

Robert Pastel
CURRICULUM VITAE

Computer Science Department
Michigan Technological University
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Houghton, Michigan, USA 49931

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Research Interest:

Human-Computer Interactions, Mobile Device Applications and Usability, Human Performance Modeling
Computer Science Education, Interdisciplinary Curriculum, Human-Computer Interaction Curriculum

EDUCATION

Doctor of Philosophy

Physics and Astronomy Department, University of New Mexico, 1994

Dissertation: Br* Laser and Quenching

Master of Science

Computer Science Department, Michigan Technological University, 2001

Thesis: Describing VLIW Architectures Using a Domain Specific Language

Master of Science and Engineering

Engineer Science and Mechanics Department, University of Tennessee Space Institute, 1980

Thesis: Aircraft Wing Vibration due to Atmospheric Turbulence

Bachelor of Science

Mathematics Department, Virginia Polytechnic Institute (and State University), 1977

Major: Mathematics

PROFESSIONAL EXPERIENCE

Computer Science Associate Professor, 2012 - present
Michigan Technological University, Houghton, Michigan

Cognitive & Learning Sciences Adjunct Associate Professor, 2012 - present
Michigan Technological University, Houghton, Michigan

Computer Science Assistant Professor, 2006 - 2012
Michigan Technological University, Houghton, Michigan

Cognitive & Learning Sciences Adjunct Assistant Professor, 2011 - 2012
Michigan Technological University, Houghton, Michigan

Human-Computer Interaction Expert Witness, 2011 - present
IMS Expert Services, New York, New York

Computer Science Lecturer, 2001 - 2005
Michigan Technological University, Houghton, Michigan

Physics Visiting Assistant Professor, 1997 - 2000
Michigan Technological University, Houghton, Michigan

Physics Visiting Instructor, 1996 - 1997
Adams State College, Alamosa, Colorado

Visiting Research Scientist, 1995 - 1996
Aberdeen Proving Grounds, Aberdeen, Maryland

Physics Adjunct Professor, 1996
Hartford Community College, Aberdeen, Maryland

Computer Science Adjunct Instructor, 1994 - 1995
College of Santa Fe, Santa Fe, New Mexico

Graduate Research Scientist, 1991 - 1993
Air Force Weapons Laboratory, Kirkland Air Force Base, Albuquerque, New Mexico

Graduate Research Scientist, 1991 - 1992
Joint Institute for Laboratory Astrophysics (JILA), University of Colorado, Boulder, Colorado

Graduate Research Scientist, 1990
Sandia National Laboratory, Los Alamos, New Mexico

Research Scientist, 1981 - 1982
Night Vision Laboratory, Fort Belvoir, Virginia

Profession Society Memberships:

Human Factors and Ergonomics Computer Science Technical Group (HFES CSTG)

Human Factors and Ergonomics Human Performance Technical Group (HFES HPTG)

Human Factors and Ergonomics Individual Differences Technical Group (HFES IDTG)

Association for Computing Machines Special Interest Group in Computer Science Education (ACM SIGCSE)

Association for Computing Machines Special Interest Group in Human Performance in Computer Systems

PUBLICATIONS

Invited Publications and Panels:

1. Resnic, M., Elkerton, J., Maher, P., Pastel, R., Rodringuez, A., Kelley, J. (2013) Triangulation of Multiple Human Factors Methods in User Experience Design and Evaluation, *Proceedings of Human Factors and Ergonomics Society*, p. 404-408 (HFES 2013).
2. Pastel, R., Wallace, C. and Heines, J. (2007) RFID Cards: A New Deal for Elderly Accessibility, *Proceedings of Human Computer Interaction International (HCII'07)*, Universal Access in Human Computer Interaction, Beijing, China, July 22-27, 2007, pp. 990-999.

Refereed Journal Publications:

Computer Science and Human Factors:

1. Pastel, R., Seigel, M., Zhang, W. & Mayer, A. (2015) Team Building in Multidisciplinary Client-sponsored Project Courses, *Transactions on Computer Education, ACM*. vol. 15, No. 4, Article 19, 1-23.
2. Pastel, R. (2010) Positioning Graphical Objects on Computer Screens: a Three-Phase Model, *Human Factors*, vol. 53, No. 1, pp. 23-37.
3. Gao, C., Pastel, R., and Tan, J. (2013) An Experimental Study of a New Channel for Data Input On Small Mobile Devices. *Journal on Knowledge and Data Engineering*.

