

# ROY M. TURNER

## *Curriculum Vitae*

Associate Professor of Computer Science, School of Computing and Information Science  
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## Education

**Ph.D.:** Received December, 1989, in Computer Science. School of Information and Computer Science, Georgia Institute of Technology. Advisor: Janet L. Kolodner. Area: Artificial Intelligence (problem solving/medical diagnosis). Dissertation: *A Schema-based Model of Adaptive Problem Solving*. Minor area: Cognitive Science (psychology, philosophy, neuroscience).

**M.S.:** Received August, 1987, in Computer Science. School of Information and Computer Science, Georgia Institute of Technology.

**B.S.:** Received May, 1980, in Computer Science (highest honors). Speed Scientific School, University of Louisville.

## Research interests

**Artificial intelligence/Machine learning:** Intelligent control of autonomous agents. Multiagent systems. Context-sensitive reasoning for intelligent agents. Case-based and schema-based reasoning. Autonomous underwater vehicle control. Deep learning networks. Intelligent assistive technology. AI in biology and medicine.

**Computational ecology:** Predator-prey relationships. Ecosystem modeling.

**Computer science education:** K-12, college.

**Other:** Cognitive science. Biology. Ecology.

## Academic positions

July 1, 2011 – present: Associate Professor of Computer Science (with tenure), School of Computing and Information Science, University of Maine, Orono, Maine.

September, 2013–2015: Cooperating Associate Professor, School of Marine Sciences, University of Maine, Orono, Maine.

September 1, 1999 – July 1, 2011: Associate Professor (with tenure), Department of Computer Science, University of Maine, Orono, Maine.

September 1, 1995 – August 31, 1999: Assistant Professor, Department of Computer Science, University of Maine, Orono, Maine. (50% appointment, shared with Elise H. Turner, 9/1/95–8/98; 75% from 9/98–9/99.)

July 1, 1995 – August, 1995: Visiting Senior Research Scientist, Marine Systems Engineering Laboratory, Marine Science Center, Northeastern University, Nahant, Massachusetts.

April 19, 1995 – 2005: Adjunct Assistant Professor, Department of Computer Science, University of New Hampshire, Durham, New Hampshire.

November, 1989 – 1994: Research Assistant Professor, Department of Computer Science (and Marine Systems Engineering Laboratory, 1989–1992), University of New Hampshire, Durham, New Hampshire.

Summer, 1985: Research assistant, University of Louisville School of Medicine (neuroscience laboratory).

Spring, 1982: Instructor (computer science), Indiana State University Evansville (now University of Southern Indiana), Evansville, Indiana.

Fall, 1980: Instructor (computer science, part-time), Eastern Kentucky University, Richmond, Kentucky.

## Books

*Foundations of Computer Science: A Rigorous, Non-Programming Introduction*, R.M. Turner and E.H. Turner, Top Hat Monocle, Toronto, Canada, 2019.

*Adaptive Reasoning for Real-World Problems: A Schema-Based Approach*, R.M. Turner. Lawrence Erlbaum Associates, Inc., Hillsdale, NJ, 1994.

## Journal articles

Context-mediated behavior (R.M. Turner), *Modeling and Using Context*, vol. 17-1, March, 2017.

Distributed, context-based organization and reorganization of multi-AUV systems (R. Turner, S. Rode, and D. Gagne), *Journal of Unmanned System Technology (JUST)*, vol. 2 no. 1, pp. 1–9, 2014.

Costly information and the evolution of self-organization in a small, complex economy (J. Wilson, J. Hill, M. Kersula, C.L. Wilson, L. Whitsel, L. Yan, J. Acheson, Y. Chen, C. Cleaver, C. Congdon, A. Hayden, P. Hayes, T. Johnson, G. Morehead, R. Steneck, R. Turner, R. Vadas, and C.J. Wilson), *Journal of Economic Behavior and Organization*, vol. 90, Supplement, pp. S76–S93, June, 2013.

A two-level, protocol-based approach to controlling autonomous oceanographic sampling networks (R.M. Turner and E.H. Turner), *IEEE Journal of Oceanic Engineering*, special issue on autonomous ocean sampling networks, vol. 26, no. 4, pp. 654–666, October, 2001.

Life history of a hydroid/nudibranch association: A discrete-event simulation (C.M. Chester,

R.M. Turner, M.D. Carle, and L.G. Harris), *The Veliger*, vol. 42, no. 3, pp. 338–348, 2000.

A constraint-based approach to assigning system components to tasks (E.H. Turner and R.M. Turner), *International Journal of Applied Intelligence*, vol. 10, no. 2/3, pp. 155–172, 1999.

Context-mediated behavior for intelligent agents, *International Journal of Human–Computer Studies*, special issue on “Using context in applications”, volume 48, number 3, March, 1998, pp. 307–330.

Handling unanticipated events in single and multiple AUV systems (R.M. Turner, P.S. Eaton, and M.J. Dempsey), *l’Onde Electrique*, (Revue de la Société des Electriciens et des Electroniciens), vol. 74, no. 5, pp. 36–42, September/October, 1994.

Using schemas for diagnosis, *Computer Methods and Programs in Biomedicine*, volume 30, nos. 2/3, pp. 199–208, 1989.

## Journal reports

The fourth international and interdisciplinary conference on modeling and using context (C. Ghidini and R. Turner), *AI Magazine*, vol. 24, no. 4, p. 133, 2003.

Reports on the AAAI 1999 workshop program (B. Drabble, L. Chaudron, C. Tessier, S. Abu-Hakima, S. Willmott, J. Austin, B. Faltings, E. Freuder, G. Friedrich, A.A. Freitas, U. Cortes, M. Sanchez-Marre, D.W. Aha, I. Becerra-Fernandez, H. Munoz-Avila, A. Ghose, T.m Menzies, K.n Satoh, M.E. Califf, M. Cox, S. Sen, P. Brézillon, J.-C. Pomerol, R. Turner, E. Turner), *AI Magazine*, vol. 21, no. 1, p. 95, 2000.

## Book chapters

Context-mediated behavior. In *Context in Computing: A Cross-Disciplinary Approach for Modeling the Real World Through Contextual Reasoning*, P. Brézillon and A. Gonzalez (eds.), Springer, 2014, Chapter 32, pp. 523–540.

Mission planning (D.R. Blidberg and R.M. Turner). In *Underwater Robotic Vehicles*, J. Yuh (ed.), Chapter 5, TSI Press, Albuquerque, NM, 1995, pp. 129–144.

MEDIC. In *Encyclopedia of Artificial Intelligence*, second edition, S.C. Shapiro (ed.). John Wiley & Sons, Inc., 1992.

