning have Unintended Organizational-level Consequences?", AI@Work, Amsterdam, March 2020.
15. Keynote Address, BPMN 2019 Business Process Management Doctoral Consortium, Vienna, Austria, August 2019.
16. "Do small variations accumulate into big changes?", Academy of Management PDW on Practice-driven Institutionalism, Boston, 2019.
17. Pentland, B. T., Ryan, J. L., Xie, Y., Kim, I., Frank, K., & Pentland, A. P. Visualizing Clinical Routines from Multiple Points of View Using Threadnet, *11th International Symposium on Process Organization Studies, Chania, Greece, June 2019*.
18. Pentland, B. T., Ryan, J. L., Xie, Y., Kim, I., Frank, K., & Pentland, A. P. Visualizing Clinical Routines: What Can We See with Digital Trace Data, *11th International Symposium on Process Organization Studies, Chania, Greece, June 2019*.
19. "Tracing and Visualizing Patterns of Action", Routines.Research.Community Workshop, Aalto University, Helsinki, May 2019.
20. Keynote Address, "Patterning in Routine Dynamics: 20 Years in and We're Just Getting Started", (presented with Martha S. Feldman), Routines.Research.Community Workshop, Aalto University, Helsinki, May 2019.
21. Keynote Address, "Beyond sequence analysis", Workshop on Digital Innovation, Infrastructure, and Entrepreneurship on Bio Data, Freie Universität Berlin, March 2019.
22. National University of Ireland, Galway, "Towards a Theory of Processual Dynamics: Analyzing Routines in Dermatology Clinics using Narrative Networks," March 2019.
23. University of Warwick, "Towards a Theory of Processual Dynamics: Analyzing Routines in Dermatology Clinics using Narrative Networks," March 2019.
24. Keynote Address, "Beyond Mining: Theorizing about processual phenomena", BPMN 2018 Business Process Management, Sydney, Australia, September 2018.
25. Goh, K.T. and Pentland, B.T. (2018). Towards a dynamic theory of enacted complexity. Interdisciplinary Network for Group Research, Baltimore, Maryland. July 2018.
26. Kremser, W. , Pentland, B.T. and Brunswicker, S. (2017) The continuous transformation of interdependence in networks of routines, European Group for Organization Studies," Copenhagen, July 2017.
27. Poetics of Practice: Finding rhythm and rhyme in processual phenomena using ThreadNet, Academy of Management, PDW on Process Methods, Atlanta, GA, 2017.
28. ThreadNet: Tracing and visualizing associations between actions, IFIP Working Group 8.2, Dublin, Ireland, 2016.
29. ThreadNet: Tracing and visualizing associations between actions, Connections in Action' workshop, IKON Research Unit at the University of Warwick, 5-6 December 2016.
30. "Social fabric from digital threads: Generativity and innovation in organizational routines," Pentland, B.T. and Yoo, YJ. VU Workshop on Organizing for Digital Innovation, March 2016.
31. "Innovation in routines: An Affordance Network Perspective, European Group on

- Organization Studies,” Athens, Greece, July 2015.
32. “Leveraging TMS for Performance in Virtual Teams: TMS and Coordination Routines,” *Frontiers in Managerial and Organizational Cognition Conference*, Roskilde University, Denmark, June 2015.
 33. “Process, Practice and Routine,” PDW at Academy of Management, Philadelphia, PA. 2014.
 34. “How Events Turn the Cognitive Gears of Trust”, 73rd Annual Meeting of the Academy of Management, Orlando, FL, August 2013.
 35. “Dynamic capabilities and business processes: a trajectory view” 17th Americas Conference on Information Systems, Detroit, MI, August 2011.
 36. “Services, Processes and Routines: Literature Review and Implications” *International Conference on Information Resource Management*, Seoul, Korea, June 12-14, 2011.
 37. “It takes a village to raise a theory,” 31st International Conference on Information Systems, December 2010, St. Louis, MO.
 38. “Textual Fragments, Openness of Enquiry and Information Systems: An Example from an ERP Implementation” *2010 Proceedings of ECIS, Pretoria, RSA*.
 39. “You Can Have Your Pudding: A Service-Oriented Approach to Process Standardization”, the 15th Americas Conference on Information Systems, San Francisco, CA, August 2009
 40. “Narrative Networks and Materiality in Routines,” Academy of Management Meeting, August 2009, Chicago, Illinois.
 41. “Why Rosetta Can’t Dance: The Combinatorics of Standardizing Inter-organizational Service Processes,” Academy of Management, OCIS Division, Anaheim, CA. 2008.
 42. “Using workflow data to explore the structure of an organizational routine” Third Conference on Empirical Studies of Organizational Routines, Strasbourg, France, May 2007.
 43. “Call centers, offshoring and the future of work: An international debate on Taylorism in the service economy,” International Conference on Information Systems (ICIS). Milwaukee, December 2006.
 44. Narrative Process Models, Pre-conference Professional Development Workshop on Process Methodology, Academy of Management, Atlanta, GA, August 2006.
 45. Keynote address, GMARS (Global Managerial Accounting Research Symposium), Copenhagen, May 2006.
 46. “Designing Routines”. Second Conference on Empirical Studies of Organizational Routines, Nice, France, January 2005.
 47. “The role of ICTs in Organizational Learning,” WISRD (Workshop on Information Systems Research and Development), Lake Arrowhead, CA, March 19-21 2004.
 48. “Non-Routine Ways of Thinking About Changing Routines,” Joint Symposium with OMT, BPS, Academy of Management, New Orleans, August, 2004
 49. “The ambiguous role of ICT in regional inter-firm clusters: Towards a better empirical knowledge base for theorizing” Workshop for the International Conference on Communities and Technologies, Amsterdam, September 19-21, 2003
 50. “Narrative Analysis of Technical Fairy Tales” International Federation for Information Processing Working Group 8.2, Conference on Global and Organizational Discourse about Information Technology, 12-14 December 2002, Barcelona, Spain.
 51. “Towards a More Comprehensive approach to Studying Organizational Routines” Presented at the University of Southern Denmark, Odense, Denmark Nov 3-4, 2002.