Physics and Engineering:

4. Pastel, R. and Struthers, R. (2001) Measuring Evaporation Rates of Laser-Trapped Droplets by Use of a Florescent Morphology Dependent Resonances, *Applied Optics*, vol.40, no.15 p. 2510-14.
5. Pastel, R. Struthers, A., Ringle, R., Rogers, J., Rohde, C. and Geiser, P. (2000) Laser Trapping of Microscopic Particles for Undergraduate Experiments, *American Journal of Physics* 68, pp. 993
6. Pastel, R. and Sausa, R. (2000) Spectral Differentiation of trace Concentration of NO₂ from NO by Laser Photofragmentation with Fragment Ionization at 226 nm and 456 nm: Quantive Analysis of NO-NO₂ Mixtures, *Applied Optics* 39, p. 2487-95.
7. Renn, M. J. Pastel, R. and Lewandowski, H. A. (1999) Laser Guidance and Trapping of Meso Scale Particles in Hollow-core Optical Fibers, *Physics Review Letter*, 82, p. 1574.
8. Renn, M. and R. L. Pastel, R. (1998) Laser Particle Manipulation and Surface Patterning by Laser Guidance, *Journal of Vacuum Science Technology*, B16, p. 3859.
9. Williamson, C., Pastel, R. and Sausa, R. (1996) Detection of NO using Laser-Induced Photoacoustic Spectroscopy, *Applied Spectroscopy*, Vol. 50, p. 205.
10. Pastel, R. Miller, H., Hager, G. and McIver, J. (1994) Measurement of the deactivation of Br* by atomic Iodine, *Journal of Chemical Physics*, Vol. 100, p.3624.
11. MacKerrow, Bryant, H., Giannelli, R., Gulley, M., Halka, M., Keating, P., Pastel, R., Mohaghi, A., Miller, W., Tang, C., Cohen, S., Donahue, J., Hsu, A., Quick, C., Tiece, J. and Rozsa, K. (1994) Measurement of the 2-photon and 3-photon detachment for H, *American Physical Society and American Physics Teachers*, Vol. 39, No. 2.
12. Pastel, R., Hager, G., Miller, H. and Leone, S. (1991) Efficient Br* Laser Pumped by Frequency-doubled Nd:YAG and Electronic-to-Vibrational Transfer-pumped CO₂ and HCN Laser, *Chemical Physics Letters*, Vol.183, No.6, p.565.
13. Pastel, R. (1986) Intra-cavity Doubling of a CO₂ TEA Laser with Thallium-arsenic-selenide Crystal, *Applied Optics*, Vol.26, No.9, p.1574.

Refereed Conferences and Workshops Publications:**Computer Science and Human Factors:**

1. Zhang, W., & Pastel, R. (2015). Interdisciplinary Team Collaboration between Software Engineers and Technical Communicators. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 59, No. 1, pp. 1137-1141). SAGE Publications
2. Zhang, W., & Pastel, R. (2014, September). Communication is More than Verbal The Role of Clients' Documents in Requirement Solicitation. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 58, No. 1, pp. 1486-1490). SAGE Publications.
3. Seigel, M., Pastel, R., Zhang, W., Bowen, L., Wallace, C. Ureel, L. (2014) Teaching and Talking in Code Pedagogical Partnership with Computer Science, Conference on College Composition and Communication (CCCC 2014).
4. Brown, C. Pastel, R., Seigel, M., Wallace, C. & Ott, L. (2014) Adding Unit Test Experience to a Usability Centered Project Course, *Proceedings of Technical Symposium on Computer Science Education* (ACM SIGCSE' 14), p. 259-264.
5. King, H., Pastel, R., Ward, P. & Wallace, C. (2013) Extrinsic Motivation and User Performance, *Proceedings of Human Factors and Ergonomics Society*, p. 1017-1021 (HFES 2013).