## Refereed conference/symposia papers

Context and the virtual human (Chris Wilson and Roy M. Turner). In *Modeling and Using Context: Proceedings of the Tenth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-17)*, Paris, France, June 20–23, 2017. Published as volume 10257 of Springer’s *Lecture Notes in Artificial Intelligence* (Patrick Brézillon, Roy M. Turner, and Carlo Penco, eds.).

Modeling erroneous human behavior: A context-driven approach (Chris Wilson and Roy M. Turner). In the *Proceedings of the Ninth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'15)*, November 2-6, 2015, Larnaca, Cyprus. Proceedings published as *Modeling and Using Context*, a volume in Springer's *Lecture Notes in Artificial Intelligence* (Henning Christiansen, Isidora Stojanovic, and George A. Papadopoulos, eds.).

Representing and communicating context in multiagent systems (Sonia Rode and Roy M. Turner). In the *Proceedings of the Ninth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'15)*, November 2-6, 2015, Larnaca, Cyprus. Proceedings published as *Modeling and Using Context*, a volume in Springer's *Lecture Notes in Artificial Intelligence* (Henning Christiansen, Isidora Stojanovic, and George A. Papadopoulos, eds.).

Using contextual knowledge for trust strategy selection (Larry Whitsel and Roy M. Turner). In the *Proceedings of the Ninth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'15)*, November 2-6, 2015, Larnaca, Cyprus. Proceedings published as *Modeling and Using Context*, a volume in Springer's *Lecture Notes in Artificial Intelligence* (Henning Christiansen, Isidora Stojanovic, and George A. Papadopoulos, eds.).

Toward distributed context-mediated behavior for multiagent systems (R.M. Turner, S. Rode, and D. Gagne). In *Proceedings of the 8<sup>th</sup> International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'13)*, Annecy, France, October, 2013.

Distributed, context-based organization and reorganization of multi-AUV systems (D. Gagne, S. Rode, and R.M. Turner). In *Proceedings of the 18th International Symposium on Unmanned, Untethered Submersible Technology (UUST 2013)*, Portsmouth, NH, August 2013.

A game engine-based simulator for autonomous underwater vehicles (A.B. Strout and R.M. Turner). In *Proceedings of the 18th International Symposium on Unmanned, Untethered Submersible Technology (UUST 2013)*, Portsmouth, NH, August 2013.

A context-based approach to detecting miscreant behavior and collusion in open multiagent systems (L. Whitsel and R.M. Turner). In *Proceedings of the Seventh International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'11)*, Karlsruhe, Germany, September, 2011.

LP/Lisp: Literate programming for Lisp (R. Turner). In *Proceedings of the International Lisp Conference 2010*, Reno, Nevada, October, 2010.

Retaining majors through the introductory sequence (E.H. Turner, E. Albert, R.M. Turner, and L. Latour). In *Proceedings of the ACM Technical Symposium on Computer Science Education (SIGCSE'07)*, Covington, KY, March, 2007.

Appropriate commitment planning for AUV control (E. Albert, E.H. Turner, and R.M. Turner). In *Proceedings of the 2007 International Symposium on Unmanned Untethered Submersible Technology (UUST'07)*, Durham, NH, August, 2007.

Teaching entering students to think like computer scientists (E.H. Turner, R.M. Turner). In *Proceedings of the ACM Technical Symposium on Computer Science Education (SIGCSE'05)*, February 24-27, 2005, Saint Louis, MO.

Selecting organizational structures for advanced multi-AUV systems (R. Turner and E.

Turner). In the *Proceedings of the Fourteenth International Symposium on Unmanned Untethered Submersible Technology (UUST'05)*, Durham, NH, August, 2005.

Situation assessment for autonomous underwater vehicles using a priori contextual knowledge (R. Arritt and R.M. Turner). In *Proceedings of the Thirteenth International Symposium on Unmanned Untethered Submersible Technology (UUST)*, Durham, NH, 2003.

Interfacing the CoDA and CADCON simulators: A multi-fidelity simulation testbed for autonomous oceanographic sampling networks (E. Albert, J. Bilodeau, and R.M. Turner). In *Proceedings of the Thirteenth International Symposium on Unmanned Untethered Submersible Technology (UUST)*, Durham, NH, 2003.

Context-sensitive weights for a neural network (R. Arritt and R.M. Turner). In *Proceedings of the Fourth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'03)*, pp. 29–39, Stanford, CA. (Proceedings published as *Lecture Notes in Artificial Intelligence 2680: Modeling and Using Context*, P. Blackburn, C. Ghidini, R. Turner, and F. Giunchiglia (eds.), Springer, New York, 2003.)

Using explicit, a priori contextual knowledge in an intelligent Web search agent (R.M. Turner, E.H. Turner, T.A. Wagner, T.J. Wheeler, and N.E. Ogle). In *Proceedings of the Third International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'01)*, pp. 343–352, Dundee, Scotland, July, 2001. (Proceedings published as *Lecture Notes in Artificial Intelligence 2116: Modeling and Using Context*, V. Akman, P. Bouquet, R. Thomason, and R.A. Young (eds.), Springer, New York, 2001.)

Representing the graphics context to support understanding plural anaphora in multi-modal interfaces (E.H. Turner and R.M. Turner). In *Proceedings of the Third International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'01)*, pp. 330–342, Dundee, Scotland, July, 2001. (Proceedings published as *Lecture Notes in Artificial Intelligence 2116: Modeling and Using Context*, V. Akman, P. Bouquet, R. Thomason, and R.A. Young (eds.), Springer, New York, 2001.)

Simulating an autonomous oceanographic sampling network: A multi-fidelity approach to simulating systems of systems (R. M. Turner and E.H. Turner). In *Proceedings of the Conference of the IEEE Oceanic Engineering Society (OCEANS'2000)*, Providence, RI, September, 2000.

Interfacing the Orca AUV controller to the NPS UVW and to a land robot (R.M. Turner and J. Mailman). In *Proceedings of the 11th International Symposium on Unmanned Untethered Submersible Technology (UUST)*, Durham, NH, August, 1999.

Aspects of context for understanding multi-modal communication (E.H. Turner, R.M. Turner, J. Phelps, C. Grunden, M. Neale, and J. Mailman). In *Proceedings of the Second International and Interdisciplinary Conference on Artificial Intelligence (CONTEXT'99)*, Trento, Italy, September 9–11, 1999. (Proceedings published as *Lecture Notes in Artificial Intelligence 1688: Modeling and Using Context*, P. Bouquet, L. Serafini, P. Brézillon, M. Benerecetti, F. Castellani (eds.), Springer, New York, 1999.)

