



Curriculum Vitæ (Long-Form)

David Gerhard, Ph.D.

Associate Professor, Department of Computer Science

Associate Member, Faculty of Fine Arts

Director, Rough Music and Audio Digital Interaction Lab (aRMADILo)

University of Regina, Regina, SK Canada S4S 0A2

office: College West 308.8

phone: 306.585.5227

web: <http://www.davidgerhard.ca>

email: gerhard@cs.uregina.ca

Educational Background

Ph.D. 2003, Computing Science, Simon Fraser University, Burnaby, BC.

Thesis: *Computationally Measurable Differences Between Speech and Song.* (20 citations)

B.Sc.Comp.E. (Distinction) 1996, Computer Engineering, University of Manitoba, Winnipeg, MB.

Thesis: *Lossy Compression of Head and Shoulder Images Using Zerotrees of Wavelet Coefficients.* (4 citations)

Awards

2014 University of Regina's sole nomination for the 3M National Teaching Fellowship.

2014 President's Award for Teaching Excellence (University of Regina)

2014 Award for Innovation in Teaching (University of Regina)

2014 Paragon Award of Innovation (University of Regina / Regina Chamber of Commerce)

2013 with the Darke Hall Five: President's Awards for Service Excellence: Spirit Award (University of Regina)

Leaves

October 2008–March 2009 Parental Leave

July 2009–December 2009 Sabbatical Leave

Research Funding: Awarded

Own the Podium Innovations for Gold *Design and Implementation of Novel Data Analytics Approaches to Extract Swimming Performance Parameters from Body-fixed Sensors* John Barden (applicant) and David Gerhard (co-applicant) (\$110,700 /yr for 1 year)

NSERC PromoScience *High Altitude Balloon Experiment Program* David Gerhard (applicant) with Stephen Cheng (co-applicant) (\$10,500 /yr for 1 year)

President's Teaching and Learning Scholars Program (\$7500) *Development of an Instructional On-line Homework and Test System for Introductory Organic Chemistry* with R. Scott Murphy. 2014

President's Teaching and Learning Scholars Program (\$7500) *Student Centred Self-Assessment for Computer-based Skills Development* with JT Yao. 2014

Institute for Critical Studies in Improvisation (\$2.5M) associated researcher. 2013–2020

CBC Ideas production grant (\$7500) *3d printing: the revolution will be extruded* 2013

Independent Research Service Agreement (\$3400) *Fractal Harp/Cecile Denis* 2012-2013

SSHRC General Research Grant Fund with RV Knowles (\$5000) 2011

President’s Teaching and Learning Scholars Program (\$4000) *iPad orchestra* 2011-2013

President’s Teaching and Learning Scholars Program (\$4000) *Audio production software* 2010-2012

Natural Sciences and Engineering Research Council Discovery Grant (\$17,000) 2007-2012

SSHRC General Research Grant Fund with J. Barden, R. Kell, and D. Malloy, Kinesiology (\$5000) 2006

U of R Transdisciplinary Fund: Competition B: Small Projects (3 awards, \$2500 each) 2005

- with C. Marsh, Music and C. Fox, Media Production and Studies

- with J. Barden, Kinesiology; D. Hepting, Computer Science; K. Irwin, Theater; A.K. Brown, Education; and R.V. Knowles, Visual Arts

- with P. Elliott, Journalism; P. Fong, Computer Science; D. Hepting, Computer Science; R. Petry, Philosophy and Classics (Luther); and C. Polster, Sociology

University of Regina Technology Enhanced Learning with D. Hepting (\$32,000) 2005

Research Funding: Applied

Saskatchewan Health Research Foundation *Health Promotion in Expectant Fathers* with Lynn Loutzenhiser (\$40,000)

Saskatchewan Health Research Foundation *Fall-related Characteristics of Gait in Older Adults* with John Barden (\$32,700)

Relevant Employment Experience

2003–current Associate Professor of Computer Science, University of Regina. (Associate member, Faculty of Fine Arts. 2003: Tenure granted, promotion to Associate)

Co-founder; Co-owner; Head of research and applied innovation. (2010–current) Shiverware Interactive Software Developments, Inc (Startup Company, mobile software; IoT; websites).

