

Jesse M. Heines, Professor Emeritus

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A. EDUCATION AND ACADEMIC EXPERIENCE

1. Education

- 1979 **Ed.D. Boston University**, School of Education, Boston, MA.
Major: Educational Media and Technology.
Dissertation: The Use of Interactive, Computer-Managed Instruction to Control the Quality of Self-Paced Training.
- 1974 **M.S. University of Maine**, School of Education, Orono, ME.
Major: Science Education.
Thesis: An Interactive, Computer-Managed Model for the Evaluation of Audio-Tutorial Instruction.
- 1970 **B.S. Massachusetts Institute of Technology**, Cambridge, MA.
Major: Earth Sciences.

2. Higher Education Academic Experience

- 2016-present **Professor Emeritus of Computer Science** (retired), **UMass Lowell**.
- 2009-2016 **Professor of Computer Science, UMass Lowell**.
- 2011 **Visiting Professor, K.L. University**, Dept. of Computer Science, Vjayawada, Andhra Pradesh, India. *Sponsor:* IEEE Indo-US Collaboration for Engineering Education.
- 2006-2011 **Computer Science Undergraduate Coordinator, UMass Lowell**.
- 1989-2009 **Associate Professor of Computer Science** (with tenure), **UMass Lowell**.
- 1999-2002 **Visiting Scholar, Massachusetts Institute of Technology**, Center for Educational Computing Initiatives, Cambridge, MA. *Center Directors:* Dr. Steven Lerman and Dr. Richard Larson (Center for Advanced Educational Services).
- 1997 **Visiting Professor, University of Fort Hare**, Dept. of Computer Science, Alice, South Africa. *Dept. Head:* Dr. Iouri Boreicha.
- 1985-1989 **Assistant Professor of Computer Science, UMass Lowell**.

3. Industry Experience

- 1984-2004 **Consultant and Trainer** to over 30 companies on computer-based training, web technologies, and programming strategies. **CBT Artisan, Inc.**, Chelmsford, MA.

1974-1984 **Software Course Developer, Computer-Based Instruction Developer, Supervisor, and Manager, Digital Equipment Corporation, Maynard, MA.**

4. Middle School Teaching Experience

1970-1972 **6th, 7th, and 8th Grade Science and Math Teacher, Anglo-American School, Moscow, Russia.**

B. PROFESSIONAL ACTIVITIES

1. Professional Association Participation

Association for Computing Machinery (ACM)

2011-present Senior Member and member of the Special Interest Group on Computer Science Education (SIGCSE)
 2010-2012 Founding Member, SIGCSE Computing and Music Committee
 2005-2006 SIGCSE Information Co-Director
 1994-2016 Member, SIGCSE
 1992-2016 Member

Association for the Development of Computer-based Instructional Systems (ADCIS)

1973-1993 Member (*organization disbanded in 1993*)
 1979-1993 Member, *Journal of Computer-Based Instruction* Review Board
 1989-1990 Vice President
 1988 Elected Dean Lecturer
 1986 Elected an ADCIS Fellow
 1978-1981 Founder and Chair, Special Interest Group in Computer-Based Training

Association for Technology in Music Instruction (ATMI)

2008-2016 Member, ATMI

2. Professional Honors and Awards

2020 MIT Margaret L. A. MacVicar Alumni Association Service Award
 2014 UMass Lowell Student Organization Advisor of the Year
 2013 UMass Lowell Recognition for Innovation in Interdisciplinary Education
 2008 UMass Lowell College of Arts & Sciences Faculty Award for the Advancement of Teaching in the Sciences
 2006 UMass Lowell Dept. of Computer Science Teaching Award
 2004 UMass Lowell Dept. of Computer Science Teaching Award
 2001 UMass Lowell Dept. of Computer Science Teaching Award
 1989 Boston Chapter of the Society for Technical Communication Award of Merit
 1986 Best Paper Award, 28th Int'l. ADCIS Conference
 1984 Best Paper Award, SIG Computer-Based Training, 26th Int'l. ADCIS Conference
 1976 Award of Excellence, Boston Chapter, Society for Technical Communication

3. Non-Teaching Activities

2011, 2014	Qatar National Research Fund – proposal reviewer
2013	Kinetic Solutions, Cranfield, England, U.K. – consultant/trainer
2012	NetScout Systems, Westford, MA – consultant/trainer
2008, 2011	National Science Foundation – review panel member
2007	Manuscript Reviewer, <i>IEEE Transactions on Education</i>
2004	<i>IBM Systems Journal</i> – manuscript reviewer
2003	<i>Computer Science Education</i> – manuscript reviewer
2001	<i>Journal of Computing in Higher Education</i> – manuscript reviewer

4. Post-Retirement Activities

2021-2023	Volunteer, New Hampshire Dept. of Corrections, Computer Instructor
2018-2020	Volunteer, New Hampshire Dept. of Corrections, Correctional Industries
2016-200	Presenter, UMass Lowell Learning in Retirement Association