A unified long-term memory system (J.H. Lawton, R.M. Turner, and E.H. Turner). In *Proceedings of the International Conference on Case-Based Reasoning (ICCB'99)*, Monastery Seeon, Munich, Germany, July, 1999.

A model of explicit context representation and use for intelligent agents. In *Proceedings of the Second International and Interdisciplinary Conference on Artificial Intelligence (CONTEXT'99)*, Trento, Italy, September 9–11, 1999. (Proceedings published as *Lecture Notes in Artificial Intelligence 1688: Modeling and Using Context*, P. Bouquet, L. Serafini, P. Brézillon, M. Benerecetti, F. Castellani (eds.), Springer, New York, 1999.)

Organization and reorganization of autonomous oceanographic sampling networks (R.M. Turner and E.H. Turner). In *Proceedings of the 1998 IEEE International Conference on Robotics and Automation (ICRA-98)*, Leuven, Belgium, May, 1998, pp. 2060–2067.

Context-mediated behavior for AI applications. In *Proceedings of the 11th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA-98-AIE)*, Benicàssim, Spain, June, 1998. Vol. I, pp. 538–547. (Proceedings published as *Lecture Notes in Artificial Intelligence 1415: Methodology and Tools in Knowledge-Based Systems*, J. Mira, A.P. del Pobil, and M. Ali (eds.), Springer, New York, 1998.)

A constraint-based approach to assigning system components to tasks (E.H. Turner and R.M. Turner). In *Proceedings of the 11th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA-98-AIE)*, Benicàssim, Spain, June, 1998. Vol. I, pp. 312–320. (Proceedings published as *Lecture Notes in Artificial Intelligence 1415: Methodology and Tools in Knowledge-Based Systems*, J. Mira, A.P. del Pobil, and M. Ali (eds.), Springer, New York, 1998.)

Integrating partial-order planning into the Orca schema-based mission controller (P. Ramakrishnan and R.M. Turner). In *Proceedings of the 10th International Symposium on Unmanned Untethered Submersible Technology (UUST)*, September, 1997, pp. 416–425.

Determining the context-dependent meaning of fuzzy subsets. In *Proceedings of the First International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-97)*, Rio de Janeiro, February 4–6, 1997, pp. 233–242.

Cooperative behavior in an autonomous oceanographic sampling network: MAUV Project update (S.G. Chappell, R.M. Turner, E.H. Turner, and C.M. Grunden). In *Proceedings of the 10th International Symposium on Unmanned Untethered Submersible Technology (UUST)*, September, 1997, pp. 375–384.

Organization and reorganization of autonomous oceanographic sampling networks (R.M. Turner, E.H. Turner, and D.R. Blidberg). In *Proceedings of the 1996 IEEE Symposium on Autonomous Underwater Vehicle Technology (AUV'96)*, Monterey, CA, June, 1996, pp. 407–413.

Intelligent control of autonomous underwater vehicles: The Orca project. In *Proceedings of the 1995 IEEE International Conference on Systems, Man, and Cybernetics*, Vancouver, Canada, October, 1995.

Context-sensitive, adaptive reasoning for intelligent AUV control: Orca project update. In *Proceedings of the 9th International Symposium on Unmanned Untethered Submersible Technology*, Durham, NH, September, 1995, pp. 426–435.

Handling unanticipated events in single and multiple AUV systems (R.M. Turner, P.S. Eaton, and M.J. Dempsey). In *Proceedings of the IEEE Oceanic Engineering Society Con-*

*ference (OCEANS '94 OSATES)*, pp. II-125–130, Brest, France, 1994. (Also invited for publication in the journal *l'Onde Electrique*.)

Handling unanticipated events during collaboration (R.M. Turner and P.S. Eaton). In *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society*, Atlanta, GA, 1994, pp. 887–892.

Generic behaviors: An approach to modularity in intelligent systems control (R.M. Turner, D. R. Blidberg, S. G. Chappell, and J. C. Jalbert). In *Proceedings of the 8th International Symposium on Unmanned Untethered Submersible Technology*, 1993, pp. 106–117.

A view of diagnostic reasoning as a memory-directed task. In *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society*, Bloomington, Indiana, July, 1992.

Orca: An adaptive, context-sensitive reasoner for controlling AUVs (R.M. Turner and R. A. Stevenson). In *Proceedings of the 7th International Symposium on Unmanned Untethered Underwater Submersible Technology (AUV '91)*, Durham, New Hampshire, September, 1991, pp. 423–432.

Multiple autonomous vehicle imaging system (MAVIS) (R.M. Turner, J.S. Fox, E.H. Turner, and D.R. Blidberg). In *Proceedings of the 7th International Symposium on Unmanned Untethered Underwater Submersible Technology (AUV '91)*, Durham, New Hampshire, September, 1991, pp. 526–536.

A schema-based approach to cooperative problem solving with autonomous underwater vehicles (E.H. Turner and R.M. Turner). In *Proceedings of the IEEE Oceanic Engineering Society Conference (OCEANS '91)*, Honolulu, October, 1991, pp. 1067–1074.

A schema-based approach to cooperative behavior (E.H. Turner and R.M. Turner). In *Proceedings of the Thirteenth Annual Conference of the Cognitive Science Society*, Chicago, August, 1991, pp. 928–932.

When reactive planning is not enough: Using contextual schemas to react appropriately to environmental change. In *Proceedings of the Eleventh Annual Conference of the Cognitive Science Society*, 1989, pp. 940–947.

Using schemata for diagnosis. In *Proceedings of the Twelfth Annual Symposium on Computer Applications in Medical Care (SCAMC)*, Washington, D.C., 1988, pp. 199–208. (Finalist in the student paper award competition; paper invited for publication in *Computer Methods and Programs in Biomedicine*.)

Opportunistic use of schemata for medical diagnosis. In *Proceedings of the Tenth Annual Conference of the Cognitive Science Society*, Montreal, Canada, 1988, pp. 160–166.

Modifying previously-used plans to fit new situations. In *Proceedings of the Ninth Annual Conference of the Cognitive Science Society*, Seattle, Washington, 1987, pp. 1–10.

A derivational approach to plan refinement for advice-giving. In *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics*, Atlanta, Georgia, 1986, pp. 858–862.

## Edited volumes

*Modeling and Using Context: Proceedings of the Tenth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-17)*, Paris, France, June 20–23, 2017. Published as volume 10257 of Springer’s *Lecture Notes in Artificial Intelligence* (Patrick Brézillon, Roy M. Turner, and Carlo Penco, eds.). In top 25% of downloaded eBooks in its Springer collection in 2017.

*Proceedings of the Fifth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’05)*, Paris, France, July, 2005. Published as *Lecture Notes in Artificial Intelligence 3554*, A. Dey, B. Kokinov, D. Leake, and R. Turner (eds.), Springer, New York, 2005.