Syndicated Columnist and Media Expert. (2006–current) TV, Radio, Print. Local and national.

Instructor. (2011–2013) Lifelong Learning Center. Evening technology classes for community members.

President. (2012–2013) CrashBang Labs, Inc (non-profit hackerspace and community workshop).

Lecturer. (2003) University of Regina Department of Computer Science.

Sessional Instructor. (2002) University of Manitoba Department of Computer Science.

Sessional Instructor. (1999-2001) Simon Fraser University Department of Computing Science.

Teaching Experience

(Complete teaching dossier and course evaluations available on request.)

Computer Science, University of Regina.

For all courses I am the sole instructor (unless noted), often in charge of a teaching team consisting of lab instructors, teaching assistant/markers, and supplemental instruction facilitators.

Course	Number	Years taught	Notes
Programming, Problem Solving Nat. Sci.	CS 110	2009, 2011–2013	
Building Interactive Gadgets	CS 207	2011–2014	*
Digital Systems Architecture	CS 301	2007, 2010–2014	*
Software Development Project	CS 476	2011, 2012	
The iPad Orchestra	CTCH 202	2012–2014	3 instructors, co-taught
Risk, Reward in the Information Society	CS 280	2007, 2011	*
Introduction to Digital Systems	CS 201	2008, 2010	*
Introduction to Computer Audio	CS 327	2008, 2010	‡* Rework of 490BX
Elements Computer Hardware, Software	CS 250	2005–2007	Replaced by 201
Human Computer Communications	CS 305	2005	
Computer Architecture	CS 400	2004, 2005, 2006	Replaced by 301
Mobile Development	CS 490CW	2012, 2014	*
Social, Ethical Implc. of Computing	CS 490BF	2012	# *
Interactive Hardware	CS 490CV	2012	# † *
Theatre Technology	CS 290AI	2011	# *
Computational Models in Music	CS 490CQ	2008	# *
Topics Societal, Ethical Considerations	CS 290AG	2006	# *
Computer Audio Topics	CS 490BX	2004–2007, 2010–2014	‡ *
Interactive Hardware	CS 807	2013–2014	‡
Interactive Hardware	CS 890EH	2012	‡
Electronics for Interactivity	ART 820AH	2012	‡#
Computer Audio	CS 827	2008, 2010	‡* Rework of 890CG
Computer Audio Topics	CS 890CG	2004, 2007, 2011, 2014	‡*
Pattern Classification	CS 890DR	2008	‡
Pattern Recognition	CS 835	2004, 2006	‡

* I created and developed this course

† Graduate course

‡ Grad and Undergrad versions (occasionally taught together)

directed readings course with fewer than 5 participants

I did not teach in the 2008–2009 academic year due to parental and sabbatical leave, except for CS110

Computer Science, University of Manitoba.

Introduction to Computer Usage (74.126) Sep–Dec 2002. Course Supervisor: Christina Penner

Computing Science, Simon Fraser University.

Introduction to Computer Design (CMPT-150-ARC) Apr–Aug 2000 and 2001. Sole Instructor;

Introduction to Computer Architecture (CMPT-250) Apr–Aug 1999. Sole Instructor

Most Significant Research Contributions.

 (Google Scholar citations, H-index=9 as of Nov 2014)

Pitch Detection and Music Analysis. This work relates to the ongoing exploration of low-level analytical techniques to extract music information from acoustic signals, including [39] which has become a common reference for pitch detection, to the point where it has been cited 175 times, and it is the primary reference for the “Pitch Detection Algorithm” article in Wikipedia.