C. FUNDED RESEARCH

1. Grants, Contracts, and Student Support **\$ 3,204,934**

Federally Funded Grants for Research – *Principal Investigator* **\$ 1,160,027**

2015	A Middle School After-School Pilot Program Integrating Computer Programming and Music Education. NSF Award No. DRL-1515767. <i>Principal Investigator. Co-PI: Daniel Walzer. Senior Personnel: Jill Lohmeier.</i>	\$ 288,945
2011	Computational Thinking through Computing and Music. NSF Award No. DUE-1118435. <i>Principal Investigator. Co-PIs: Gena Greher & S. Alex Ruthmann. Senior Personnel: Sarah Kuhn and Fred Martin.</i>	\$ 449,995
2009	Research Experience for Teachers Supplement to Performamatics.	\$ 25,000
2009	Research Experience for Undergraduates Supplement to Performamatics.	\$ 15,925
2008	Research Experience for Undergraduates Supplement to Performamatics.	\$ 12,000
2007	Performamatics: Connecting Computer Science to the Performing, Fine, and Design Arts. NSF Award No. 0722161. <i>Principal Investigator. Co-PIs: Gena Greher, Jim Jeffers, Sarah Kuhn, Fred Martin, Karen Roehr, and Nancy Selleck.</i>	\$ 368,162

Federally Funded Grants for Research – *Co-Principal Investigator* **\$ 30,000**

1994	PLEXUS User Interface Analysis. Dept. of the Air Force, AFGL. <i>PI: James Canning. Additional Co-PI: Marian Williams.</i>	\$ 30,000
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Federally Funded Grants for Research – Senior Personnel		\$ <u>273,725</u>
2009	Commonwealth Alliance for Information Technology Education (CAITE). UMass Lowell subcontract from UMass Amherst. <i>Additional Senior Personnel:</i> Holly Yanco and Fred Martin.	\$ 273,725
Additional Research Funding Sources – Principal Investigator		\$ <u>5,000</u>
2003	Student Program Documentation Analysis and Feedback. ACM SIGCSE Special Project Grants Program.	\$ 5,000
External Contracts for Course and Software Development		\$ <u>572,242</u>
2007	Membership Database and Website Development. Merrimack Valley Venture Forum.	\$ 5,000
1997	New Hire Training for Oxford Health Care. Oakes Interactive, Needham, MA. (4 contracts)	\$ 105,000
1997	New Hire Training for Pictorial Insurance. Oakes Interactive, Needham, MA.	\$ 25,000
1997	Quality Assurance for IconAuthor V7.5. Aimtech, Nashua, NH.	\$ 5,000
1995	Teller Training for US West. Cooper & Associates, Portsmouth, NH. (3 contracts)	\$ 50,000
1995	The Civil War. InfoBase, Longmeadow, MA. (2 contracts)	\$ 20,000
1995	Contact Management. Oakes Interactive, Needham, MA.	\$ 5,000
1994	Client Programs. Oakes Interactive, Needham, MA. (4 contracts)	\$ 50,000
1993	(REMS)² Instructional Program. Merrimack Education Center, Chelmsford, MA. (3 years)	\$ 4,500
1993	Insurance Rating Support. Micro Training Assoc., Canton, CT and Aetna Life Insurance, Hartford, CT.	\$ 15,500
1993	DMS100 SuperNode Maintenance. TW Design, Atlanta, GA, and Northern Telecom, Raleigh, NC. (5 contracts)	\$ 140,000
1992	Interactive Video. VIS Development, Waltham, MA. <i>Co-PI:</i> John Buford.	\$ 1,200
1989	IKSC1 Documentation Plan. Centel Federal Systems, Reston, VA.	\$ 16,900
1989	Modeling System Shell Environment Development. Creative Optics, Bedford, MA. <i>Co-PI:</i> James Canning.	\$ 50,000
1989	Consultation on Courseware Transportability. MEI Associates, Lexington, MA.	\$ 300
1988	Surgical Procedures. Total Learning Concepts, Boston, MA. (2 contracts)	\$ 16,000
1988	Modeling System Shell Environment Design. Creative Optics, Bedford, MA. <i>Co-PI:</i> James Canning.	\$ 19,540
1987	Demonstration Program for Authoring System Development. Gateway Design Automation Corp., Burlington, MA.	\$ 5,400
1986	CBT Authoring Tools Development. Scientific Systems, Cambridge, MA. (2 contracts)	\$ 37,902

External Support for Student Coops		\$ <u>691,834</u>
2000	Avici Systems, North Billerica, MA. (1 year, 3 student contracts)	\$ 37,574
1996	Mercury Systems, Chelmsford, MA. (3 years, 8 student contracts)	\$ 177,112
1994	Wang Global, Billerica, MA. (4 years, 16 student contracts)	\$ 400,000
1996	3Com Corp., Acton, MA. (1 year, 3 student contracts)	\$ 26,700
1997	Agile Networks, Acton, MA. (1 year, 1 student contract)	\$ 16,069
1995	Keyfile Corp., Nashua, NH. (1 year, 2 student contracts)	\$ 34,379
External Donations of Equipment and Software		\$ <u>450,846</u>
1997	Instructional Lab Grant. Microsoft Corp., Redmond, WA. <i>Co-PI:</i> John Sieg.	\$ 120,754
1995	QuickPak™ Professional and XRef™ for Windows. 50 licenses for each. Progress Software, Bedford, MA.	\$ 7,152
1995	Instructional Lab Grant. Microsoft Corp., Redmond, WA. <i>Co-PIs:</i> Giampiero Pecelli & Robert Lechner. (2 donations)	\$ 38,900
1992	AT&T/NCR University Equipment Donation Program. 20-station student lab of networked personal computers.	\$ 143,000
1992	ACM High School Programming Contest Awards. (from various companies)	\$ 13,120
1991	Toolbook Development System for Windows. Asymetrix Corp., Bellevue, WA.	\$ 7,920
1985	Special Investment Grant for Computer-Based Education on Pascal Programming. Digital Equipment Corp.	\$ 120,000
Internal Support for University Projects		\$ <u>21,000</u>
2003	Equipment Support for Web Applications that Enable Chronically Ill Children to Stay Connected with Their Classes. Joseph P. Healey Endowment Research Grant. <i>Co-PI:</i> Graduate Student Ed Klein.	\$ 5,000
2003	Web-Enabled Explication of Poetry. UMass President's Office 2003 Professional Development Grant Program. <i>Co-PI:</i> Prof. Diana Archibald, English.	\$ 6,000
2003	Licensure Preparation Web Site for the Massachusetts Educator Certification Tests in Music. UMass President's Office 2003 Professional Development Grant Program. <i>Co-PI:</i> Prof. Gena Greher, Music.	\$ 10,000