*Proceedings of the Fourth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’03)*, Stanford, CA. Proceedings published as *Lecture Notes in Artificial Intelligence 2680: Modeling and Using Context*. P. Blackburn, C. Ghidini, R. Turner, and F. Giunchiglia (eds.), Springer, New York, 2003.

*Workshop Notes of the AAAI-99 Workshop on Reasoning in Context for AI Applications (W16)*. P. Brézillon, R.M. Turner, J.-Ch. Pomerol, and E.H. Turner (eds.). Technical Report WS-99-14, AAAI Press, Menlo Park, CA.

## Workshop papers

Appropriate commitment reactive planning (Erik Albert, Elise H. Turner, and Roy M. Turner). In the International Conference on Automated Planning and Scheduling (ICAPS ) Workshop ICAPS-WS5: A Reality Check for Planning and Scheduling Under Uncertainty, Sydney, Australia, September, 2008.

Explicit representation and retrieval of contextual knowledge for real-world agents. In *Modeling and Retrieval of Context: Papers from the AAAI Workshop* (Third International Workshop on Modeling and Retrieving Context (MRC2006)), Technical Report WS-06-12, American Association for Artificial Intelligence (AAAI Press), Menlo Park, CA, July 16–17, 2006.

Placing newly-arising goals in the proper context (Elise H. Turner, Roy M. Turner, and Erik Albert). In workshop notes for the Cooperative Systems and Context workshop of the Fifth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’05), Paris, France, July 5, 2005.

Self-organization and reorganization of multi-AUV systems: CoDA project overview (R.M. Turner and E.H. Turner). In workshop notes for IEEE/OES Autonomous Underwater Vehicles 2004 (AUV’04): A Workshop on Multiple AUV Operations, held in Sebasco Estates, Maine, June 17–18, 2004.

Selecting task decompositions for constrained heuristic search (E.H. Turner and R.M. Turner). In the workshop notes for the AAAI 2000 Workshop on Constraints and Planning, Austin, TX.

The need for context in multi-modal interfaces (E.H. Turner, R.M. Turner, C. Grunden,



J. Mailman, M. Neale, and J. Phelps). In *Workshop Notes for the 1999 AAI Workshop on Reasoning in Context for AI Applications* P. Brézillon and R.M. Turner (eds.), AAI Technical Report WS-99-14, AAI Press (Menlo Park, CA), Orlando, FL, July, 1999.

Context-mediated behavior: An approach to explicitly representing contexts and contextual knowledge for AI applications. In *Workshop Notes for the 1999 AAI Workshop on Reasoning in Context for AI Applications* P. Brézillon and R.M. Turner (eds.), AAI Technical Report WS-99-14, AAI Press (Menlo Park, CA), Orlando, FL, July, 1999.

Using contextual knowledge in autonomous real-world systems. In *Working Notes of the 1995 IJCAI Workshop on Modelling Context in Knowledge Representation and Reasoning*, Montreal, August, 1995.

Orca: Intelligent adaptive reasoning for autonomous underwater vehicle control. In *Proceedings of the First International Workshop on Intelligent Adaptive Systems (IAS-95)* at the FLAIRS (Florida Artificial Intelligence Research Society) Conference, Melbourne, Florida, April, 1995, pp. 52-62.

Controlling long-range, intelligent autonomous underwater vehicles for ocean science research. In *Workshop Notes of the 1994 AAI Workshop on AI Technologies for Environmental Applications*, Seattle, Washington, August, 1994, pp. 24-30.

The tragedy of the commons and distributed AI systems. In *Proceedings of the 12th International Workshop on Distributed Artificial Intelligence*, Hidden Valley, PA, May, 1993, pp. 379-390. Also available as Technical Report 93-01, Department of Computer Science, University of New Hampshire, Durham, NH 03824.

Context-sensitive reasoning for autonomous agents and cooperative distributed problem solving. In *Proceedings of the 1993 IJCAI Workshop on Using Knowledge in Its Context*, Chambéry, France, August, 1993.

The EAVE AUV program at the Marine Systems Engineering Laboratory (D.R. Blidberg, S. Chappell, J. Jalbert, R.M. Turner, G. Sedor, and P. Eaton). In *Proceedings of the IARP First Workshop on Mobile Robots for Subsea Environments*, Monterey, CA, Oct. 23-26, 1990.

Case-based and schema-based reasoning for problem solving. In *Proceedings of the DARPA Case-Based Reasoning Workshop*, Pensacola, Florida, 1989, pp. 341-344.

Organizing and using schematic knowledge for medical diagnosis. In *Proceedings of the DARPA Case-Based Reasoning Workshop*, Clearwater Beach, Florida, 1988, pp. 435-446.

## Other publications

DESL: A Generic, Lisp-Based Discrete Event Simulator (R. Turner). Computer Science Technical Report 2010-03, Department of Computer Science, University of Maine, Orono, ME 04469-5752, 2010.

Literate Programming in Lisp (LP/Lisp) (R. Turner). Computer Science Technical Report 2010-02, Department of Computer Science, University of Maine, Orono, ME 04469-5752, 2010.

Appropriate commitment planning (Erik Albert, E. Turner, and R. Turner). Computer Science Technical Report, University of Maine, Orono, ME 04469, 2006.

Exploiting contextual knowledge in multiagent systems (R.M. Turner and E.H. Turner). Computer Science Technical Report 2005-01, University of Maine, October, 2005.

Selecting task decompositions for constrained heuristic search (E.H. Turner and R.M. Turner). Technical Report No. 98-01, Computer Science Department, University of Maine, September, 1998.

An overview of autonomous underwater vehicle technology for ocean scientists (staff of UNH Marine Systems Engineering Laboratory). MSEL Report No. 91-10, September, 1991, Marine Systems Engineering Laboratory, Durham, NH. (Now available from the Autonomous Undersea Systems Institute, Lee, NH.)

Systems/subsystems investigation for a multi-sensor autonomous underwater vehicle search system (Staff of UNH Marine Systems Engineering Laboratory). MSEL Technical Report #90-01, Marine Systems Engineering Laboratory, University of New Hampshire, Durham, NH 03824, 1990. (Also published as Navy EOD Technical Center Technical Report TR-301, and now available from the Autonomous Undersea Systems Institute, Lee, NH.)

Autonomous control logic proposal review and recommendations (R.M. Turner and D.R. Blidberg). MSEL Technical Report #90-04, Marine Systems Engineering Laboratory, University of New Hampshire, Durham, NH 03824, 1990. (Now available from the Autonomous Undersea Systems Institute, Lee, NH.)