6. Pastel, R. (2012) Precise Positioning on Computer Monitors: Comparison of Mouse and Scroll Wheel in One dimension, *Proceedings of Human Factors and Ergonomics Society* (HFES 2012) p. 1248-1242.
7. Pastel, R., Brown, C., Woller-Carter, M., & Kumar, S. (2012) Teaching Human Factors to Graduate and Undergraduate Computer Science Students, *Proceedings of Human Factors and Ergonomics Society* (HFES 2012) p. 595-599.
8. Gao, C., Pastel, R. and Tan, J. (2012) TiltClick: One-Handed Eyes-Free Numeric and Symbol Input for Calculator Applications, *Proceeding IEEE International Virtual Environments, Human-Computer Interfaces, and Measurement Systems 2012*, p. 30-33.
9. Brown, C., Pastel, R., Siever, B. and Earnest, J. (2011) JUG: A JUnit Generation, Time Complexity Analysis and Reporting Tool used to Streamline Grading, *In Proceedings of the 17th ACM annual conference on Innovation and Technology in Computer Science Education, ITiCSE '12*, pages 99–104, New York, NY, USA, 2012.ACM.
10. Pastel, R. and Ward, P. (2011) Modeling the Orientation of Graphical Objects on Computer Displays Using Indented Mouse Wheels, *Proceedings of Human Factors and Ergonomics Society* (HFES 2011) p. 510-514.
11. Gao, C., Pastel, R. and Tan, J. (2010) Yet Another User Input Method: Accelerometer Assisted Single Key Input, in *Proceedings of World Congress on Intelligent Control and Automation (WCICA 2010)*, 3949-3954.
12. Pastel, R. (2009) Investigating the Difficulty of One Degree of Freedom Positioning: Associating Movement Phases with Regions, *Proceedings of Human Factors and Ergonomics Society* (HFES 2009), pp. 965-969.
13. Pastel, R. (2009) Modeling the Difficulty for Centering Rectangles in One and Two Dimensions, *Proceedings of Human Computer Interaction International (HCII'09)*, 879-888, Human-Computer Interaction. Novel Interaction Methods and Techniques, 13th International Conference, HCI International 2009, San Diego, CA, USA, July 19-24, 2009, Proceedings, Part II Book Series Lecture Notes in Computer Science (LNCS), Publisher Springer Berlin / Heidelberg.
14. Brown, C., Pastel, R. (2009) Combining Distinct Graduate and Undergraduate HCI Courses: An Experiential and Interactive Approach, *Proceedings of Technical Symposium on Computer Science Education (ACM SIGCSE'09)*, 392-396, Chattanooga, TN, USA, Mar. 4-7, 2009.
15. Pastel, R. (2008) The Difficulty of Centering Circular Discs, *Proceedings of Human Factors and Ergonomics Society* (HFES 2008), Computer Systems Technical Group, New York, NY, September 22-26.
16. Helton, W.S., Miller, M., & Pastel, R. (2007) Bridges, barriers and the trolls under the bridge: Issues in Human Factors Education for Engineers and Others, *Proceedings of the American Society of Engineering Education North Midwest Section*.
17. Helton, W., Begoske, S., Pastel, R., and Tan, J. (2007) A Case Study in Canine-Human Factors: A Remote Scent Sampler for Landmine Detection, *Proceedings of Human Factors and Ergonomics Society 2007*, General Session, Baltimore MD, October 1-5, 2007, pp. 582-586.
18. Pastel, R., Himes, P., Harper, M., and Helton, W. (2007) Gravity Mouse Design and Evaluation: Effects of Distracters and Target Size, *Proceedings of Human Factors and Ergonomics Society 2007*, Computer Systems Technical Group, Baltimore MD, October 1-5, 2007, pp. 444-448.
19. Pastel, R., Champlin, J., Harper, M., Paul, N., Helton, W., Schedlbauer, M. and Heines, J., (2007) The Difficulty of Remotely Negotiating Corners, *Proceedings of Human Factors and Ergonomics Society 2007*, Computer Systems Technical Group, Baltimore MD, October 1-5, 2007, pp. 489-493.

20. Schedlbauer, M., and Pastel, R., (2007) A Tool for Enabling Scientific Exploration of Human Performance Models in HCI Education. In *Proceedings of HCI Educators 2007*, Aveiro, Portugal, March, 2007, pp. 116-121.
21. Schedlbauer, M., Pastel, R. and Heines, J. (2006) Effects of Posture on Target Acquisition with a Trackball and Touch Screen, *Proceedings of International Conference on Information Technology Interfaces (ITI'06)*, June 2006, Dubrovnik, Croatia. Awarded best student paper.
22. Pastel, R., (2006) Student Assessment of Group Laboratories in a Data Structures Course, *Journal of Computing Sciences in Colleges*, 22(1), pp. 221-230.
23. Pastel, R. (2006) Measuring the Difficulty of Steering Through Corners, *Proceedings of Conference on Human Factors in Computing Systems (ACM SIGCHI'06)*, p. 1087-1096, Montreal, Canada, April 24-28, 2006.
24. Pastel, R. (2005) Integrating Science and Research in a HCI Design Course, *Proceedings of Technical Symposium on Computer Science Education (ACM SIGCSE'05)*, p. 31-35, St. Louis, USA, Feb. 23-26, 2005.
25. Pastel, R. and Skalsky, N. (2004) Object-Action Association: A HCI Design Model, *International Conference on Intelligent User Interfaces (IUI'04)*, p. 295-7, Madeira, Portugal, Jan. 13-16, 2004.
26. Skalsky, N. and Pastel, R. (2004) Transportable Research Instrument: a PDA-based Laboratory for Science Experiments, *IEEE International Workshop on Wireless and Mobile Technologies in Education (IEEE WMTE'04)*, Jhongli, Taiwan, March 23-24, 2004.

