



Full Resume for KATRIN BECKER, PhD.

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As of: November 13, 2009

Present address since: 1986, Status: Married, 3 children, born: 07-84, 11-87, 09-94

Overview:

I am an Instructor at Mount Royal University in Calgary in the Department of Mathematics, Physics, and Engineering. I also hold an adjunct position in the School of Interactive Arts and Technology at Simon Fraser University. I taught my first course while I was still a graduate student in 1982 and I have been a Computer Science Instructor since 1983. I resigned from the University of Calgary in July 2006. My main research interests are instructional and software ethology, educational game design, digital game-based learning (DGBL), interdisciplinary communication, and Computer Science Education (CSE). I have been using classic arcade and other games as both programming and algorithmic examples and as assignments in computer science since 1998. In 2008 I completed my PhD in Education where I applied my background in systems analysis, software design, and teaching to the problem of designing educational digital games.

Research Interests:

- Serious Games
- Instructional Games Design
- Instructional Design Models
- Instructional Ethology and Software Ethology
- Computer Science Education
- Ethics & Quality of Work Issues in CS & Academia

Education:

- 2003-2008** **Doctor of Philosophy in Educational Technology, University of Calgary**
Thesis: "[The Invention of Good Games: Understanding Learning Design in Commercial Video Games](#)"
Supervisor: D.M.Jacobsen
- 1981-1983** **Master of Science in Computer Science, University of Calgary**
Thesis Title: "Topics and Tools in the Undergraduate Computer Science Curriculum"
Supervisor: A.W.Colijn
- 1977-1981** **Bachelor of Science in Computer Science, University of Calgary**

Current Positions:

- Instructor, Department of Mathematics, Physics and Engineering, [Mount Royal University](#) (Calgary, Alberta, Canada)
- Adjunct Professor, [School of Interactive Arts and Technology, Simon Fraser University](#) (BC, Canada)
- Associate Editor, [International Journal of Gaming and Computer-Mediated Simulations](#)
- Liaison to the Loading Journal Committee, CGSA ([Canadian Game Studies Association](#))
- Webmaster, [Southern Alberta Rabbit Breeders Association](#)
- Webmaster, [Basic Health International Foundation](#)

Professional Consulting:

- [Coole Immersive](#) (Consulting – Instructional Design Analysis & Educational Evaluation) SimuLynx Rig Skills; Focusing on front line work roles for the service rig sector of the oil & gas industry, SimuLynx Rig Skills uses a first person perspective 3D environment to give the user an immersive "hands-on, off-site" learning experience.

Research:

Current Research Affiliations:

- [BOKIA](#), Body of Knowledge in Interdisciplinary Applications (Investigator) To what extent do we need to understand the "culture" of another discipline in order to make effective use of its body of knowledge in ours?
- [investiGaming](#) (Collaborator) investiGaming is a resource for academic researchers, game design educators, and game industry professionals. Far more than a bibliography, investiGaming is a participatory community resource. (2008-present)
- [Serious Games on a Global Market](#) (Collaborator) 2007-2010, Principal Investigator: Simon Egenfeldt-Nielsen, IT University of Copenhagen and University of Education, Total Grant Amount:13,000,000 KR., Danish Research Agency
- [Turtle Island](#), (Collaborator) *The Turtle Island Project: A Virtual World for Aboriginal Participants* Massively Multiplayer online game (virtual universe) modeling the aboriginal world of a thousand years ago. The current focus is on the Alberta area

and the goal is to develop and study new ways to explore and share aboriginal history and culture. (2006-present, SSHRC Standard Research Grant Application pending, 2009)

- **Ipowahsin project** (Investigator) Teaching aboriginal languages using computer games. Current focus is on Blackfoot. (2006-present)
- **Serious Games Canada** (Collaborator) [<http://www.seriousgames.ca>] Serious Games Canada concerns itself with the use of Computer/Video games for non-entertainment purposes. (2007-present)
- **Canadian Game Studies Association** [[CGSA](http://www.cgsa.ca)], Founding member.