2. Academic and Professional Publications

Refereed Journal Papers and Conference Proceedings

Heines, J.M. & Walzer, D.A. (2018). **Teaching A Computer To Sing (TACTS): Integrating Computing and Music in a Middle School, After-School Program.** *Consortium for Computing Sciences in Colleges Northeastern Region (CCSCNE) 2018 Conference.* Manchester, NH, April 20, 2018. *Journal of Computing Sciences in Colleges* 33(6):63-75, June 2018.

- Walzer, D.A. & Heines, J.M. (2016). **“Teaching a Computer to Sing”**: Preliminary Findings from A Middle School After-School Pilot Program Integrating Computer Programming and Music Education. *2nd Int’l Conf. On Building Interdisciplinary Bridges Across Cultures (BIBAC)*. Cambridge, England, July 30-31, 2016.
- Heines, J.M., & Jassem, K. (2013). **Teaching Internationalization – Internationally**. *18th Annual Conf. on Innovation and Technology in CS Education (ITiCSE)*. Canterbury, England, July 1-3, 2013.
- Ruthmann, S.A., Greher, G.R., & Heines, J.M. (2012). **Real World Projects for Developing Musical and Computational Thinking**. *30th Int’l Society for Music Education (ISME) World Conf. on Music Education*. Thessaloniki, Greece, July 15-20, 2012.
- Heines, J.M., Greher, G.R., & Ruthmann, S.A. (2012). **Techniques at the Intersection of Computing and Music**. *17th Annual Conf. on Innovation and Technology in CS Education (ITiCSE)*. Haifa, Israel, July 3-5, 2012.
- Heines, J.M., Greher, G.R., Ruthmann, S.A., & Reilly, B. (2011). **Two Approaches to Interdisciplinary Computing+Music Courses**. *IEEE Computer* 44(12):25-32, Dec. 2011.
- Ruthmann, S.A., Heines, J.M., Greher, G.R., Laidler, P., & Saulters, C. (2010). **Teaching Computational Thinking through Musical Live Coding in Scratch**. *41st ACM SIGCSE Technical Symposium on CS Education*. Milwaukee, WI, March 12, 2010.
- Ruthmann, S.A., & Heines, J.M. (2009). **Designing Music Composing Software with and for Middle School Students: A Collaborative Project among Senior Computer Science and Music Education Majors**. *Assoc. for Technology in Music Instruction (ATMI) 2009 Conf.*, Portland, OR, Oct. 23, 2009.
- Greher, G.R., & Heines, J.M. (2009). **Sound Thinking: Conceptualizing the Art and Science of Digital Audio for an Interdisciplinary General Education Course**. *Assoc. for Technology in Music Instruction (ATMI) 2009 Conf.*, Portland, OR, Oct. 22, 2009.
- Martin, F., Greher, G.R., Heines, J.M., Jeffers, J., Kim, H.J., Kuhn, S., Roehr, K., Selleck, N., Silka, L., and Yanco, H. (2009). **Joining Computing and the Arts at a Mid-Size University**. *Proc. of the 2009 Conf. of the Consortium for Computing Sciences in Colleges – Northeastern Region (CCSCNE 2009)*. Plattsburgh, NY, April 24, 2009.
- Heines, J.M., Greher, G.R., & Kuhn, S. (2009). **Music Performamatics: Interdisciplinary Interaction**. *40th ACM SIGCSE Technical Symposium on CS Education*. Chattanooga, TN.
- Greher, G.R., & Heines, J.M. (2008). **Interdisciplinary Collaboration: Connecting Computer Science and Music Students to the Benefit of Both**. *Assoc. for Technology in Music Instruction 2008 Conf.*. Atlanta, GA, Sept. 25, 2008.
- Heines, J.M., Jeffers, J., & Kuhn, S. (2008). **Performamatics: Experiences With Connecting a Computer Science Course to a Design Arts Course**. *The Int’l. Jnl. of Learning* 15(2):9-16.
- Schedlbauer, M.J., & Heines, J.M. (2007). **Selecting While Walking: An Investigation of Aiming Performance in a Mobile Work Context**. *Proc. of the Thirteenth Americas Conf. on Information Systems*, Paper 433. Keystone, CO.
- Heines, J.M., & Schedlbauer, M.J. (2007). **Teaching Object-Oriented Concepts Through GUI Programming**. *Eleventh Workshop on Pedagogies and Tools for the Teaching and Learning of Object Oriented Concepts*, held at the *21st European Conf. on Object-Oriented Programming*. Berlin, Germany.
- Pastel, R., Champlin, J., Harper, M., Paul, N., Helton, W., Schedlbauer, M., & Heines, J.M. (2007). **The Difficulty of Remotely Negotiating Corners**. *Proc. of the Human Factors and Ergonomics Society 51st Annual Meeting*, pp. 489-493. Baltimore, MD.