Current projects include multi-pass adaptive frequency estimation, in which frequency adaptive analysis is used to reshape a second-pass analysis window for more accurate placement, size, and scale of partials [5, 9]. This technique is currently being expanded to apply to non-audio periodic signals such as human swimming and running motion, and ECG signals. Previous work in this area includes constraint-based guitar chord analysis [1, 16] and analysis of human vocal utterances [25, 26]. This work is funded by NSERC discovery grants.

New Interfaces and Devices for Artistic Practice. This work includes implementation of various interfaces to audio/musical and artistic software; creating new hardware and embedded creativity solutions; and studies of human-computer interactions with creativity interfaces, including how humans interact with artistic software programs. Recent publications relating to this work include: a study of isomorphic keyboard layouts [7, 12], now an iPhone and iPad app created through my start-up company (see also “Contributions to practical applications of knowledge”); the Instant Instrument Anywhere [10], an interactive electronic object based on the arduino platform which, when attached to a metal surface, uses that surface as a capacitive touch sensor and as an acoustic resonator; a study and implementation of Focus-Plus-Context interfaces for audio editing [15, 19]; and a musical instrument and composition based on vocal analysis and synthesis [18].

Results from this work are also disseminated in alternative venues including traditionally artistic venues (see also in “Presentations, shows, and Lectures”). A suite of new musical instruments and interactions (for example, the Rainboard, which can be seen in my TEDxRegina talk from 2012 and won the University of Regina’s 2014 Award of Innovation) are actively being developed based on this research. This research was initially funded by a 2004 CFI grant establishing the Rough Music and Audio Digital Interaction Lab (aRMADILo); NSERC discovery grants, and local grants from the University of Regina including the SSHRC president’s fund and the President’s Teaching and Learning Fund.

Collaboration Systems for Creativity. Related to, but distinct from, the development of interactive interfaces, is the development of collaboration systems and techniques for use among artists of different disciplines, as well as between artists and technologists. The modern creative industry is multifaceted and multidisciplinary, drawing inspiration and expertise from artistic, technological, and business fields. This research aims to develop techniques and technologies to aid this interaction. Specific work that has been published recently in this area have focused on the ability to increase and diversify collaboration in orchestral musical situations. To this end, we have developed a collaborative composition system [4]; a system which allows for musical score distribution and annotation to digital music stands [11], as well as a system to track and measure the gestures of a conductor’s baton using the Wii remote, either for training or performance applications [13, 14]. Additional work in this area includes a study of open-source collaboration [17], which is critical since a majority of art and technology collaboration techniques are released as open source. This work is funded by NSERC discovery grants.

Research Contributions and Practical Applications. In the publication venues listed below, contribution is indicated by author order, with the first author typically contributing the most to the work. Students have first authorship when they have done more than half the work. Publication venues are chosen from top-rated high-profile thematic conferences. In the field of Computer Science, many conference publications hold weight similar to that of journal publications, and are preferred because of a more rapid turnaround. Citation counts from Google Scholar.

Book Chapters.

- [1] D. Gerhard, **Xinglin Zhang** (2010) Chord Analysis Using Ensemble Constraints. *In* Advances in Music Information Retrieval. Ras, Zbigniew W. & Wieczorkowska, Alicja (Eds.) ISBN 978-3-642-11673-5. 1 citation

Documentaries.

- [2] D. Gerhard (2013) The Revolution will be Extruded. *CBC Ideas* 1-hour radio documentary on the history and future of 3d printing. Multiple airings across Canada and around the world on Sirius and PRI.

Articles under review.

- [3] Y Zhao, D. Gerhard, J. Barden (2014) Periodicity-based Swimming Performance Feature Extraction. *Sports Engineering* (submitted).

Articles in Refereed Publications.