An investigation of the impact of communication strategies on the cooperative behavior of multiple, cooperating autonomous underwater vehicles: Phase I final report (D.R. Blidberg and R.M. Turner). MSEL Technical Report #90-08, Marine Systems Engineering Laboratory, University of New Hampshire, Durham, NH 03824, 1990. (Now available from the Autonomous Undersea Systems Institute, Lee, NH.)

A mechanism for context-sensitive reasoning. Technical Report No. 90-64, Department of Computer Science, University of New Hampshire, Durham, New Hampshire, 03824, 1990.

*A Schema-based Model of Adaptive Problem Solving*. PhD thesis. Available as Technical Report #GIT-ICS-89/42, School of Information and Computer Science, Georgia Institute of Technology, Atlanta, GA 30332, 1989.

Issues in the design of advisory systems: The Consumer-Advisor System. Technical Report #GIT-ICS-87/19, School of Information and Computer Science, Georgia Institute of Technology, Atlanta, GA 30332, 1987.

## Funding

Context-dependent deep learning for bird recognition in drone survey imagery (R.M. Turner, C. Loftin, and S. Yasaei-Sekeh). UMaine Artificial Intelligence Seed Grant program. Amount: \$42,050 for one year (Starting August 2020. Status: awarded.)

MRI: Acquisition of a high-performance computing instrument to support deep learning, modeling/simulation, and visualization for STEM (PI; co-PIs: Sofian Audry, Bruce Segee, Peter Koons, Huijie Xue). Submitted 1/18/2019 to NSF MRI program. Amount: \$500,000 (\$350,000 from NSF with another \$150,000 cost-sharing from UMaine) for 3 years. Status: Funded for 10/1/2019 to 9/30/2022.

Faculty course modification Incentive Grant-Maine Learning Assistant Program (FIG-MLA). Grant from the Maine Center for Research in STEM Education. Provides two Maine Learning Assistants (MLAs) for COS 140 (Foundations of Computer Science), \$2500 summer stipend, and 20 hours/year of a graduate student's time. Five year award. Status: Awarded, 2019–2023.

Revolutionizing Computing Across the University of Maine System (H.J. Onsrud, S.R. McKay, C. Holden, R. Corey, T. Hahmann, R. Moratz, S. Nittel, M. Scott, R. Turner). Research Reinvestment Funds Seed Grant Program. Amount: \$99,279 for 1 year. Status: funded (2016).

Using iBooks Author to Produce a Textbook for COS 140 (Foundations of Computer Science), IT Faculty Technology Stipend Award, UMaine Faculty Development Center, 2014. Amount: \$1500.

Maine Technology Institute: Maine Center for Autonomous Marine Survey (MCAMS), 2009–2014. Co-PI (PI: Neal Pettigrew, others on and off campus), 10% responsibility. Awarded: Fall, 2009. Amount: \$1,283,822.

Multi-modal spatial querying. (M.J. Egenhofer, R.M. Turner, and E.H. Turner; E.H. Turner and I took over as co-PIs when S. Overmyer left the University.) Sponsor: National Science Foundation. 1996-2006. Amount: \$482,606.

Intelligent Mission Control of AUVs for Standalone and AOSN Missions, 2000–2006. Sponsor: Office of Naval Research (contract number N000-14-00-1-0-614). Amount: \$417,921 from sponsor, \$225,703 University and Departmental cost-sharing. (A no-cost extension was granted from 2004–2006.)

Creating a task-level organization for an autonomous oceanographic sampling network, 1998–2003. (E.H. Turner and R.M. Turner) Sponsor: Office of Naval Research (DEP-SCoR program, contract number N0001-14-98-1-0648). Amount: \$461,129 from sponsor, \$182,034 cost-sharing from UMaine.

The Agent Institute: A Proposal to Develop an Infrastructure for Agent-Based Research and Development for the State of Maine, 1999–2002. (G. Markowsky, R.M. Turner, E.H. Turner, L. Latour, and J. Fastook) Sponsor: National Science Foundation, EPSCoR office. Amount: \$499,130 from sponsor, \$147,459 UMaine cost-sharing.

A proposal for equipment to support the modeling of marine fouling community development, 2000. Sponsor: University of Maine (Funded by the Faculty Research Funds committee). Amount: \$8080.

Controlling semi-autonomous and autonomous oceanographic sampling systems (Phase II), 1998–1999. (D.R. Blidberg, R.M. Turner, and E.H. Turner) Sponsor: Office of Naval Research (contract N0001-14-96-1-5009). Amount: \$250,000 to prime contractor (The Autonomous Undersea Systems Institute); UMaine subcontract amount: \$76,950.

An intelligent reactive controller for ocean science autonomous underwater vehicles, 1993–1998. Sponsor: National Science Foundation. Amount: \$265,670.

Controlling semi-autonomous and autonomous oceanographic sampling systems, 1996–1997. (D.R. Blidberg, R.M. Turner, and E.H. Turner) Sponsor: Office of Naval Research (contract N0001–14–96–1–5009). Amount: \$501,609 to the prime contractor (The Autonomous Undersea Systems Institute); UMaine subcontract amount: \$144,689.

An investigation of methods for communication and cooperation during problem solving by autonomous underwater vehicles, 1990. (R.M. Turner and E.H. Turner) Sponsor: The Hubbard Marine Program Endowment, University of New Hampshire. Amount: \$6000.

Autonomous undersea vehicle (AUV) control logic concept development, 1990. (With staff of the Marine Systems Engineering Laboratory [MSEL], The Analytical Sciences Corporation [TASC], IBM, Southwest Research Institute, and Woods Hole Oceanographic Institution [WHOI]) Sponsor: Naval Coastal Systems Center. Amount: \$35,000 subcontract to MSEL.

Autonomous control logic proposal development, 1989–1990. (D.R. Blidberg and R.M. Turner) Sponsor: Naval Coastal Systems Center (contract N61331–90–R–006 to the prime contractor, The Analytical Sciences Corporation (TASC); MSEL was subcontractor). Amount: subcontract amount was \$21,300.

## Invited presentations

“Growth Through Artificial Intelligence and Machine Learning”. Invited talk/panel, with Sofian Audry, at the UMaine Pulp and Paper Foundation’s “Paper Days”, UMaine, April, 2018. (Audience was approx. 340 people from across the country involved in the pulp and paper industry.)

Interview about AI and machine learning on the “Blunt Youth Radio Project” (Portland, ME), February 12, 2018.

“Artificial Intelligence: *2001* and Beyond”. Introduction to *2001: A Space Odyssey*, part of the *Science on Screen 2015/16* film series, Maine Film Center, Railroad Square Cinema, Waterville, Maine, December 7, 2015.