- Pastel, R., Wallace, C., & Heines, J.M. (2007). **RFID Cards: A New Deal for Elderly Accessibility**. HCI Int'l. 2007, Beijing, P.R. China. Published in Stephanidis, C. (ed.), *Universal Access in HCI, Part I, HCI 2007, LNCS 4554*, pp. 990–999. Springer-Verlag: Berlin.
- Heines, J.M., & Liang, L. (2006). **Combining, Storing, and Sharing Digital Ink**. Accepted for presentation at the *12th Annual Consortium for Computing Sciences in Colleges (CCSCNE) Northeastern Conf.*, Rochester, NY, but not presented due to a scheduling conflict.
- Schedlbauer, M.J., Pastel, R.L., & Heines, J.M. (2006). **Effect of Posture on Target Acquisition with a Trackball and Touch Screen**. Proc. of 28th Int'l. Conf. on Information Technology Interfaces, pp. 257-262. Dubrovnic, Croatia.
- Heines, J.M., & Martin, D. (2005). **Development and Deployment of a Web-Based Course Evaluation System: Trying to Satisfy the Faculty, the Students, the Administration, & the Union**. Proc. of the 1st Int'l. Conf. on Web Information Systems and Technologies, pp. 441-448. Miami, FL.
- Murray, K., Heines, J.M., Moore, T., Trono, J., Kölling, M., Schaller, N.C., & Wagner, P.J. (2003). **Panel on Experiences with IDEs and Java Teaching: What Works and What Doesn't**. Proc. of the ACM SIGCSE 8th Int'l. Conf. on Innovation and Technology in CS Education, published in the *ACM SIGCSE Bulletin* 35(3):215-216. Thessaloniki, Greece.
- Grankovska, S. and Heines, J.M. (2002). **Course Web Sites: State-of-the-Art**. *United States Distance Learning Assoc. Jnl.* 16(12).
- Heines, J.M. (2002). **Creating and Maintaining Data-Driven Course Web Sites**. *AACE E-Learn 2002 Conf.*. Montreal, Canada.
- Heines, J.M. (2000). **Evaluating the Effect of a Course Web Site on Student Performance**. *Jnl. of Computing in Higher Education* 12(1):57-83.
- Heines, J.M. (1999). **Evaluating Course Web Sites and Student Performance**. Proc. of the 4th Int'l. ACM SIGCSE/SIGCUE Conf. on Innovation and Technology in CS Education (ITiCSE), published in the *ACM SIGCSE Bulletin* 31(3):143-146. Cracow, Poland.
- Heines, J.M., & Becker, R.S. (1994). **A New Approach to Increasing CBT Developer Productivity with an Instructional Database**. *Asian-Pacific Information Technology In Training and Education (APITITE) Conf.*. Brisbane, Australia.
- Koegel, J.F., & Heines, J.M. (1993). Improving Visual Programming Languages for Multimedia Authoring. Proc. of *ED-MEDIA 93*, Maurer, H. (ed.), pp. 286-293. Assoc. for the Advancement of Computing in Education. Charlottesville, VA.
- Koegel, J.F., Rutledge, J.L., & Heines, J.M. (1992). **Visual Programming Abstractions for Interactive Multimedia Authoring**. *IEEE Int'l. Workshop in Visual Language Programming*. Seattle, WA.
- Heines, J.M. (1991). **Courseware Design in the Toolkit Age**. Proc. of the 33rd Int'l. Conf. of the Assoc. for the Development of Computer-Based Instructional Systems (ADCIS). St. Louis, MO.
- Smaldone, D., & Heines, J.M. (1989). **Human Factors Implications of Text Display Rates for CAI**. Proc. of the 17th Annual ACM Computer Science Conf., p. 482. Louisville, KY.
- Heines, J.M., & Smith, S. (1988). **The Development of a Software Teaching Tool**. *Machine-Mediated Learning* 2(3):239-250, also presented in Oct. 1988 at the *Conf. on Computers, Education, and Children* sponsored by ADCIS and the Academy of Sciences of the USSR, Moscow, USSR, and in November 1988 at the 29th Int'l. ADCIS Conf., Philadelphia, PA.

- Heines, J.M., & Israelite, L. (1987). **Using an Instructional Database: A CBT Productivity Tool.** *Society for Applied Learning Technology*, Washington, D.C.
- Heines, J.M., & Israelite, L. (1986). **Increasing CBT Developer Productivity with an Instructional Database.** *28th Int'l. ADCIS Conf.*, Washington, DC. Recipient of Best Paper Award.
- Heines, J.M. and O'Shea, T. (1985). **The Design of a Rule-Based CAI Tutorial.** *The Int'l. Jrrnl. of Man-Machine Studies* 23(1):1-25.
- Heines, J.M. and Grinstein, G.G. (1985). **Implications of Windowing Techniques for CAI.** *Visions of Higher Education: Trans-National Dialogue*, Stockton State College, Pomona, NJ.
- Heines, J.M., Olsen, L., and Bowker, R. (1984). **Integrating Computer Graphics and the Videodisc: New Instructional Techniques Possible with IVIS.** *26th Int'l. ADCIS Conf.*, Columbus, OH.
- Heines, J.M. (1983). **Basic Concepts in Knowledge-Based Systems.** *Machine-Mediated Learning* 1(1): 65-98.
- Heines, J.M. (1981). **The Personal Computer as an Appliance – Problem I: Integrating Training and Documentation.** *IEEE Conf. on Cybernetics and Society*, Atlanta, GA.
- Moreau, K. and Heines, J.M. (1980). **Creating Graphic Displays on Non-Graphic Terminals.** *ADCIS*, Washington, D.C.
- Heines, J.M. and Moreau, K. (1980). **The Three-Pronged Computer-Based Course Development Process.** *ADCIS*, Washington, D.C.
- Heines, J.M. (1980). **The Reliability of Sequential Testing.** *Third Canadian Symposium on Instructional Technology*, Vancouver, BC.
- Heines, J.M. (1979). **Evaluating the Use of Interactive, Computer-Managed Instruction to Control the Quality of Self-Paced Training.** *ADCIS*, San Diego, CA.
- Heines, J.M. (1978). **The Use of Interactive, Computer-Managed Instruction to Control the Quality of Self-Paced Training Without the Presence of an Instructor.** *Assoc. for Computing Machinery*, Washington, D.C.
- Heines, J.M. (1978). **The Use of Computer-Managed Instruction to Control On-Site, Self-Instructional Training in a Small Systems Environment.** *ADCIS*, Dallas, TX.
- Heines, J.M. (1975). **Style and Communication in Interactive Programming.** *ADCIS*, Portland, ME.