Past and Recent Research Affiliations:

- **IMAGINE Network** (Collaborator) The SSHRC-funded IMAGINE Network (Interactive Media, Applied Games, and Implicit Networked Environment) consists of a pan-Canadian network of diverse researchers who are interested in exploring the use of interactive media and computer games for human communication. The purpose of the network is to actively experiment with media and games in many aspects of life, by creating inclusive games, animations, and virtual and networked environments. Partners: U. of Calgary (lead), Concordia, University of Alberta, Ryerson University [2005-2006]
- **iMatter** (Collaborator) **SSHRC Strategic Cluster** focuses on the rapidly evolving relations between the creation, consumption (or interpretation) and dissemination of interactive digital content, including: electronic texts, interactive games and new media art. [2005-2006]
- **RACOL**: Rural Advanced Community of Learners The RACOL project, is a collaborative initiative to develop an advanced broadband asynchronous/synchronous distance education system. <http://www.racol.ualberta.ca/> (See also: Collaborative Science Toys) [2002 – 2003]
- **EduSource**: The eduSource project will create a testbed of linked and interoperable learning object repositories across Canada and provide leadership in the ongoing development of the associated tools, systems, protocols and practices that will support such an infrastructure. <http://edusource.netera.ca/> [2001 – 2003]
- **The Co-operative Learning Object Exchange** (Reviewer) (**CLOE**) is a collaboration between Ontario universities and colleges for the development, sharing, and reuse of multimedia-rich learning resources. This occurs through the CLOE Learning Object repository.

Publications:

Books, Book Chapters

1. (in press) Katrin Becker, **Distinctions between games and learning: A review of the literature on games in education** (2010), **Book Chapter (Ch. 1)** In R. V. Eck (Ed.), *Gaming & Cognition: Theories and Perspectives From the Learning Sciences*. Hershey, PA: [IGI Global Publishing](http://www.igi-global.com)
2. Katrin Becker, Distinguished Contributing Author, in *Lexicon of Online and Distance Education* edited by Lawrence A. Tomei, [Rowman & Littlefield Education](http://www.rowman.com)
3. Katrin Becker and J.R.Parker, **A Simulation Primer** (2009), **Book Chapter (Ch. 1)**, in *Digital Simulations for Improving Education: Learning Through Artificial Teaching Environments* edited by David Gibson & Young Kyun Baek, Information Science Reference, [IGI Global Publishing](http://www.igi-global.com)
4. Michael Barbour, Katrin Becker, Luca Botturi, James Paul Gee, Atsusi Hirumi, Sebastian Loh, Christopher T. Miller, Kim Nettleton, Dawn Rauscher, Lloyd Rieber, Christopher Stapleton, Gretchen Thomas, **Predicting the Future from Multiple Perspectives: Current Problems and Future Potentials for Educational Games** (2009), **Book Chapter (Ch. 9)**, in **Games: Their Purpose and Potential in Education** edited by Christopher T. Miller, Springer Publishing
5. Katrin Becker, **Video Game Pedagogy: Good Games = Good Pedagogy** (2009), **Book Chapter (Ch. 5)**, in **Games: Their Purpose and Potential in Education** edited by Christopher T. Miller, Springer Publishing
6. Katrin Becker and J.R.Parker, **On Choosing Games And What Counts as a "Good" Game** (2008), **Book Chapter**, in **Handbook of Research on Effective Electronic Gaming in Education** edited by Richard Ferdig, Information Science Reference, [IGI Global Publishing](http://www.igi-global.com) 2008
7. Katrin Becker, **Pedagogy in Commercial Video Games** (2006), **Book Chapter**, in [Games and Simulations in Online Learning: Research and Development Frameworks](http://www.idea-group.com/), Information Science Publishing edited by David Gibson, Clark Aldrich and Marc Prensky, 2006 <http://www.idea-group.com/> Reprinted in 2007 as: Katrin Becker, **Pedagogy in Commercial Video Games**, **Book Chapter** (Vol 1. Ch 34), in [Online and Distance Learning: Concepts, Methodologies, Tools and Applications](http://www.idea-group.com/) edited by Dr. Lawrence Tomei, Information Science Reference