Physics and Engineering:

27. Xu, J., Grant, S. and Pastel, R. (2003) Laser-Guided Direct Writing: A Novel Method to Deposit Biomolecules for Biosensors Arrays, *IEEE Transactions on Biomedical Engineering*, Vol. 30. No. 1, p. 126, 2003.
28. Nadgorny, E. Pastel, R., Struthers, A. and Miner, A. (2000) Materials Aspects of Laser Guided Direct Writing, *International Conference Proceedings of Mass and Charge Transport in Inorganic Materials*, Italy, May 2000.
29. Brennan, S., Pastel, R., McIver, J., Miller, H. and Hager, G. (1992) Parametric Study of Longitudinally Pumped Br* Laser, *Proc. Inter. Conf. Laser '92*, p.185, 1992.
30. Pastel, R., Ringle, R. and Renn, M. (1999) Morphology-dependent Resonance at small size parameter, QthD3, C.LEO/QUEL 1999, Baltimore, MD, May 1999.
31. Renn, M., and Pastel, R. (1999) Direct Writing of Materials by Laser Guidance, *CFC4, C.LEO/QUEL* 1999, Baltimore, MD, May 1999.
32. Renn, M. and Pastel, R. (1998) Laser Particle Manipulation and Surface Patterning by Laser Guidance, *AM-4, Electron Ion Photon Beam Nanofabrication*, Chicago, IL, June 1998.
33. Pastel, R. and Sausa, R. (1995) Trace Analysis of Ambient Nitrocompounds by using 452 nm Laser Photofragmentation/Fragment Detection Spectrometry, *CLEO/QELS*, laser diagnostics, May 1995.
34. MacKerrow, E., Bryant, H., Halka, M., Mohagheghi, A., Pastel, R., Tang, C., Quick, C., Donahue, J., Hsu, A., Tjee, J. and Rozsa, K., (1991) Polarization and Intensity Effects on Multiphoton Detachment of H- and H0, *Big Sky Workshop on Super-Intense Laser-Atom Physics*, June 22-25, 1991.

35. MacKerrow, E., Bryant, H., Halka, M., Mohagheghi, A., Pastel, R., Tang, C., Quick, C., Donahue, J., Hsu, A., Ttee, J. and Rozsa, K., (1991) Polarization and Intensity Effects on Multiphoton Detachment of H-, *Bull. Amer. Phys. Soc.*, Vol. 36, p. 1163, 1991.
36. Pastel, R., Dines, D., Singh, and Gottlieb, (1986) Rapid Tuning Mechanism for CO2 Lasers, IRIS Proc., Active Systems, John Hopkins University, Laurel MD, 1986.
37. Pastel, R., Roth, R. and Spence, P. (1984) Parallel Electric Fields and Anomalous Resistivity in Classical Penning Discharge, Paper 8R-1B, Proc. American Physics Society, Vol.27, No.8, part II, p.1106, 1984.
38. Roth, J., Hayman, P. and Pastel, R. (1983) A Paired Comparison of High Frequency RF Emission from Two Configurations of Electric Field Dominated Plasma, Paper IIP-II-02, Proc. Int. Conf. Plasma Physics, Gutenberg, Sweden, p.250, 1983.
39. Pastel, R., Spence, R. and Roth, R.(1984) Axial Profile of Electrostatic Potential and Electron Number Density in a Classical Penning Discharge, Proc. IEEE Int. Conf. of Plasma Sci., San Diego CA, 1983.
40. Roth, J., Hayman, P. and Pastel, R. (1982) A Paired Comparison of High Frequency RF Emission from Two Configurations of Electric Field Dominated Plasma, Paper 3E1, Proc. IEEE Int. Conf. of Plasma Sci., Ottawa, Canada, p. 65, 1982.