Books

- Greher, G.R., and Heines, J.M. (2014). **Computational Thinking through Sound: Teaching the Art and Science of Music Technology.** Oxford University Press, New York, NY.
- Heines, J.M. (1984). **Screen Design Strategies for CAI.** Digital Press, Bedford, MA.
- Heines, J.M. (1976). **The CLASSIC Primer: A Self-Teaching Guide.** Digital Equipment Corporation, Maynard, MA.

Book Chapters

- Heines, J.M. (2004). **Extensible Stylesheet Language (XSL).** In Bidgoli, H. (ed.), *The Internet Encyclopedia*, Vol. 1, pp. 755-792. John Wiley & Sons, New York, NY.
- Heines, J.M. (2004). **Technology For Teaching: Past Masters Versus Present Practices.** Chapter in Kearsley, G. (ed.), *Online Learning: Personal Reflections on the Transformation of Education.* Educational Technology Publications, Englewood Cliffs, NJ.

Heines, J.M., Olsen, L., and Bowker, R. (1987). **Integrating Computer Graphics and the Video Disc: New Instructional Techniques Possible with IVIS**. Chapter in Jones, A., Scanlon, E., and O'Shea, T. (eds.), *The Computer Revolution in Education: New Technologies for Distance Teaching*. The Harvester Press, Sussex, England.

Refereed Conference Panel Presentations and Participation

- MacKellar, B. (*organizer*), Menzin, M., Heines, J.M., Peckham, J., & Wolz, U. (2015). **Panel on Making Interdisciplinary Courses and Projects Work**. Consortium for Computing Sciences in Colleges Northeastern Region (CCSCNE) 2015 Conference. Worcester, MA, April 17, 2015.
- Heines, J.M. (*organizer*), Popyack, J., Morrison, B., Lockwood, K., & Baldwin, D. (2015). **Panel on Flipped Classrooms**. 46th ACM SIGCSE Technical Symposium on CS Education. Kansas City, MO, March 6, 2015.
- Soh, L. (*organizer*), and Heines, J.M. (2011). **Assessing Interdisciplinary CS Initiatives**. "Birds of a Feather" Session, 42nd ACM SIGCSE Technical Symposium on CS Education, Dallas, TX.
- Beck, R. (*organizer*), Burg, J., Heines, J.M., Manaris, B. (2011). **Computing and Music: A Spectrum of Sound**. 42nd ACM SIGCSE Technical Symposium on CS Education, Dallas, TX.
- Welty, C. (*organizer*), Heines, J.M., & Menzin, M. (2010). **Teaching Computer Scientists to Play Well With Others**. Consortium for Computing Sciences in Colleges Northeastern Region (CCSCNE) 2010 Conference, Hartford, CT, April 16, 2010.
- Urban, J. (*organizer*), Heines, J.M., Fox, E.A., & Taylor, H.G. (2009). **Revitalized Undergraduate Computing Education**. 40th ACM SIGCSE Technical Symposium on CS Education. Chattanooga, TN.
- Heines, J.M. (*organizer*), Jeffers, J., Goldman, K., Fox, E., & Beck, R. (2008). **Interdisciplinary Approaches to Revitalizing Undergraduate Computing Ed**. *Proc. of 13th Annual Consortium of Computing Sciences in Colleges Northeast (CCSCNE)*, published in *The Jnl. of Computing Sciences in Colleges* 23(5):68-72.
- Heines, J.M. (*organizer*), Börner, K., Ivory, M.Y., & Gehringer, E.F. (2003). **The Development, Maintenance, and Use of Course Web Sites**. *Proc. of the 34th ACM SIGCSE Technical Symposium on CS Education*, published in the *ACM SIGCSE Bulletin* 35(1):94-95. Reno, NV.

Non-Refereed Papers and Conference Presentations

- Heines, J.M. (2003). **Enabling XML Storage from Java Applets in a GUI Programming Course**. *The ACM SIGCSE Bulletin* 35(2):88-93.
- Cerny, M., & Heines, J.M. (2001). **Evaluating Distance Education Across Twelve Time Zones**. *T.H.E. Journal* 28(5):18-25.
- Heines, J.M. (1999). **Formal Evaluation of Course Web Sites**. *UMass Instructional Technology Conf. '99*, Boxborough, MA.
- Heines, J.M. (1998). **Learning from the Past**. *Multimedia and Internet Training Newsletter* 5(9):6-7.
- Heines, J.M. (1998). **From Storyboards to Courseware**. *Learning Technology '98 West*, Los Angeles, CA.
- Heines, J.M. (1998). **Student Evaluation of a Course Web Site**. *UMass Instructional Technology Conf. '98*, Boxborough, MA.
- Heines, J.M. (1998). **What CBT Developers Need to Know About Browsers, Plug-Ins, and ActiveX** (reprise). *Learning Technology '98 East*, Atlanta, GA.