Journals

1. Katrin Becker, **The Use of Unfamiliar Words: Writing and CS Education**, *The Journal of Computing Science in Colleges* Volume 24, Number 2, pp 13-19 [Consortium for Computing Science in Colleges Northwest Conference](http://www.ccsconline.org/), presented at the CCSC-NW conference to be held October 10 and 11, 2008 in Ashland, Oregon.
2. Katrin Becker, **Classifying Learning Objectives in Commercial Games**, [Loading...](http://www.cgsa.ca/) Journal of the [Canadian Games Study Association](http://www.cgsa.ca/) 2007 Vol.1 No.1.
3. Katrin Becker and J. R. Parker, **Serious Games + Computer Science = Serious CS**, *The Journal of Computing Science in Colleges* Volume 23, Number 2, pp 40-46 [Consortium for Computing Science in Colleges Northwest Conference](http://www.ccsconline.org/), to be presented at the CCSC-NW conference McMinnville, Oregon, October 12 and 13, 2007.
4. Katrin Becker, **Wicked ID: A Conceptual Framework for Considering Instructional Design as a Wicked Problem**, [Canadian Journal of Learning Technology](http://www.cjlt.ca/) 2007, Vol. 33 #1 pp.85-108

5. Katrin Becker, **Digital Game Based Learning, Once Removed: Teaching Teachers**, [British Journal of Educational Technology](#), SIG-GLUE Special Issue on Game-Based Learning 2007, Vol. 38 No. 3, pp 478-488
6. Katrin Becker, **First Principles of CS Instruction**, The Journal of Computing Science in Colleges Volume 22, Number 2, pp 77-84 [Consortium for Computing Science in Colleges Northwest Conference](#), CCSC-NW conference, October 6 and 7, 2006, Cheney, Washington.
7. Katrin Becker. **Cutting Edge Research by Undergraduates on a Shoestring?** The Journal of Computing Science in Colleges Volume 21, Number 1, October 2005, pp 160-168 [Consortium for Computing Science in Colleges Northwest Conference](#), October 14-15 2005, Bothell, Washington
8. Katrin Becker, **Reconciling a Traditional Syllabus with an Inquiry-Based Introductory Course** The Journal of Computing Science in Colleges Volume 20, Number 2, December 2004, pp 28-37 Consortium for Computing Science in Colleges Northwest Conference, October 8-9 2004, Salem, Oregon
9. Katrin Becker. **A Multiple Intelligences Approach to Teaching Number Systems** The Journal of Computing Science in Colleges Volume 19, Number 2, December 2003, pp 6-17 Consortium for Computing Science in Colleges Northwest Conference, October 3-4 2003, Ellensburg, Washington
10. Katrin Becker. **Back to Pascal: Retro But Not Backwards.** The Journal of Computing Science in Colleges Volume 18, Number 2, December 2002, pp 17-27 Consortium for Computing Science in Colleges Northwest Conference, October 4-5 2002, Seattle Washington
11. Katrin Becker. **Teaching with Games: The Minesweeper and Asteroids! Experience.** The Journal of Computing Science in Colleges Volume 17, Number 2, December 2001, pp. 22-32 Presented at the Consortium for Computing Science in Colleges Northwest Conference, October 5-6 2001, Tacoma, Washington
12. Katrin Becker and Melissa Beacham. **A Tool for Teaching Advanced Data Structures To Computer Science Students: An Overview of the BDP System.** (2000-653-05) The Journal of Computing Science in Colleges V16, No. 2, January 2001, pp65-71

Conference Papers

2009

1. Katrin Becker, **How Do Researchers Choose Commercial Games for Study?**, [Future Play 2009](#) @ [GDC Canada](#) Vancouver, BC May 12-13, 2009
2. Katrin Becker, **Yet Another Magic Bullet: A Tool for Assessing and Evaluating Learning Potential In Games**, [Future Play 2009](#) @ [GDC Canada](#) Vancouver, BC May 12-13, 2009