“Artificial Intelligence”, presented to the Haworth Academic Center (a K–12 institution), Bangor, Maine, November 20, 2015.

“eTextbook preparation and distribution using iBooks Author”, presented at the 2014 UMaine Faculty Technology Fair, November, 2014.

“Intelligent mission planning and control of autonomous underwater vehicles,” invited talk, presented to the Workshop on Planning Under Uncertainty for Autonomous Systems, part of the International Conference on Automated Planning & Scheduling (ICAPS’05), Monterey, CA, June, 2005.

Served as an invited subject matter expert for ocean science and technology and remote sensing at the Office of Naval Research’s University and Business Technology Conference (Leveraging Research), June 9, 1999, Portland, Maine.

“Cooperative Distributed Problem Solving for Controlling Semi-Autonomous and Autonomous Ocean Sampling Networks, D. R. Blidberg, S.G. Chappell, R. Komerska, E.H. Turner, and R.M. Turner (presented by D.R. Blidberg and E.H. Turner), at the Very Shallow Water/Surf Zone Autonomous Systems Kick-Off Meeting, Navy Coastal Systems Station, Panama City, Florida, February 23, 1999.

Presented poster at DEPSCoR program poster session (with E.H. Turner), Rockland, Maine, November, 1998, on Office of Naval Research-funded project on organization/reorganization of autonomous oceanographic sampling networks.

Naval Postgraduate School Modeling and Simulation Workshop: “MAUV Project AOSN Simulator”. With E.H. Turner. January 15, 1998, Monterey, CA.

“AOSN Control Research at the University of Maine”, with E.H. Turner, at the Rome Air Force Laboratory, Rome, NY, December 11, 1998.

UM Corporate Affiliate Program Research and Development Forum (New Technologies: Implications for Business & Industry): “UM Computer Science and Artificial Intelligence”. November 5, 1997, UM, Orono, ME.

“Organization and reorganization of AOSNs: The AUSI/UMaine MAUV project”, at the Office of Naval Research, part of the NOPP Grants Kickoff and Coordination Meeting. August 8, 1997.

“Experience with class Web sites and future Internet-based class plans”, at the Technology in the Curriculum faculty seminar, Instructional Technologies, University of Maine, May 12–15, 1997.

“Organization and reorganization of autonomous oceanographic sampling networks,” presented at Penn State University, October, 1996, to ONR program manager and PSU faculty.

Discussion and demonstration of AI technology for K–12 educators. At the School of Education institute (EDU 580) “Technology as a Learning Tool”. With Elise Turner, Summer, 1997, Summer, 1996.

## Teaching

### Courses

University of Maine, 1995–present: Introduction to Artificial Intelligence (COS 470/570); Foundations of Computer Science (COS 140 [developed with Elise Turner]). Introduction to Problem Solving Using Computer Programming (COS 125). Advanced Topics in Computer Science: Introduction to Expert Systems (COS 598, with Elise H. Turner); Topics in AI: Distributed Artificial Intelligence/Multiagent Systems (COS 570); Topics in AI: Advanced Topics in Artificial Intelligence (COS 570). Introduction to Programming (COS 120); Introduction to Unix (COS 231); Graduate Research Seminar (COS 600); Majoring in the Sciences (SCS 100, with Elise H. Turner); Majoring in Liberal Arts and Sciences (LAS 100); Computers and Society (COS 490); Operating systems (COS 431). Computer Architecture (COS 335). Programming Languages (COS 301). Introduction to Data Structures and Algorithms (COS 226). Success in Computer Science (COS 100). Data structures and algo-

rithms (COS 350). Computer Science Capstone I (COS 397). Computer Science Capstone II (COS 497).

University of New Hampshire, 1990–1994: Introduction to Artificial Intelligence (CS 730/830); Artificial Intelligence (CS 930); Distributed Artificial Intelligence (CS 980); Introduction to Operating Systems (CS 610); Honors Seminar in High Technology: Artificial Intelligence (INCO 404E); Business Data Processing (ADMN 526).

Georgia Institute of Technology (1986): Introduction to Artificial Intelligence (ICS3361); LISP (at Sperry Corp.).

Indiana State University Evansville (now University of Southern Indiana), 1982: Undergraduate courses in Computer Architecture, Advanced Programming, Introduction to Computer Science, and remedial algebra.

Eastern Kentucky University, 1980: Undergraduate courses in FORTRAN and remedial algebra.

## **Recent professional development**

Introductory Course Environment—Faculty Learning Community (ICE–FLC), 2018–present. Maine Center for Research in STEM Education (RiSE Center).

## **Advising**

### **Graduate**

- Doctoral: three current, two graduated (2005, 2014).
- Masters: 11
- Dissertation/thesis committee memberships: 20

### **Undergraduate**

- Honors thesis: 7
- Senior/capstone projects: >30
- Undergraduate academic advising: 15–30/semester

## **Laboratory**

Director of MaineSAIL, the Maine Software Agents and Artificial Intelligence Laboratory (co-directed with Elise Turner, 1990–2008; director 2008–present). This laboratory was formerly the UNH, then UMaine, CDPS Research Group. MaineSAIL conducts research in artificial intelligence, software agents, multiagent systems, context-sensitive reasoning, computational ecology, and computer science education. One of its primary goals is to

introduce undergraduates to research. Toward that end, we regularly advise undergraduate projects, both funded and non-funded, and we have had several undergraduates co-author papers with us.

## Professional activities and service

### Editorial boards

*Modeling and Using Context* (iSTE OpenScience, publisher). Editorial board member (co-editor), 2016–present.

### Conference organization

Conference co-chair, Twelfth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-21), to be held June, 2021, in Dubai, UAE.

Conference co-chair, Tenth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT-17), Paris, France, June 21–23, 2017.

Steering Committee member for the International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT), 1999–2012.

Conference chair, Fifth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’05), Paris, France, June, 2005.

Program co-chair, Fourth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’03), summer, 2003.

Publicity chair, Third International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT’01), July 27–30, 2001, Dundee, Scotland.

Organizing committee, CONTEXT’01 (Third International and Interdisciplinary Conference on Modeling and Using Context, Dundee, Scotland, July 22–23, 2001).

Member of Steering Committee for The Agent Institute, University of Maine, 1999–2002.

Unmanned Untethered Submersible Technology Consortium Steering Committee, 1997.

### Workshop and tutorial organization

Tutorial on Models and Use of Context in Artificial Intelligence (with Patrick Brézillon, held at the European Conference on Artificial Intelligence (ECAI), Lyon, France, July, 2002.