- Heines, J.M., & Foster, D. (1997). **What CBT Developers Need to Know About Browsers, Plug-Ins, and ActiveX.** *Interactive '97*, Denver, CO.
- Heines, J.M. (1997). **Better Instructional Design Through Programming.** *Interactive '97*, Denver, CO.
- Heines, J.M. (1997). **Creating a Course Web Site** (with Brian O'Neill). *UMass Instructional Technology Conf. '97*, Boxborough, MA.
- Heines, J.M., & Oakes, K. (1996). **Designers Are from Jupiter, Programmers Are from Pluto.** *Interactive '96*, Atlanta, GA.
- Heines, J.M. (1995). **Windows 95 Gotchas.** *PC Report* 14(10):6-8.
- Heines, J.M. (1992). **CBT Screen Design in the Toolkit Age.** *Tenth Annual CBT Conf. and Exposition*, Orlando, FL.
- Heines, J.M. (1985). **Interaction Means Action.** *Data Training* 4(4).
- Heines, J.M., Briggs, J., and Ennals, R. (1983). **Logic and Recursion: The PROLOG Twist.** *Creative Computing* 9(11):220-226.
- Heines, J.M., Levine, R., and Robinson, J. (1983). **Tomorrow's Classroom – The Changing Focus in Computer Education.** *T.H.E. Journal* 10(5):100-108.
- Heines, J.M. (1980). **Writing Objectives with Style.** *Training* 17(7):40-41.
- Heines, J.M. (1980). **Courseware Development and the National Science Foundation.** *Computer* 13(7): 31-34.
- Heines, J.M., & Rosser, G. (1977). **Mastermind – A Game of Logic.** *People's Computers* 5(4):26-27.
- Heines, J.M. (1976). **Device-Assisted Testing: A Semicentennial.** *Computer-Assisted Test Construction Digest* 1(1): 1,4.
- Heines, J.M. (1975). **Everything You Always Wanted to Know About Computers ... You Can Teach Yourself.** *Educational Technology* 15(5):47-50.

Invited Addresses

- 2012 *Engaging Computing Students in Human Factors through Web Programming.* Adam Mickiewicz University, Poznań, Poland.
- 2012 *Teaching Computing and Music – Together.* Adam Mickiewicz University, Poznań, Poland.
- 2011 *Teaching Artsy Types to Think Like Geeks and Vice Versa.* Georgia Tech GUV Center, Atlanta, GA.
- 2009 *Performamatics: Interdisciplinary Interaction.* Villanova Univ., Villanova, PA.
- 2003 *Creating and Maintaining Course Web Sites.* Deakin Univ., Geelong, Australia.
- 2001 *Computing Before Computers.* MIT Center for Advanced Educational Services Tech Luncheon, Cambridge, MA.
- 2000 *Setting Up Your Computer for Comfort.* Senior Center, Chelmsford, MA.
- 1995 *Developing On-Line Documentation using Visual Basic.* Boston Chapter, Society for Technical Communication, Tewksbury, MA.
- 1994 *Developing Multimedia Presentations using Visual Basic.* Westford Academy, Westford, MA.
- 1993 *Human Factors of CBT Presentations and Interactions.* U.S. Dept. of Transportation, Cambridge, MA.
- 1991 *The Future of Computer-Based Instructional Systems: Where We've Been and Where We're Headed.* Honorary Panel of Past Dean Lecturers, 33rd Int'l. ADCIS Conf., St. Louis, MO.
- 1991 *Making CBT a Reality: Buying and Building CBT Courseware.* Mitre CBT Fair, Bedford, MA.
- 1991 *Interaction Means Action.* Ninth Annual CBT Conf. and Exposition, San Antonio, TX.

- 1990 *Developing Educational Software for Child/Parent Learning Partnerships*. University of Lowell College of Education, Chelmsford, MA.
- 1989 *Let's Put the "C" Back in CBI – Dean Lecture Reprise*. Fourth Annual Midwestern Regional PHOENIX User Group Conf., Columbus, OH.
- 1989 *The Promise of Artificial Intelligence for Interactive Instruction*. Fourth Annual Northeastern Regional PHOENIX User Group Conf., Boston, MA.
- 1988 *Let's Put the "C" Back in CBI*. Honorary Dean Lecture, 30th Int'l. ADCIS Conf., Philadelphia, PA.
- 1988 *Instructional Databases and CBT*. New England Regional Computing Program, Hartford, CT.
- 1987 *New Developments in Instructional Databases*. 27th Int'l. ADCIS Conf., Oakland, CA.
- 1987 *The Instructional Database* (with Larry Israelite). Data Training CBT Conf., Atlanta, GA.
- 1987 *Beyond Screen Design Strategies for CBT*. Data Training CBT Conf., Atlanta, GA.
- 1985 *Rule-Based Systems Applications to Computer-Based Training*. New Technologies in Training, London, England.
- 1985 *CAI Courseware Development*. Bentley College, Waltham, MA.
- 1985 *CAI Craftsmanship*. ADCIS, Philadelphia, PA.
- 1985 *Computer-Assisted Testing*. Data Training CBT Conf., Dallas, TX.
- 1985 *CAI Screen Design Strategies*. Bell Communications Research, Piscataway, NJ.
- 1984 *CAI Screen Design Strategies*. Training '84, New York, NY.
- 1984 *The Promise of Artificial Intelligence for Individualized Instruction*. Data Training, Philadelphia, PA.
- 1983 *CAI in Perspective*. Brown University, Providence, RI.
- 1983 *Response-Sensitivity: The Promise of Artificial Intelligence for Individualized Instruction*. Fourth Annual Videodisk Symposium, Lincoln, Nebraska.
- 1982 *Integrating Computer Graphics and the Videodisk*. Computer-Assisted Learning Research Group, The Open University, Milton Keynes, England.
- 1982 *CAI Research at Digital Equipment Corporation*. American Educational Research Assoc., New York, NY.
- 1982 *Lesson Design and Evaluation in CAI*. Fourth National Conf. on Communications Technology in Education and Training, Boston, MA.
- 1981 *Using Computers for Technical and Skills Training*. American Society for Training and Development, Boston, MA.
- 1980 *CAI and the Videodisk*. Lincoln Institute of Land Policy, Harvard University, Cambridge, MA.
- 1980 *The Computer as an Instructional Tool*. Massachusetts Media Institute Workshop on Microcomputers, Northfield, MA.