- [4] J. Cullimore, H. Hamilton, D. Gerhard. (2014) Directed Transitional Composition for Gaming and Interactive Music Using Q-Learning. First joint ICMC/SMC conference.
- [5] Y Zhao, D. Gerhard (2014) Waveform-Aligned Adaptive Windows for Spectral Component Tracking and Noise Rejection. *Sound, Music and Motion: Lecture Notes in Computer Science 8905*.
- [6] D. Gerhard (2014) Three Degrees of “G”s: How an Airbag Deployment Sensor Transformed Video Games, Exercise, and Dance. *MC Journal of media and culture*. 12/2013; 16(6).
- [7] B. Park, D. Gerhard (2013) Discrete Isomorphic Completeness & a Unified Isomorphic Layout Format. *SMC13*. **3 citations**
- [8] R. Caines, D. Gerhard, P. Minevich (2013) The University of Regina iPad Orchestra: Engaging mobile audiovisual technologies in music teaching and learning. *Teaching and Learning to the Power of Technology*.
- [9] Y. Zhao and D. Gerhard. Improved Spectral Analysis Using Waveform-Aligned Adaptive Windows. *2013 Computer Music Modelling and Retrieval* Marseille.
- [10] D. Gerhard, Brett Park (2012). Instant Instrument Anywhere: A Self-Contained Capacitive Synthesizer. *12th International Conference on New Interfaces for Musical Expression (NIME12)*, Ann Arbor, Michigan. 516–519. **1 citations**
- [11] Nathan Magnus, D. Gerhard (2012). Musician Assistance and Score Distribution (MASD). *12th International Conference on New Interfaces for Musical Expression (NIME12)*, Ann Arbor. 184–187.
- [12] Steven Maupin, D. Gerhard, Brett Park (2011). Isomorphic Tessellations for Musical Keyboards. *Proc. Sound & Music Computing Conference*. 2011, Padova, Italy. 471–478. **7 citations**
- [13] Lijuan Peng and D. Gerhard (2009). A Gestural Interface for Orchestral Conducting Education. *First Int. Conf. on Computer Supported Education (CSEDU)*, Lisbon. 406–409. **3 citations**
- [14] Lijuan Peng and D. Gerhard (2009). A Wii-based gestural interface for computer conducting systems. *Ninth International Conference on New Interfaces for Musical Expression (NIME)*, Pittsburgh, PA. 155–158. **17 citations**
- [15] D. Gerhard, Brett Park, and Jarrod Ellis (2008). Focus-Plus-Context Audio Interaction Design. *Computer Music Modelling and Retrieval, Lecture Notes in Computer Science*. 453–477.
- [16] Xinglin Zhang and D. Gerhard (2008). Chord Recognition using Instrument Voicing Constraints. *International Conf. Music Information Retrieval (ISMIR)*, Philadelphia, 33–38. **8 citations**
- [17] Daryl Hepting , Lijuan Peng, Tim Maciag, D. Gerhard and Brien Maguire. (2008). Creating synergy between usability courses and open source software projects. *ACM SIGCSE Bulletin*. ACM Press. 120–123. (Reviewed Professional Magazine article) **6 citations**
- [18] D. Gerhard and Ellen Moffat (2007). convocare_consonare: A Duet in Four Voices. *International Computer Music Conference*, Copenhagen. 477–484.
- [19] D. Gerhard and Jarrod Ellis (2007). Focus-Plus-Context Displays for Audio Interaction. *International Conference on Computer Music*, Copenhagen. 405–412.
- [20] Brien Beattie, Garrett Nicolai, D. Gerhard, Robert J. Hilderman (2007). Pattern Classification in No-Limit Poker: A Head-Start Evolutionary Approach. *Canadian Conference on AI*. 204–215. **11 citations**