Workshops:

Conference Posters:

Computer Science and Human Factors:

1. Mayer, A. & Pastel, R. (2012) Engaging Students in Environmental Science by Using Smartphone Apps to Collect Data, 09/01/2011-08/31/2012, *MAEOEgram*, Michigan Alliance for Environmental and Outdoor Education.
2. Levin, E., Cohen, C., & Pastel R. (2010). Human centric approach to inhomogeneous geospatial data fusion and actualization. In *Proceedings of the ASPRS annual conference*. San Diego, CA, May 2010.
3. Li, H., Pastel, R. , Bezotte, D., Fahey, J. and McMahon, R., A Mobile Library Catalog, *Ex Libris Users of North America Annual Conference* (ELUMA 2010), Fort Worth, TX, May 11-13, 2010.
4. Ranspach, P. and Pastel, R. (2009) The Effect of Text Scrolling Speed on Memory, Proceedings of Human Computer Interaction International (HCII'09), 869-874, Human-Computer Interaction. Novel Interaction Methods and Techniques, 13th International Conference, HCI International 2009, San Diego, CA, USA, July 19-24, 2009, Proceedings, Part II Book Series Lecture Notes in Computer Science (LNCS), Publisher Springer Berlin / Heidelberg.
5. Pastel, R. and Skalsky, N. (2004) Demonstrating Information in Simple Gestures, International Conference on Intelligent User Interfaces (ACM IUI'04), p. 360-1, Madeira, Portugal, Jan. 13-16, 2004.

Physics and Engineering:

6. Pastel, R. and Lewandowski, H. and Renn, M. (1998) Laser Trapping of Crystallites in Hollow Optical Fibers, PDL 14, *Bulletin of the American Physical Society*, Division of Atomic, Molecular, and Optical Physics, Vol. 43, No. 3, Santa Fe, N.M. May 1998.

Technical Reports:

1. Pastel, R. (1986) Passive Q-Switching of CO2 TEA Laser Using SF6, U. S. Army Report, Night Vision Lab., AMSEL-NV-TR-0056, 1986.

2. Pastel, R., Caruthers, J. and Frost, W. (1980) Aircraft Wing Vibration due to Atmospheric Turbulence, NASA Contract Report 3431, 1980.

Invited Talks:

1. Pastel, R. (2006) Steering through Corners. University of Massachusetts at Lowell, Lowell, MA, April 2006.
2. Pastel, R. (1999) Laser Deposition and Trapping of Microscopic Particles, Army Research Laboratory, Fort Aberdeen, May 1999.
3. Pastel, R. (1998) Frequency Response of Laser Trapped Crystals in Hollow Optical Fibers, Michigan Technological University, Houghton, MI, March 1998.

Patents and Invention Disclosures:

1. Pastel, R. (2011) *Computer mouse and interaction technique for precise position on displays*. Disclosure submitted to Intellectual Property Office, Michigan Technological University.
2. Pastel, R. (2006) *Gravity Mouse: Technique for Assisting Target Acquisition using a Mouse*, Disclosure submitted to Intellectual Property Office, Michigan Technological University.
3. Pastel, R. (2005) *Collaborative Learning*, Disclosure submitted to Intellectual Property Office, Michigan Technological University.
4. Skalsky, N. and Pastel, R. (2004) *Transportable Research Instrument: PDA-based Laboratory (PBL) for Science Experimentation*, Provisional patent, Intellectual Property Office, Michigan Technological University.
5. Renn, M., D. Odde, D. and Pastel, R. (2004) *Laser-guided Manipulation of Non-atomic Particles* Patent No. 68,231,24 issued 11/23/2004.
6. R. Lieb, R. Murray, R. Pastel, R. Sausa, (1998) *Hand-held Probe for Real-time Analysis of Trace Pollutants in Atmosphere and on Surfaces* Patent No. 5,82,214 issued 10/20/1998
7. Pastel, R. and R. C. Sausa, (1999) *A Device and Process for Detecting and Discriminating NO and NO₂ from Nitrocompounds in real-time and in situ*. Patent No. 5,906,946 issued May 25, 1999.

GRANTS

Pending Grants:

Awarded Grants:

1. Pastel, R., Cischke, C., and Berky, R. (2012) *Chrysler HVAC App*, \$30,000, 6/12 - 6/13 Chrysler HVAC group.
2. Mayer, A., Pastel, R., Donovan, R., Oppliger, S. and Wallace, C. (2011) *CI-TEAM Demo: Environmental CyberCitizens: Engaging Citizen Scientists in Global Environmental Change through Crowdsensing and Visualization*, \$249,890, 9/01/11. National Science Foundation, CI-TEAM.
3. Pastel, R. and Berky, R. (2011) *Human-machine Interface Enterprise*, \$120,000, 9/1/2011 - 8/30/2014. Chrysler
4. Cischke, C., Pastel, R. and Berky, R. (2010) *Boston Scientific: CRV Project*, \$17,200, 3/11 - 3/12 Boston Scientific.