Workshops Conducted at Professional Conferences

- 2017 *Teaching A Computer To Sing* (with Rachel Crawford and Firas Al-Rekabi). Computer Science Teachers Association, 2017 Annual Conference. Baltimore, MD, July 8, 2017.
- 2017 *Teaching A Computer To Sing* (with Dan Walzer and Rachel Crawford). Consortium for Computing Sciences in Colleges, 22nd Annual Northeastern Conference. Albany, NY, April 7, 2017.
- 2014 *Scratch and Middle School Music* (with Gena Greher). Scratch@MIT 2014. Cambridge, MA, August 7-9, 2014.
- 2012 *Getting into the Digital Music Game with Scratch* (with Gena Greher). Scratch@MIT 2012. Cambridge, MA, July 25-28, 2012.

- 2010 *Making Music with Scratch* (with John Maloney). 42nd ACM SIGCSE Technical Symposium on CS Education, Dallas, TX.
- 2010 *Exploring Musical & Computational Thinking Through Musical Live Coding with Kids in Scratch* (with S. Alex Ruthmann). Scratch@MIT, Cambridge, MA.
- 2003 *Using XML and XSL with JavaServer Pages*. ACM SIGCSE 8th Int'l. Conf. on Innovation and Technology in CS Education, Thessaloniki, Greece.
- 1998 *Inside the Internet* (reprise). Learning Technology '98 West, Los Angeles, CA.
- 1998 *Inside the Internet*. Learning Technology '98 East, Atlanta, GA.
- 1992 *Computer-Based Training Interaction Design*. Tenth Annual CBT Conf. and Exposition, Orlando, FL.
- 1991 *Computer-Based Training Screen Design with Toolkits*. Ninth Annual CBT Conf. and Exposition, San Antonio, TX.

3. Post-Retirement Presentations

- 2020 *Civil Rights: A History*. 2-hour, 4-part documentary produced for Chelmsford Television.
- 2020 *Slavery Didn't End, It Just Evolved* [quote from Bryan Stevenson]. Edgewood Retirement Community, Andover, MA, via Zoom. June 25, 2020.
- 2020 *Slavery Didn't End, It Just Evolved*. UMass Lowell Learning in Retirement Association, Lowell, MA. March 11, 2020.
- 2020 *Slavery Didn't End, It Just Evolved*. Congregation Shalom, North Chelmsford, MA. Feb. 28, 2020.
- 2019 *Slavery Didn't End, It Just Evolved*. Guest Lecture, UMass Lowell Class ENGL-3330: American Autobiography, Lowell, MA. Nov. 21, 2019.
- 2019 *Reprise: A Hopelessly Brief Introduction to the Incredibly Rich History and Ongoing Appeal of the Magnificent Hobby of Singing Barbershop Harmony*. UMass Lowell Learning in Retirement Association, Lowell, MA. April 24, 2019.
- 2019 *Mass Incarceration, Recidivism, and Prevention*. Rotary Club of Lowell, Lowell, MA. Feb. 12, 2019, with Dawn Grenier.
- 2016 *A Hopelessly Brief Introduction to the Incredibly Rich History and Ongoing Appeal of the Magnificent Hobby of Singing Barbershop Harmony*. UMass Lowell Learning in Retirement Association, Lowell, MA. Sept. 28, 2016.

4. Other Creative Activities

Non-Computer Science Publications

- Rigopoulos, R., edited by Heines, J.M. (2003). **Secret War**. Turner Publications, Paducah, KY. (English edition of Mr. Rigopoulos's memoirs of his World War II service in the Greek resistance.)
- Heines, J.M. (2002). **You're Just Like a Communist!** *NEA Thought & Action Journal* 17(2):139-141.
- Heines, J.M. (2002). **Two Deaths**. *The Offering*, pp. 100-101.
- Heines, J.M. (2001). **A Muslim, a Jew and a Surprise**. *The Lowell Sun*, October 21, 2001, page A1.
- Heines, J.M., & Heines, S.D. (1996). **Is it ever right to kill?** *The Lowell Sun*, May 29, 1996.