- [21] JJ Nixdorf and D. Gerhard (2006). RITZ: A real-time tool for interactive spatialization. Proc. ACM Multimedia, Santa Barbara, pp 687–690. **acceptance rate 35%, Citeseer Impact Factor 1.22 (top 14.98%)**
- [22] JJ Nixdorf and D. Gerhard (2006). Real-time sound source spatialization as used in *challenging bodies*: implementation and performance. *International Conference on New Interfaces for Musical Expression (NIME06)*, Paris, 318–321. **4 citations**
- [23] D. Gerhard and Daryl H. Hepting (2005). A framework for personalization of interactive sound synthesis. International Computer Music Conference, Barcelona, Spain.
- [24] Daryl H. Hepting, D. Gerhard, Joel Rathgaber (2005). Realtime interactive multimedia performance. ACM SIGGRAPH 2005, Los Angeles, California.
- [25] D. Gerhard (2005). Multiresolution pitch analysis of talking, singing, and the continuum between. Rough Sets, Fuzzy Sets, Data Mining and Granular Computing, Lecture Notes in Artificial Intelligence (LNAI) 3642, Vol II, pp 294–303. **acceptance rate 44%**
- [26] D. Gerhard (2005). Pitch track target deviation in natural singing. Sixth International Conference on Music Information Retrieval (ISMIR) Queen Mary, U. of London, pp 514–519. **3 citations**
- [27] Lu Meng and D. Gerhard (2005). Acoustic ray tracing for 3D environment simulation. Proc. Canadian Acoustical Assoc Acoustics Week in Canada, London, Ontario.
- [28] D. Gerhard, Daryl H. Hepting, M. Mckague. (2004). Exploration of the correspondence between visual and acoustic parameter spaces. International Conference on New Interfaces for Musical Expression, Hamamatsu, Japan. **7 citations**
- [29] D. Gerhard and Daryl H. Hepting (2004). Cross-modal parametric composition. International Computer Music Conference (ICMC04), Miami, Florida, IEEE. 505–512. **7 citations**
- [30] D. Gerhard and Daryl H. Hepting (2004). Triangularhythmic. Digital Jukebox, International Computer Music Conference (ICMC04), Miami, Florida, IEEE.
- [31] D. Gerhard (2002). Pitch-based acoustic feature analysis for the discrimination of speech and monophonic singing. *Canadian Acoustics* 30 (3), 152-153. **14 citations**
- [32] D. Gerhard (2002). A human vocal utterance corpus for perceptual and acoustic analysis of speech, singing and intermediate vocalizations (abstract). *J. Acoustical Soc. of America*, 112(5):2264. **ISI Impact Factor 1.398. 4 citations**
- [33] D. Gerhard (2002). Perceptual features for a fuzzy speech-song classification (abstract). International Conf. on Acoustics, Speech and Signal Processing, volume IV, page 4160. **8 citations**
- [34] D. Gerhard (2000). Audio signal classification: an overview. *Canadian AI*, 45:4–6, Winter 2000. **27 citations**
- [35] D. Gerhard. Audio visualization in phase space. In *Bridges: Mathematical Connections in Art, Music and Science*, pages 137–144, Aug. 1999. **15 citations**
- [36] D. Gerhard. Automatic interval naming using relative pitch. In *Bridges: Mathematical Connections in Art, Music and Science*, pages 37–48, Aug. 1998. **6 citations**
- Non-refereed contributions.**
- [37] D. Gerhard and JJ Nixdorf (2006). Computational sound source localization for musical expression in live performance (Abstract). Spanning the Distance: Canadian meeting of the International Association for the Study of Popular Music. Regina, SK.
- [38] D. Gerhard (2003). Pitch extraction and fundamental frequency: history and current techniques. Technical Report TR 2003-05, Univ. of Regina Computer Science. (26 pages). **172 citations**

- [39] D. Gerhard (2003). Audio signal classification: history and current techniques. Technical Report TR 2003-06, Univ. of Regina Computer Science. (22 pages). **24 citations**
- [40] D. Gerhard (1997) Computer music analysis. Simon Fraser Univ. School of Comput. Sci., Surrey, UK, Tech. Rep. CMPT TR, 97-13. **12 citations**

Contributions to practical applications of knowledge. I am co-founder, co-owner, and Head of research and applied innovation for Shiverware Interactive Software Developments Inc. I and two colleagues started shiverware to bring interactive media research to market. Based on the work published in [12] we have created an iPhone/iPad application (Musix Pro) and made it available for purchase, showing a direct influence of this technology development on the economy of Canada. To date more than 25,000 individual copies of the software have been downloaded or purchased for a nominal fee, and more than 2000 people use Musix Pro at least once a week. Shiverware has a half-dozen apps on the store, and works directly with private companies to develop mobile technology solutions.