5. Pastel, R., Li, H. and Bezotte, D. (2010) *CTLFD Mini Grant for Instructional Improvement and Innovation: Freshmen Library Orientation Reinvented Through a Mobile Scavenger Hunt --- A Library M-learning Pilot Project*, \$500, Michigan Technological University
6. Mayer, A. and Pastel, R. (2009) *Second Life Island Development*, \$3000, REF Michigan Technological University.
7. Helton, W., Pastel, R., Tan, J., Mukherjee, M., Li, Y., Onder, N. and Carter, J. (2007) DURIP: Human-Robot Interaction Laboratory Equipment, \$467,017, DURIP, Department of Defense.
8. Helton, W., Pastel, R. and Miller, M. (2006) *Improving Human Factors Education at MTU*, \$4,500, Michigan Technological University, Century II Campaign Endowed Equipment.
9. Renn, M., Pastel, R. Struthers, and Nadgrony, E. (1999) *Laser Direct Write Lithography for Electronic Circuits*, \$300,000, DARPA MICE Subcontract.

TEACHING

Teaching Interest:

Interdisciplinary Product Design, Development and Evaluation
 Interaction Design
 Interaction Evaluation
 Human Factors

Courses Developed:

CS 4760 Human-Computer Interaction: Design and Implementation
 CS 5760 Human-Computer Interaction: Evaluation and Testing
 CS 2321 Data Structures
 ENT 1960, ENT 2950, ... , ENT 3960 Humane Interface Design Enterprise
 ENT 1960, ENT 2950, ... , ENT 3960 Husky Games Development Enterprise
 CS 2911 Introductory Numerical Methods and Fortran
 Introductory Programming in Pascal
 Analogue and Digital Electronics (lectures and laboratories)
 Mechanical Drawing (lectures and laboratories)

Courses Taught:

CS4791/2 Senior Design
 CS 4760 Human-Computer Interaction: Design and Implementation
 CS 5760 Human-Computer Interaction: Evaluation and Testing
 ENT 1960, ENT 2950, ... , ENT 3960 Humane Interface Design Enterprise
 ENT 1960, ENT 2950, ... , ENT 3960 Husky Games Development Enterprise
 CS 4321 Algorithms
 CS 2321 Data Structures
 CS 4099 Directed Studies

CS 4611 Computer Graphics
CS 4792 Senior Design Software Engineering Project
CS 3611 User Interface
CS 1132 Computer Science II
CS 2911 Introductory Numerical Methods and Fortran
CS1010 Fortran
Introductory Programming in Pascal
Introductory Computers
College Algebra (lectures and recitation)
University Physics (lectures and recitations)
College Physics (lectures, recitations and laboratories)
Electric and Magnetism
Analogue and Digital Electronics (lectures and laboratories)
Introductory Astronomy (lectures and laboratories)

STUDENT ADVISING

Ph. D. Theses Directed:

1. Wei Zhang, *coming*, Ph.D. Candidate, Cognitive and Learning Sciences, Michigan Technological University. (Advisor).
2. Chris Brown, *JArch: A Software Architecture Language and Compiler*, Ph.D. Candidate, Computer Science Department, Michigan Technological University. (Advisor).
3. Chunming Gao, *Study of Accelerometer Assisted Single Key Positioning User Input System*, Ph. D. Dissertation, Computer Science Department, Michigan Technological University, April 2011, (Co-advised with Jindong Tan) Dr. Goa is now instructor at School of Technology, Michigan Technological University.
4. Martin Schedbauer, *An Empirically Derived Model for Predicting Completion Time of Cursor Positioning in Dual-task Environments*, Doctorate of Science Dissertation, University of Massachusetts Lowell, 2007 (Committee member) Dr. Schedbauer is now visiting professor at Sawyer Business School, Suffolk University.

M. S. Theses Directed:

1. Srichand Pendyala, *Sketch Recognition Through Shape based Interaction*, Master of Science Thesis, Computer Science, Michigan Technological University, 2009. (Advisor)
2. Chris Brown, *Combining Distinct Graduate and Undergraduate HCI Courses: An Experiential and Interactive Approach*, Master of Science Project, Computer Science, Michigan Technological University, 2008. (Advisor)
3. Chris Blazek, *A Field Study of Menu Selection and Number Entry in a Confidential Web Page*, Master of Science Thesis, Computer Science, Michigan Technological University, 2007. (Advisor)

4. Abu Ashraf, *Design and Use of Instruments for the Measurement of Software Usefulness*, Master of Science Thesis, Computer Science, Michigan Technological University, Master of Science Thesis, 2005 (Committee member).