2008

3. Katrin Becker, **Design Paradox: Instructional Game Design**, [CNIE Conference 2008](#), "Reaching New Heights: Learning Innovation" Banff, Alberta, April 27-30 2008
4. Katrin Becker, **Instructional Ethology: Serious Design of Educational Games**, [CNIE Conference 2008](#), "Reaching New Heights: Learning Innovation" Banff, Alberta, April 27-30 2008
5. Katrin Becker, **Lightning Bugs & Spectacle Cleaning: Language Barriers in Serious Game Design**, [CNIE Conference 2008](#), "Reaching New Heights: Learning Innovation" Banff, Alberta, April 27-30 2008

2007

6. Katrin Becker, **Oh, the Things You Can Think: Language Barriers in Serious Game Design**, Proceedings of [Futureplay 2007](#) [page numbers to come] Toronto, Canada, November 15-17, 2007
7. Katrin Becker, **Instructional Ethology: Reverse Engineering for Serious Design of Educational Games**, Proceedings of [Futureplay 2007](#) Toronto, Canada, November 15-17, 2007
8. Katrin Becker, **Teaching Teachers about Serious Games**, Proceedings of the [19th Annual World Conference on Educational Multimedia, Hypermedia & Telecommunications](#) (ED-MEDIA), 2007, Vancouver, Canada, June 25- June 29, 2007
9. Katrin Becker, **Battle of the Titans: Mario vs. MathBlaster**, Proceedings of the [19th Annual World Conference on Educational Multimedia, Hypermedia & Telecommunications](#) (ED-MEDIA), 2007, Vancouver, Canada, June 25- June 29, 2007
10. Katrin Becker, **Play is the Beginning of Knowledge**, Proceedings of the [19th Annual World Conference on Educational Multimedia, Hypermedia & Telecommunications](#) (ED-MEDIA), 2007, Vancouver, Canada, June 25- June 29, 2007
11. J.R. Parker, Katrin Becker, K.D.Loose, **The Impact of Game Development in the Undergraduate Curriculum**, 2nd Annual Microsoft Academic Days [Conference on Game Development](#) February 22 - 25, 2007

2006

12. Katrin Becker, **Design Paradox: Instructional Games** [Future Play](#), The International Conference on the Future of Game Design and Technology, The University of Western Ontario, London, Ontario, Canada, October 10 - 12 2006
13. Katrin Becker & J.R.Parker, **Digital Games vs. Simulations**, presented at the [2006 SCS International Conference on Modeling and Simulation - Methodology, Tools, Software Applications \(M&S-MTSA'06\)](#) July 31 - Aug. 6, 2006.
14. Katrin Becker, **Encouraging CS Novices to Write** to be presented at [WCCCE 2006](#) - The Western Canadian Conference on Computing Education, Calgary, Alberta, May 4-6, 2006
15. Katrin Becker, **Death to Deadlines: A 21st Century Look at the Use of Deadlines and Late Penalties in Programming Assignments** to be presented at [WCCCE 2006](#) - The Western Canadian Conference on Computing Education, Calgary, Alberta, May 4-6, 2006

2005

16. J.R. Parker, Ryan Heavy Head, and Katrin Becker **Technical Aspects of a System for Teaching Aboriginal Languages Using a Game Boy** to be presented at [Future Play](#), The International Conference on the Future of Game Design and Technology, Michigan State University, East Lansing, Michigan, October 13-15 2005
17. Katrin Becker, and Parker, J.R. **All I Ever Needed to Know About Programming, I Learned From Re-writing Classic Arcade Games** to be presented at [Future Play](#), The International Conference on the Future of Game Design and Technology, Michigan State University, East Lansing, Michigan, October 13-15 2005
18. Katrin Becker, **Games and Learning Styles** Presented at the Special Session on Computer Games for Learning and Teaching, at The [IASTED International Conference on Education and Technology](#) ~ICET 2005~ July 4-6, 2005 Calgary, Alberta, Canada
19. Katrin Becker & Michele Jacobsen, **Games for Learning: Are Schools Ready for What's to Come?** [DiGRA 2005](#) 2nd International Conference, "Changing Views: Worlds in Play" Vancouver, B.C. June 16-20, 2005
20. Katrin Becker, **How Are Games Educational? Learning Theories Embodied in Games** [DiGRA 2005](#) 2nd International Conference, "Changing Views: Worlds in Play" Vancouver, B.C. June 16-20, 2005