Patent

1995 Interactive Learning System Providing User Feedback. Patent Number 5421730, assigned to National Education Training Group, Inc. www.freepatentsonline.com/5421730.html

Other

2021-present Secretary, Congregation Shalom (Chelmsford, MA) Brotherhood
 2019-present Webmaster, MIT Class of 1970
 2017-present Secretary, Gentlemen Songsters (Lowell, MA) Barbershop Chorus
 2013-present Tenor, Fireside Barbershop Quartet
 1998-present Webmaster, Village at Meadowood (North Chelmsford, MA) Homeowners Association

D. INSTRUCTION-RELATED ACTIVITY**1. Teaching****Graduate Courses Taught**

COMP.513 Internet and Web Systems I
 COMP.514 Internet and Web Systems II
 COMP.527 Human Factors in the Design of Interactive Systems
 COMP.592 Topics in Software Engineering (graduate directed study)

Undergraduate Courses Taught

COMP.101 Computing I: Introduction to Programming in C
 COMP.102 Computing II: Data Structures in C
 COMP.201 Computing III: Object-Oriented Programming in C++
 COMP.204 Computing IV: C++ Techniques and Introduction to Professional Tools
 COMP.212 Sound Thinking (interdisciplinary CS+Music General Education course, co-listed in the Dept. of Music as MUED.212)
 COMP.208 Survey of Programming Languages: Lisp, Modula, and C
 COMP.308 Introduction to Operating Systems
 COMP.401 Software Project Lab I (undergraduate directed study)
 COMP.402 Software Project Lab II (undergraduate directed study)
 COMP.461 Graphical User Interface Programming I
 COMP.462 Graphical User Interface Programming II

Prison Courses Taught (*to incarcerated men in the New Hampshire State Prison*)

Website Development I

2. Other Activities & Accomplishments Related to Instruction**Sc.D. and Ph.D. Dissertation Advisement – Major Advisor**

2014 Klein, Ed. The Visualization of Privacy Filters for Sharing Sensor-based Health Data.
 2013 Yang, Beibei. Semantic Relatedness for the Evaluation of Course Equivalencies.

- 2006 Schedlbauer, Martin. An Empirically-Derived Model for Predicting Completion Time of Cursor Positioning Tasks in Dual-Task Environments.

M.S. Thesis Advisement – Major Advisor

- 2009 Yang, Beibei. Semantic Similarity Measurement.
 2004 Bhardwaj, Vidhi. An Examination of Computer-Based Instruction Development and Conformance to an E-Learning Standard.
 2004 Patel, Samir. Web-Enabling Existing Software.
 2003 Barodawala, Fatema. Using Themes to Create Customizable User Interfaces.
 1988 Smaldone, David J.. Human Factors Implications of Text Display Rates for CAI.

Sc.D. Dissertation Advisement – Committee Member

- 2002 Poonsuph, Rattakorn. XUP: XML Universal Presentation.
 1999 Chiou, Shao-Fong (Andy). The Impact of Early Grouping and User-Defined Functions on Query Optimization.

M.S. Thesis Advisement – Committee Member

- 2014 Kelleher, Curran. Visualizing the Universal Data Cube.
 2002 Kayiti, Pratima R. A Reverse Auction Sourcing Engine.
 1993 Ledder, William A. An Empirical Study of Visual Labs.

E. SERVICE ACTIVITIES

1. Community Activities Related to Professional Field

Workshops Conducted

- 2015 *Where Music and Computing Cross*. Cambridge Science Festival, Cambridge, MA.
 2011 *Making Music with Scratch*. CS4HS@UML sponsored by Google.
 1998 *Enhancing Web Pages with JavaScript*. Asymetrix Learning, Needham, MA.
 1997 *Introduction to Programming Macros with Excel 97*. Menzie-Cura & Associates, Chelmsford, MA.
 1995 *Hands-On Programming with Visual Basic*. Boston Computer Society, Cambridge, MA.
 1994 *Developing On-Line Documentation*, with Kathleen Garner. Editorial Services of New England, Cambridge, MA.
 1993 *CBT Development with Authorware*. Boston Edison, Boston, MA.
 1989 *Computer-Based Training Screen and Lesson Design*. Abbey National Building Society, Bletchley, England.

Plus numerous workshops on interdisciplinary teaching at the intersection of computing and music as part of our Performamatics project.

Invited Addresses

- 2005 Speaker, UMass Lowell Learning in Retirement Association.
 2005 Speaker, Greek Institute, Cambridge, MA.
 2004 Speaker, Annual Meeting of the Hellenic Culture Society of Lowell.

2. Committee Activities

University Level

2012-2014	Advisor, Computer Science Co-ops
2001-2008	Member, UMass Information Sciences Patent Review Committee
2004-2006	Member, UMass Subcommittee on Academic Technology
1994-1996	Assistant to Provost Sukant Tripathy on Technology Initiatives
1990-1996	Member, Faculty Senate

College Level

2014-2015	Member, College of Sciences Personnel Committee
2012-2013	Member, College of Sciences Student Evaluation of Teaching Design Committee
2001-2006	Member, College of Sciences Undergraduate Studies Committee

Department Level

2012-2016	Advisor, Student Chapter of the Association for Computing Machinery
2011-2016	Member, Undergraduate Curriculum Committee
2006-2011	Computer Science Undergraduate Coordinator
2001-2010	Chair, Undergraduate Curriculum Committee
2000-2004	Member, Graduate Committee
1997-2000	Member, Undergraduate Curriculum Committee

3. Other Service to the University

- Presentations to faculty at Conversations Dinners
- Presentations to various high school groups
- Assistance to various faculty on Web initiatives
- Assistance to various faculty on Student Information System reporting issues
- Interviews on WUML on various projects