Undergraduate Research Projects:

1. Mark Woodfoord, Angular/Lovefield web app example, Michigan Technological University, 2016.
2. William Doyle, BAER Web App, Michigan Technological University, 2016.
3. Fred Nolte, John Booth, Kyle Derosha, Leopold Eckert, Gabe Revells, Matthew Mansfield, Matt Kersten, new BAER Web App, Michigan Technological University, 2016.
4. Fred Nolte, John Booth, Kyle Derosha, Leopold Eckert, Keu Vang, Field Form Web app, Michigan Technological University, 2015.
5. Mitch Cramer, Dillon Mavroulis, Mike Nurse, Matt Kloepfer, Pat Chizek, Rayn Doyle, Sara Martinez Gomez, Nicole Yaroch, Roya Risk Web app, Michigan Technological University, 2015-2016.
6. Stephen Radachy, ngPhotos offline app example, Michigan Technological University, 2015.
7. Stephen Radachy, Kaylee Edwards, William Doyle, & Fredrick Nolte, BAER Web App & Ice Web App, Michigan Technological University, 2015-2016.
8. Adam Weidner, myPhotos offline app example, Michigan Technological University, 2015.
9. Jason Elaston, Travis Foster, Brandon Kesler, David Nyakundi, Wesley Jacobson & Jerry Christin, Sunset Web App, Michigan Technological University, 2014-2015
10. Travis Foster & Mark Woodfoord, *Mushroom Mapper Web App*, Michigan Technological University, 2014-2015
11. Nick Lanam, Greg Antrim, Raven Rebb, Joshua Socha and Collin Kappauf, *Watershed Monitoring Website*, Michigan Technological University, 2013.
12. Greg Antrim, Nicholas Blecha, and Sonya Hochkammer, *Ethnographer Android App and Website*, Michigan Technological University, 2013.
13. Cody Adkins, Alexis Kuprel & Zachery Hoppers, *Citizen Science App and Websites*, REU, Computer Science Department, Michigan Technological University, 2013-2014.
14. Corbin Uselton & Cody Adkins, *Citizen Science App and Websites*, REU, Computer Science Department, Michigan Technological University, 2012-2014.
15. Eric Stevens, *Developing a Test Platform for Robot Direction through a Maze*, Computer Science Department, Michigan Technological University, 2010.
16. Aubrey Baker, Thomas Donahue & Sam Schinke, *Smart Phone WAAS GPS Usability*, Computer Science, Michigan Technological University, 2010.
17. Robert Amundson, *Developing a Testing Platform for Position Using Fastrak*, Computer Science Department, Michigan Technological University, 2010.
18. Thomas Donahue & Konstantin Zhuravlyov, *Smart phone WAAS GPS implementation*, Computer Science Department, Michigan Technological University, 2010.
19. Robert Amundson & Haytham Alsaghayer, *Developing a Testing Platform for Position Using Fastrak*, Computer Science Department, Michigan Technological University, 2010.

20. Jacob Ford, *Fastrak Interface Driver Development*, Computer Science, Michigan Technological University, 2009.
21. Eric Stevens, Oliver Gupte, Daniel Schnau, and Timothy Root, *Interacting with Agent Based Model*, Computer Science Department, Michigan Technological University, 2009.
22. Merrill Dynes, *Scripting Language for Artificial Intelligent Agents*, Computer Science Department, Michigan Technological University, 2009
23. Ian Anderson, *I-pad Programming*, Computer Science, Michigan Technological University, 2009
24. David Squires, *Interacting with Agent Based Models*, Computer Science Department, Michigan Technological University, 2009.
25. Patrick Ranspach, *Testing Recall of Scrolling Text*, Computer Science Department, Michigan Technological University, 2008.
26. Brandyn Phelps, *Virtual Reality Platform Development*, Computer Science Department, Michigan Technological University, 2008.
27. Arlo Moran, *Remote Navigation Test Platform using UnReal*, Computer Science Department, Michigan Technological University, 2007.
28. Jon Perich, *Remote Navigation Test Platform using UnReal*, Computer Science Department, Michigan Technological University, 2007.
29. Andy Spina, *Developing Java Simple Gesturing User Interface*, Computer Science Department, Michigan Technological University, 2007.
30. Joseph Ross, *Developing Java Simple Gesturing User Interface*, Computer Science Department, Michigan Technological University, 2006-07.
31. Dmitry Podkuiko, *Administrating Steering Law Test*, Computer Science Department, Michigan Technological University, 2006.
32. Paul Himmes, *Gravity Mouse: Mouse Driver and Test Platform*, Computer Science Department, Michigan Technological University, 2004-2006.
33. Jacob Champlin, *Remote Navigation Test Platform using UnReal*, Computer Science Department, Michigan Technological University, 2005-06.
34. Matt Harper, *Remote Navigation Test Platform using UnReal*, Computer Science Department, Michigan Technological University, 2005-06.
35. Nathan Paul, *Remote Navigation Test Platform using UnReal*, Computer Science Department, Michigan Technological University, 2004-2006.
36. Kyle Erickson, *Comparison of Gesture Interpreters*, Computer Science Department, Michigan Technological University, 2004.
37. Robert Moore and Scott Gross, *Steering Law Test Platform*, Computer Science Department, Michigan Technological University, 2004.
38. Nathan Skalsky, *Transportable Research Instrument*, Computer Science Department, Michigan Technological University, 2004
39. Chris Blazek, *X-Windowing System*, Computer Science Department, Michigan Technological University, 2003-05.