I am co-founder of CrashBang Labs Inc, a non-profit hackerspace/makerlab based in Regina, SK. CrashBang Labs serves to bring together artists and DIY technologists in the local community, to find ways of supporting the growing Maker movement.

As listed in Section 3.3, I routinely work with artists to incorporate technology into their practice, which is a significant practical application of computer technology to the culture of Canada.

Other Evidence of Impact and Contributions.

Memberships and Committees.

- Computer Science Teachers Association of Saskatchewan, Association for Computing Machinery, Institute for Electrical and Electronics Engineers, International Computer Music Association, Canadian Acoustical Association, International Association for the Study of Popular Music.
- Publicity Chair, 2013 AI / GI / CRV conference.
- Tutorials Chair, 2006 International Conference on Music Information Retrieval.

Consulting Activities and Participation in Research Community.

- Head of research and applied innovation: Shiverware Interactive Software Developments Inc. (2010–current)
- Vice President: CrashBang Labs, Inc. (2012–2013)
- Consultant on Interactive Exhibits: Government of Saskatchewan (government house museum) and Museums of Saskatchewan. 2012
- Reviewer: the Computer Music Journal (2004-2008); Computational Statistics and Data Analysis (2006); Signal Image and Video Processing (2007); the International Computer Music Conference (2004-2010); the International Conference on New Interfaces for Musical Expression (2007-2012); the International Conference on Music Information Retrieval (2005-2012); the Toronto Electroacoustic Symposium (2010-2012).
- Grant reviewer: NSERC Discovery Grants (2007, 2008); Strategic Projects (2010).

Presentations, Shows and Lectures.

- Creative Hacking. Regina Public Library Makerfaire (2014)
- Technology for the Classes. Centre for Teaching and Learning Invited Seminar (2014)
- Hacking and Meta-Creativity. Cognitive Informatics Invited Keynote (2013)

- Rainboard: semi-finalist at the Guthman musical instrument competition, (2012)
- TEDx talk on interactive musical instruments (<https://www.youtube.com/watch?v=r3kocjx69g4>) (2012)
- Panel discussion on the future of telecom tech in Saskatchewan at the Sask3.0 summit (2012)
- Invited lectures on the subject of the Maker revolution and how to get started using Arduino for interactive electronic objects, including international webinars and in-person presentations to several canadian museum and science center groups (2011-2012)
- The DIY robo-revolution. Science Pub series (2011).
- Invited keynote speaker for several conferences, including the Canadian Association of Science Centres and the Annual Canadian Science and Technology Awareness Network Conference.
- I regularly collaborate with faculty in Fine Arts, most frequently in the department of Music and the department of Theatre, to produce and present multimedia performances. These have included:
 - “Eurydice,” by Sarah Ruhl, directed by Dan MacDonald, which included multimedia projections and custom-build computer-controlled projection hardware. (2011)
 - “Landscapes of the Soul,” a concert in memory of Saskatchewan’s famous landscape photographer Courtney Milne, which included real-time interactive multimedia projections which responded to the sound of the singers. (2011)
 - “DanceWorlds,” a 3D Multimedia interactive dance performance using Wii remote technology to trigger gesture-based events during the performance. (2010)
 - “Challenging Bodies,” an Interactive multimedia show for variously-abled musicians and artists (guitar, computers), Regina Rehabilitation Center. (2006)

Public Awareness and Education.