52. “Innovative Stories: Structural Analysis of Technical Fairy Tales” Technology and Innovation Management Division, Academy of Management, Denver, CO August, 2002
53. “Networks of action in distributed manufacturing: Using process models to predict structural relationships,” European Group on Organization Studies, Barcelona, Spain. July 2002.

Selected Research Presentations at Academic Institutions (since 2000)

- Notre Dame, Mendoza College of Business, June 2023
- HEC Montreal, Department of Information Systems, March 2023
- University of Leeds, Department of Strategy and Organization, December 2022
- Concordia University, Montreal, CA, MIS Invited Speaker Series, October 2022
- University of Liechtenstein, September 2022
- UT Dallas, September 2021 (Virtual)
- BI Norway, Dept of Leadership and Org Behavior, March 2020
- ETH Zurich, Chair of Strategic Management and Innovation, December 2019
- University of Notre Dame, Mendoza College of Business, September 2019
- Warwick Business School, February 2019
- National University of Ireland, Galway, February 2019
- Copenhagen Business School, *Department of Digitalization*, March, 2018
- KIN Center for Digital Innovation, Vrije Universiteit Amsterdam, March, 2018
- Radboud University, Nijmegen, Netherlands, February, 2018
- University of Cologne, Department of Information Systems and Systems Development, February 2018
- Boston College, Department of Management, November 2017
- University of Capetown, Graduate School of Business, April 2017
- University of Capetown, Faculty of Commerce, April 2017
- VU Amsterdam, March 2017
- Case Western Reserve University, July 2015
- UC Santa Barbara, December 2014
- Norwegian School of Management, Olso, Norway, March 2014.
- Auckland University of Technology, New Zealand, August 2013
- New Zealand Information Systems Doctoral Consortium, Auckland, July 2013
- McGill University, Laurent Picard Lecture, April 12, 2013
- Stanford University, February 9, 2013.
- Free University, Amsterdam, NL, March 7, 2011.
- Southern Denmark University, Odense, Denmark, April 2010.
- Norwegian School of Management, Olso, Norway, April 2010.
- San-Ei Gen Lecture, University of Edinburgh, UK, June 2008.
- Wharton School, University of Pennsylvania, November 2007.
- Stanford University, March 7, 2005.
- New York University, February 21, 2005.
- University of Manchester, England, March, 2004.
- University of Michigan (ICOS), Ann Arbor, September 20, 2002

Other creative work: Doctor Decade, performing songwriter

- Doctor Decade performs at the College of Business Alumni Tailgate tent, as permitted by his teaching schedule
- Doctor Decade raises money for charities such as the Greater Lansing Food Bank
“I sing too loud and I’ll do it for free, to help raise money for your charity”
- Over 70 original songs on YouTube (e.g., *Big Data*, *Vampires on our Editorial Board*, *Reject and Resubmit*, *Bad Publications*, and the international hit, *Sociomateriality*)
- Album: Gotta Keep Feeding the Beast, www.soundcloud.com.