40. Joseph Vailancourt, *Fitts' Law Test Platform Development*, Computer Science Department, Michigan Technological University, 2003.
41. Milan Lathia, *Desktop and File Explorer Design*, Computer Science Department, Michigan Technological University, 2002.
42. Peter Geiser, *Laser Transport*, Physics Department, Michigan Technological University, 1999.
43. Charles Rohde, *Laser Transport*, Physics, Michigan Technological University, 1998-99
44. Ryan Ringle, *Morphology-dependent Resonance at small size parameter*, Physics Department, Michigan Technological University, 1998-99.
45. Heather Lewandowski, *Laser Transport*, Physics Department, Michigan Technological University, 1998.

SERVICE

PROFESSIONAL SERVICE

Human Factors and Ergonomics Society:

- Annual Meeting Program Chair, Computer Science Technical Group, 2012 - 2014
- Annual Meeting Program Chair Designated, Computer Science Technical Group, 2011-2012
- Session Co-chair, Human Performance Session, HFES 2010

Grant Reviews

- Young Carrier Award, Army Research Office, 2015

Proceedings and Journal Reviews:

- Article Editor, Sage Open, 2015
- Ergonomics, 2014
- Human Factors and Ergonomics Society, 2012 – present
- IEEE symposium on 3D User interface 2009
- Journal of CCSC Rocky Mountain Region 2006

Book Reviews:

- Virtual Reality Specialist, Kelly Milner Halls, Cherry Lake Publishing, Ann Arbor, MI
- Data Structures & Their Algorithms , Darryl R. Lewis and Larry Denenberg, Addison-Wesley
- Seeing Is Believing, Hollie Endres, Red Brick Learning
- Data Structure and Algorithms in Java 3/e, Michael Goodrich and Roberto Tamassia, Wiley
- Symposium in Data Structure in Java, Chicago, June 16 – 18, 2004, McGraw-Hill Higher Ed.
- Data Structures and the Java Collections Framework, William Collins, McGraw Hill
- Software Design and Data Structures in Java, Koffman, Addison-Wesley
- Data Structures and Other Objects Using Java, 2/e, Michael Main, Addison-Wesley

UNIVERSITY SERVICE

Preliminary Reviewer for SFHI-Health, 2009
Cognitive Review for SFHI Health, 2010
Cognitive Review for SFHI Computer Discovery, 2009

DEPARTMENT SERVICE

Faculty Advisor for Humane Interface Design Enterprise, 2011- present.
Faculty Advisor for Husky Game Designs Enterprise, (informal) 2004-05 (formal) 2006-2011.
Faculty Advisor for iPhone Developer Club, 2010-2011
Faculty Advisor for DDR social club, 2002 – present.
Faculty Advisor for MTU Linux Users Group Club, 2002 - 2005.
Faculty Advisor for Integrated Microsystems Enterprise, 2003.
Department representative for New Computer Science Building, 2001- 2002.

ART AND THEATER

Art Exhibits:

Two pen and ink drawings (1993) *Eli Levin 20th Anniversary Show*, Raelian Studio, Albuquerque, NM
Two pen and ink drawings (1993) *Eli Levin 20th Anniversary Show*, Gallery Realistic, Santa Fe, NM
Two oil paintings (1992) *Blue Tarps Exhibition*, Callnan Gallery, Albuquerque, NM
Two oil paintings (1992) *Outdoor Studio Exhibition*, John Sommers Gallery, Albuquerque, NM

Theater Productions:

Scenery design and painting (1995) *Too Jewish*, Westside Theater, 43 St. & 9 Ave., NY, NY
Scenery design and painting (1993) *Reckless*, Rail Yard Performance Center, Santa Fe, NM