- I am a nationally syndicated paid columnist for CBC radio on issues of technology and society (2006–current). I research, prepare and present radio columns in the form of interviews with hosts across Canada, on the order of once per month. I am regularly (about once/month) interviewed on local television (CBC, CTV, Global etc.) as an expert in technology. Recent examples include online review fraud and the cell phone access fee lawsuit.
- I am a regular presenter at “Science Rendezvous,” a national program to increase recruitment into the sciences at the university level. I presented publicly-accessible lectures and demonstrations, and I was the quizmaster for a high-school science trivia competition.
- I regularly participate in career fairs extolling the benefits of a technology-based education, and representing CrashBang Labs, the Regina Makerspace.
- My work relating to artificial intelligence in music was featured in a television program on the Discovery Channel program “Innovation Nation” which aired late 2010, with an estimated audience in the hundreds of thousands.
- I have given many talks to public organizations such as schools, businesses, and non-profit organizations on a number of subjects, including human interfaces, flow-based programming, and repurposing the Wii remote control. Recent examples include the Canadian Information Processing Society, and the Lieutenant Governor’s leadership forum.
- I routinely give talks for high schools encouraging engagement in the sciences and technology, and I provide leadership and develop activities for science camps for ages 6-16. As an example, I have led science camp activities around building robots and repurposing the Wii remote.
- I regularly teach introductory computing and internet awareness courses to Continuing Education and Life Long Learning students. (2009–current)

Service and Administration.

- Science Representative, University-wide Teaching and Learning Advisory Committee (TLAG) (2013–current)
- Member, Humanities Research Institute (HRI) (2012–2013)
- Faculty Review committee, Faculty of Science (2010–2012, Chair for 2012)
- Faculty of Fine Arts Steering committee: Creative Technologies degree program (2010–current)
- Curriculum Committee, Department of Computer Science (2010–current, Chair for 2012–2013)
- External Relations committee, Department of Computer Science (2010–current, Chair for 2010–current)
- Student Appeals Committee, Faculty of Science (2007–current, Chair for 2013–current)
- Dean’s Representative, Faculty of Fine Arts search committee: Creative Technologies (2010); Choral Conducting (2012); Voice Instruction (2013)
- Dean’s Representative, Faculty of Science search committee: Geology (2011), Biology (2011)
- Branding Advisory Committee, University of Regina (2009–2010)
- Industrial Advisory Committee, Department of Computer Science (2007–2009)
- Chair, Seminar Committee, Department of Computer Science (2006–2007)
- Honours Coordinator, Department of Computer Science (2006–2007)
- Executive of Council, University of Regina (2006–2007)
- Publicity: Newsletter, Department of Computer Science, University of Regina (2005–2007)
- Co-op committee, Department of Computer Science, University of Regina (2005–2006)
- Judge, Regina Regional Science Fair (2003–current)

4. Training of Highly Qualified Personnel: Student Supervision.

Student	Program	Status	Date	Notes
Jason Cullimore	PhD	Current	2013	Interdisciplinary, co-supervised with R. Caines (FA)
Jordan Ubbens	MSc	Current	2012	
Hanlin Hu	MSc	Current	2013	
Yang Zhao	PhD	Current	2010	
Brett Park	PhD	Current	2007	
Joel Rathgaber	MSc	Completed	2006–2012	
Robert Bailey	MSc	Completed	2007–2011	
Hao Li	MSc	Completed	2007–2009	
Xinglin Zhang	MSc	Completed	2007–2010	
LiJuan Peng	MSc	Completed	2006–2008	
Tim Maciag	MSc	Completed	2004–2006	Co-supervised with D. Hepting
JJ Nixdorf	MSc	Completed	2004–2009	Employed at EA games BC
Regan Meloche	BSc	Current	2014	3d printing for rapid prototyping
Eden Rohatensky	BSc	Completed	2013	Mobile Technology
Joel Kreutzwieser	BSc	Completed	2012	Autonomous quadcopter
Jordan Ubbens	BSc	Completed	2012	iPhone psychology testing
Ryan Brown	BSc	Completed	2012	Real-time harp-controlled fractal
Stephanie Kos	BSc	Completed	2012	Copyright law and user-generated content
Ryan MacDougall	BSc	Completed	2012	Video game control using acoustic features
Nathan Magnus	BSc	Completed	2011	Musician Assistance and Score Distribution
Natasha Jaques	BSc	Completed	2011	Kinect music (NSERC USRA)
Tim Sample	BSc	Completed	2011	Analysis of Choral Music
Steve Maupin	BSc	Completed	2011	Isomorphic Tesselations
Robin Jastrzebski	BSc	Completed	2011	Analysis of accelerometer data
Colton Fink	BSc	Completed	2010	Arduino light and sound
Peter Dowdy	BSc	Completed	2010	Projections for Eurydice
Jed Hubic	BSc	Completed	2010	
Larry Yang	BSc	Completed	2010	NSERC USRA
Matt Haines	BSc	Completed	2010	
Colan Lash	BSc	Completed	2008	NSERC USRA
Jennifer Allen	BSc	Completed	2007	NSERC USRA, co-sup J. Barden
Mark Cazakoff	BSc	Completed	2006	
Jarrold Ellis	BSc	Completed	2006	
Jeremy Hinks	BSc	Completed	2005	summer employment student
Ryan Hill	BSc	Completed	2005	Current local electronic musician