V. TEACHING**Teaching Experience**

- Doctoral:** Seminar on Information Systems Design (MSU College of Business)
Sequential Data Analysis for Process Research (UCLA)
Seminar in Process Research Methods (MSU College of Social Science)
Seminar on Sequence Methods (Auckland, New Zealand)
Seminar on Sequence Methods (European Institute for Advanced Studies in Management, Brussels)
- Masters:** Governance and Control of Enterprise Systems (MSU College of Business)
Project Management (MSU College of Business)
Information Systems (UCLA and MSU College of Business)
E-commerce Business Models and Technology (MSU College of Business)
Human Resource Information Systems (MSU College of Social Science)
Organizational Behavior (MSU College of Social Science)
- Undergrad:** Organizational Behavior (University of Michigan)
Senior Projects in Information Technology Mgmt (MSU College of Business)
- Executive:** Information Systems Management (MSU Executive MBA Program)
Social Impact Consulting Projects (MSU Executive MBA Program)

Doctoral dissertations Chaired (Placement)

- Kim, Inkyu (California State University, East Bay)
- Singh, Harminder (Auckland University of Technology)
- Liu, Peng (California State University, Fullerton)
- Hillison, Derek (Florida State University)

VI. SERVICE**Editorial Service**

- Co-Editor, *Research in Sociology of Organizations*, Routine Dynamics: World in Flux.
- Associate Editor, *Journal of Organizational Design*, 2020-present.
- Co-editor, Cambridge Handbook of Routine Dynamics, Cambridge University Press.
- Guest editor, Special issue on Business Process Management and Digital Innovation, *European Journal of Information Systems*.
- Guest editor, Special issue on Organizational Routines, *Organization Science*, 2016.
- Associate Editor, *European Journal of Information Systems*, 2012 - 2020.
- Editorial Board Member, *JAIS*, August 2009 - 2012.
- Editorial Board Member, *Organization Science*, August 1999 – March 2023.

- Editorial Board Member, *Information and Organization*, September 1995 - present.
- Editorial Board Member, *Information, Technology and People*, 1996 - 2004.
- Associate Editor, *Information Systems Research*, January 2005 – December 2007.
- Editorial Board Member, *Administrative Science Quarterly*, December 1993 - December 1999.

Ad hoc reviewer

Administrative Science Quarterly, Organization Studies, Management Science, Academy of Management Journal, Academy of Management Review, Information Systems Research, MIS Quarterly, European Journal of Information Systems, IEEE Transactions on Office Information Systems, Journal of Management Studies, Safety Science, and other journals.

Leadership in Conferences

- Track co-Chair, “Organizing Business Processes in the Digital Age” International Conference on Information Systems, Hyderabad, India, Dec 2023.
- Co-Convenor, Subtheme on Routine Dynamics, European Group on Organization Studies, Vienna, Austria, July 2022.
- Co-Convenor, Subtheme on Routine Dynamics, European Group on Organization Studies, Amsterdam, NL, July 2021.
- Co-Convenor, Subtheme on Routine Dynamics, European Group on Organization Studies, Edinburgh, Scotland, July 2019.
- Co-Convenor, Subtheme on Routine Dynamics, European Group on Organization Studies, Tallin, Estonia, July 2018.
- Co-Convenor, Subtheme on Entrepreneurial Origins of Organizational Routines, European Group on Organization Studies, Naples, Italy, July 2016.
- European Group on Organization Studies, Standing Working Group on Routine Dynamics, 2015-2020.
- Program Co-Chair, 2008 International Conference on Information Systems, Paris, France.
- Program Co-chair, Communities and Technologies 2007: Michigan State University.
- Program Committee for 1996 International Conference on Information Systems.
- Program Committee, International Federation of Information Processing, Working Group 8.2. 1994 and 1995

Professional Affiliations

- Academy of Management
 - Organization and Management Theory Division
 - Organizational Communications and Information Systems
 - Research Methods Division
- Association for Information Systems
- The Institute for Management Science
- Member, International Federation of Information Processing Working Group 8.2

Internal Service

Michigan State University

- University RPT Committee, 2017-2021

- Beale Award Selection Committee, 2019-20
- All-University Awards Selection Committee, 2018
- UEF/UDF Selection Committee (three years)
- Search committee, University archivist
- Faculty Learning Community on Collaboration, sponsored by the Office of Faculty and Organizational Development.

College of Business

- College of Business RPT, 2017-2020
- Chair of College Doctoral Programs Committee, 2004-2014
- Alumni Entertainment (performing as Doctor Decade at tailgate tents), 2012-present
- Other service, as assigned

Accounting and Information Systems Department

- Director of Information Systems PhD Program, 2003 - 2012.
- Chair, Faculty Search Committee, 2014, 2020
- Faculty Advisory Committee (multiple times, including serving as chairperson)
- Master's Curriculum Committee, 2018-2023
- Other service, as assigned