Workshop on Reasoning in Context for AI Applications, held as part of the workshop program of the National Conference on Artificial Intelligence of the American Association for Artificial Intelligence (AAAI-99), July, 1999. (Organized by Patrick Brézillon, Roy Turner, Jean-Charles Pomerol, and Elise Turner.) Workshop notes published as a technical report by the American Association for Artificial Intelligence (AAAI).

## Program and review committees

Program Committee, Conference of the Cognitive Science Society (CogSci), 2019.

Program Committee, International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT): 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019

Program committee, Sixth International Workshop Modeling and Reasoning in Context, held in conjunction with the 19th European Conference on Artificial Intelligence (ECAI), Lisbon, Portugal, August, 2010.

Program committee, Eighth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009).

Program Committee, 3rd International and Interdisciplinary Conference on Human Centered Processes, Delft, June, 2008.

Program Committee, Workshop on Modelling and Reasoning in Context (MRC 2008), in conjunction with the 3rd International and Interdisciplinary Conference on Human Centered Processes, Delft, June, 2008.

Program Committee, Fourth International Workshop on Context and Ontologies, at the European Conference on Artificial Intelligence, Patras, Greece, July, 2008.

Review committee, International Joint Conference on Artificial Intelligence (IJCAI'07).

Program committee, Twentieth International FLAIRS Conference (FLAIRS-20), Key West, FL, May, 2007.

Program committee, Third Workshop on Context and Ontology Representation and Reasoning (C&O:RR-2007), in conjunction with the Sixth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'07), Denmark, Summer 2007.

Program committee, Workshop on Case-Based Reasoning and Context-Awareness, held at the European Conference on Case-Based Reasoning (ECCBR 2006), Oludeniz/Fethiye, Turkey, 2006.

Program committee, Third International Workshop on Modeling and Retrieval of Context (MRC2006), held at the National Conference on Artificial Intelligence (AAAI-06).

Program committee, Second International Workshop on Context Representation and Reasoning (CRR 2006), in conjunction with the European Conference on AI (ECAI 2006), Riva del Garda, Italy, August, 2006.

Program committee, International Workshop on Planning under Uncertainty and Execution Control for Autonomous Systems, held in conjunction with the 16th International Conference on Automated Planning & Scheduling (ICAPS'06).

Scientific committee member, doctoral consortium, Fifth International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT'05), Paris, France, 2005

Program committee member, Workshop on Planning Under Uncertainty for Autonomous Systems, International Conference on Automated Planning & Scheduling (ICAPS'05), Monterey, CA, 2005.

Program committee member, Fourth International Joint Conference on Autonomous Agents



and Multiagent Systems (AAMAS-05), 2005

Member of the program committee for Workshop on Autonomous Artificial Systems Exploring Hostile Environments, part of the International NAISO Congress on Information Science Innovations (ISI'2001) March 18th, 2001 at the American University of Dubai, U.A.E.

Tenth International Symposium on Unmanned Untethered Submersible Technology (UUST'97), Durham, NH, September 7–10, 1997 (review committee).

IJCAI Workshop (1995): Modelling Context in Knowledge Representation and Reasoning (review committee).

## Chaired sessions

Chaired session on “Knowledge Representation” at CONTEXT'15 (International and Interdisciplinary Conference on Modeling and Using Context)

Co-chaired technical paper session on “Context-Sensitive Reasoning” at the 11th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA-98-AIE), Benicàssim, Spain, June 4, 1998.

Paper session at the Tenth International Symposium on Unmanned Untethered Submersible Technology (UUST'97), Durham, NH, September 10, 1997.

Paper session at the 1996 IEEE Symposium on Autonomous Underwater Vehicle Technology, Monterey, CA.

Two paper sessions at the 1995 IEEE International Conference on Systems, Man, and Cybernetics, Vancouver, Canada.

Paper session at the 1995 Ninth International Symposium on Unmanned Untethered Submersible Technology (UUST), Durham, NH.

Paper session at the 1995 FLAIRS conference's First International Workshop on Intelligent Adaptive Systems (IAS-95), Melbourne, FL.

## Technical reviews

Reviewer for EAP CogSci 2015 (EuroAsianPacific Joint Conference on Cognitive Science).

Reviewer for two chapter submissions for *Context in Computing: A Cross-Disciplinary Approach for Modeling the Real World Through Contextual Reasoning*, P. Brézillon and A. Gonzalez, eds.

*Journal of Autonomous Agents and Multi-Agent Systems* (2007)

International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2005, 2009.

International Conference on Modeling and Using Context (CONTEXT), 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015

Cognitive Science Society Conference (1990, 1992, 1994, 1998, 1999, 2005)

National Science Foundation (non-panel and panel (1998, 1999, 2004) reviewer)  
International Symposium on Unmanned Untethered Submersible Technology (UUST) (1995, 1997, 1999)  
IEEE International Conference on Intelligent Robots and Systems (IROS) (1999).  
*Knowledge Engineering Review* (1998)  
*Journal of Applied Intelligence* (1992, 1997)  
IEEE *Journal of Oceanic Engineering* (1996)  
*Journal of Theoretical AI* (1995)  
*Journal of Autonomous Robots* (1995)  
IJCAI Workshop (1995): Modelling Context in Knowledge Representation and Reasoning  
*IEEE Journal of Robotics and Automation* (1992)  
*Machine Learning* (1990, 1991)  
IEEE Oceans (1990)  
*AI Expert* (1989)

### **University and system-level service**

Member AI Steering Committee (2020–present).

Member CSIT (Computer Science/Information Technology) Major-to-Major Transfer Committee, 2013–present.

Information Security Committee (ad hoc), chair, 2011–present. (This committee is currently inactive. It was set up by the VP for Finance and Administration and the Provost to respond to the University of Maine System’s Information Security Policy.)

Faculty Senate: Member (2000–2006, 2007–2013), Executive Committee (2001–2003, 2007–2013), Secretary (2001–2002), Committee on Committees (chair; 2010–2013). Research and Public Service Committee (chair; 2002–2003), University Environment Committee (2004–2005), Library Committee (2005–2006), Constitution and By-Laws Committee (2007–2008), Academic Affairs Committee (2008–2009).

Delegate (representing the University of Louisville) to the inauguration of President Ferguson, April, 2012.

Member of the University Research Council (advisory body to the VP for Research), 2006–2007. Member of the Strategic Plan Implementation Subcommittee, 2004–2006. Member of the Indirect Cost Recovery Subcommittee, 2007.

Graduate Board, 2004–2008.

Member of the Coordinating Committee for the Information Science Collaborative, 2003–2008.

Faculty advisor, UM Circle K service club, 1997–2005.

Senate representative on the University Commission on Information Technology, 2001–2002.