- External Thesis Examiner

- Shaun Krueger, MSc, 2014 (University of Regina, Physics, External Examiner)
- Peter Nell, MSc, 2013 (University of Regina, Engineering, External Examiner)
- George Shi, PhD, 2011 (University of Calgary, External Examiner)
- Saeed Poozeh, MASc, 2011 (University of Regina, Engineering, External Examiner)
- Guatam Mehta, MASc, 2010 (University of Regina, Engineering, External Examiner)
- Yu Chen, MSc, 2009 (University of Regina, Engineering, External Examiner)
- Rasem Suwan, MSc, 2008 (University of Regina, CS Internal)
- Danqing Zhao, MSc, 2007 (University of Regina, Engineering, External Examiner)
- Peter Kort, MSc, 2007 (University of Regina, CS Internal)
- Ying Sun, MSc, 2004 (University of Regina, Engineering External Examiner)

- Thesis Committees:
 - Markus Brahms, MSc, 2014 (Kinesiology)
 - Katherine Sveinnson, MSc, 2014 (Kinesiology)
 - Xiaofei Deng, PhD, 2014 (Computer Science)
 - Khaled Alshdokhi, PhD, 2014 (Kinesiology)
 - Mike Barker, MSc, 2013 (Kinesiology)
 - SoJung Kim, MSc, 2013 (Computer Science)
 - Diego Castro Hernandez, PhD, 2012 (Engineering)
 - Abbas Dehghan, PhD, 2012 (Engineering Internal/External)
 - Jihad Rasheed, PhD, 2012
 - David Wild, PhD, 2008 (Engineering Internal/External)
 - Salman Aljaroudi, MSc, 2012
 - Richard Dosselmann, PhD, 2012
 - Brian Fitzgerald, MSc 2012 (Engineering Internal/External)
 - Saeed Poozesh, PhD, 2009 (Engineering Internal/External)
 - Richard Dosselmann, MSc, 2006–2007
 - James Heather, MSc, 2004– 2005
- Undergraduate Honours Orals:
 - Natasha Jaques, Honours Oral, 2012 (Computer Audio)
 - Tim Sample, Honours Oral, 2011 (Computer Audio)
 - Robert Bailey, Honours Oral, 2007 (Computer Audio)
 - Michael Brooks, Honours Oral, 2007 (Computer Audio)
 - Vili Bogdan, Honours Oral, 2007 (Orals Coordinator)
 - Ben Harack, Honours Oral, 2007 (Orals Coordinator)
 - Kevin Guo, Honours Oral, 2007 (Orals Coordinator)
 - Joel Rathgaber, Honours Oral, 2005 (Computer Audio)
 - Jared Gabruch, Honours Oral, 2005 (Computer Audio)

Other Interests

- Drums, bass, vocals: “Darke Hall Five” (University leadership team blues/rock band)
- University of Regina Dragon Boat team (2006–2011)
- University of Regina Chamber Singers (2003–2011)