Senate representative on the University Bookstore APL 31 Process Committee, 2001–2002. (University of Maine System-mandated committee to periodically review out-sourcing versus retaining local control of bookstore.)

Search committee, Office of Research and Sponsored Programs, Spring 2001.

Attendee, meeting at UM Augusta about computer science education across the state at K-12 and college levels. Spring, 1999.

Represented UM at presentation of Wal-Mart Competitive Edge Scholarship to incoming CS major, Scarborough, Maine, July 21, 1998.

Attendee, with other UM representatives, at Bath Iron Works (Bath, Maine) to discuss possible teaching opportunities and research partnerships between UM and BIW, July 24, 1998.

Prepared presentation (with Elise Turner) about computer science research at UM for Maine Senators and Joint Select Committee on Technology, 1997.

Participated in UM Corporate Affiliate Program (“New Technologies: Implications for Business & Industry”), November 5, 1997. Presentation: “UM Computer Science and Artificial Intelligence”.

Participated in “Technology in the Curriculum” faculty seminar hosted by Instructional Technologies, May 12–15, 1997. Talk: “Experience with class Web sites and future Internet-based class plans”.

## **College committees and service**

Mathematics and Statistics Chair Search Committee, 2011–2012.

Chemistry Department Chair Search Committee, 2010–2011.

Chemistry Department Chair Search Committee, Spring/Summer 2008

Computer Science Department Chair Search Committee, Spring 2002.

Chemistry Department Chair Search Committee, Spring 2002.

Advised new computer science students at College of Liberal Arts and Sciences student orientation, Summer 1998; Summer 2002.

College of Liberal Arts and Sciences Technology Committee (1997–2000). Chair, 1998-9.

## **School/Department service**

ABET (accreditation) coordinator, 2016–2019; co-coordinator, 2019–present.

Undergraduate Co-Coordinator, 2020–present.

Lecturer Search Committee (chair), 2018–2019.

Interdisciplinary Curriculum Committee (co-lead), 2018–present.

Graduate Coordinator, 2017–2018.

Tenure-Track Search Committee, 2018–present.

New Media Evaluation Criteria Committee, 2018–present.

Policy Advisory Committee, 2011–2018

Computer Science Peer Committee, 2011–present (chair, 2011-2018)

Undergraduate Curriculum Committee, 2011–present.

CS Graduate Curriculum Committee, 2011–present.

Labs and Systems Committee, 2011–2018.

Faculty Advisor (co-advisor with Elise Turner until 2008), Upsilon Pi Epsilon Honor Society for the Computing Sciences, 1999–present.

Computer Science Graduate Coordinator, 2017–18.

Faculty search committee (chair), 2017–2018.

Director search committee, 2017–2018.

Represented School at prospective student Open House (latest: 2018).

In Computer Science Department: Space & Equipment Committee (1995–2011). Research Committee (1995–2011). Promotion and Tenure Committee (Chair), 2005–2006; 2007–2011. Peer Committee (1995-1997; 2000–2004 (chair); 2005-2011). PAC (1996-1998; chair 1996-1998; 2002–2004; 2005–2011). Graduate Coordinator (2004–2008, 2017–18). Graduate Committee (1995–2011); chair 2004–2008. Curriculum Committee (2001–2005; 2007–2011). Recruiting Committee (1998–2005). Graduate Review Committee (ad hoc, spring 1996). Ph.D. proposal committee (1998), ad hoc committee to organize the Anne Johnstone Seminar (1998), co-organizer (with L. Latour) of Anne Johnstone Forum (lunchtime seminary series; 1995–1997), coordinator for Department’s graduate review site visit (1996).

At UNH: Departmental committees and service duties: colloquium coordinator, 1990–1991; equipment committee, 1990–1994 (chair, 1992–93); affirmative action committee, 1992–93. Created the UNH CS Department’s World Wide Web pages, 1994.

At Georgia Tech: Served on the College of Information, Computer, and Cognitive Science committee, examining the proposed creation of the college as part of the reorganization of the Georgia Institute of Technology, 1988–1989.

## Recent public service

Presentation/discussion with Bangor High School juniors and seniors about college, 2 June 2020.

Introduced *2001: A Space Odyssey*, part of the *Science on Screen* 2015/16 film series, Maine Film Center, Railroad Square Cinema, Waterville, Maine, December 7, 2015. Board of Trustees, All Souls Congregational Church (Bangor), 2013–2014.

Member of Critical Care Advisory Council, Eastern Maine Medical Center (Bangor, ME), 2009–2011.

Taught (with Jaimi Allen, Adi Conlogue, and Janet Weber) programming to 3rd and 4th graders at All Saints Catholic School, Bangor, Maine, Spring 2009. Part of a computer science education project (Jaimi Allen's MS project). A follow-on course was taught in Fall, 2010, by Adi Conlogue.

Member of the Board of Reviewing Editors for Science NetLinks, a service of the American Association for the Advancement of Science, 1998–2001 (approx.).

Faculty advisor, Circle K, 1997–2005; see University Service.

Judge, Upward Bound science fair, August 3, 1998, August 4, 1997.

Vice-chair of Diaconate, Community Church of Durham, 1994-5.

Environmental Coordinator, Community Church of Durham (NH), 1992–95.

## Professional memberships

IEEE. IEEE societies: Computer Society, Oceanic Engineering Society, Systems, Man, and Cybernetics.

Association for the Advancement of Artificial Intelligence (AAAI).

Association for Computing Machinery (ACM). Special interest group on computer science education (SIGCSE), special interest group on computer simulation (SIGSIM), special interest group on AI (SIGART).

American Association for the Advancement of Science (AAAS).

Association of Lisp Users (ALU).

## Honors and awards

School of Computing and Information Science Outstanding Faculty Member, 2016-17. Voted on by the graduating seniors.

School of Computing and Information Science Outstanding Faculty Member, 2015-16. Voted on by the graduating seniors.

IT Faculty Technology Stipend Award, University of Maine, Spring, 2014.

Upsilon Pi Epsilon Computer Science Honor Society, University of Maine chapter, inducted in 2002.

Golden Key Honor Society Honorary Member, University of Maine chapter, inducted in 2001.

Outstanding Faculty Advisor Award, New England District of Circle K, 1998–1999.

Phi Kappa Phi Honor Society (elected to membership in 1980)

Tau Beta Pi engineering honor society (elected to membership in 1978)

President's Fellowship, Georgia Institute of Technology, 1984–1988.

Finalist, student paper competition, 1988 Symposium on Computer Applications in Medical Care (SCAMC).

Second place, Freshman–Sophomore Research Contest, University of Louisville College of Medicine, 1983.

/August 25, 2020/