2003

21. [Grading Programming Assignments Using Rubrics](#), Katrin Becker. Poster #40 ITiCSE 2003, The 8th Annual Conference on Innovation and Technology in Computer Science Education, Thessaloniki, Greece, June 30-July 2, 2003
22. [A Multiple Intelligences Approach to Teaching Number Systems](#), Katrin Becker. Poster #41 ITiCSE 2003, The 8th Annual Conference on Innovation and Technology in Computer Science Education, Thessaloniki, Greece, June 30-July 2, 2003
23. *Assignments that Meet the Needs of Exceptional Students without Disadvantaging the Average*, Katrin Becker. Tips & Techniques #01 ITiCSE 2003, The 8th Annual Conference on Innovation and Technology in Computer Science Education, Thessaloniki, Greece, June 30-July 2, 2003
24. *Computer Science and the Arts: Some Multi-Disciplinary Teaching Collaborations* J.R.Parker, K.Becker, and D.McCullough Poster # 39 ITiCSE 2003, The 8th Annual Conference on Innovation and Technology in Computer Science Education, Thessaloniki, Greece, June 30-July 2, 2003
25. [Measuring the Effectiveness of Constructivist and Behaviourist Assignments in CS102](#) J.R.Parker and Katrin Becker. ITiCSE 2003, The 8th Annual Conference on Innovation and Technology in Computer Science Education, Thessaloniki, Greece, June 30-July 2, 2003

Before 2003

26. [A Microprogramming Simulator for Instructional Use](#). J. R. Parker and K. Becker. (1983-129-18) 15th SIGCSE Technical Symposium on Computer Science Education, 1984, Pages: 69 - 76 ISBN:0-89791-126-1
27. [Teaching Syntax in an Introductory Programming Course](#). Katrin Becker. CIPS Conference '83 Converging Technologies May 16-20 1983, Ottawa Canada, Proceedings, pp183-195 (1983-117-6)

Other (Refereed) Presentations and Articles

2009

1. Katrin Becker, **The Missing Link: Ducks in the Classroom** Presentation at the Calgary City Teachers' Convention Association annual convention: [CCTCA 2009 - No Road Not Taken](#) February 12th & 13th, 2009, Calgary, Alberta

2008

2. Katrin Becker, **On the Evolution of Games**, presented at the [2nd CGSA conference](#), "Thinking Beyond Borders | Global Ideas: Global Values" Vancouver, BC, May 31
3. J.R.Parker, Katrin Becker, and Ben Sawyer, **Re-Reconsidering Research on Learning from Media: Comments on Richard E. Clark's Point of View column on Serious Games** [Educational Technology Magazine](#), January/February 2008, pp 39-43

2007

4. Katrin Becker and D.Michele Jacobsen, **Teaching in a Virtual World**, [CADE/AMTEC Conference 2007](#), "Connecting the Global Village" Winnipeg, Manitoba, May 12 to 16, 2007 (presentation)
5. Katrin Becker and D.Michele Jacobsen, **The Importance of Being Earnest**, [CADE/AMTEC Conference 2007](#), "Connecting the Global Village" Winnipeg, Manitoba, May 12 to 16, 2007 (presentation)

2006

6. Katrin Becker, **How Much Choice is Too Much?** ACM [SIGCSE Bulletin \(Inroads\)](#), Volume 38, Number 4, December 2006 pp78-82 (paper)
7. Katrin Becker, **An Hour of Play**, [2006 International Conference on Teacher Education](#), November 2-4, 2006, University of Calgary, Calgary, Alberta (presentation)
8. Katrin Becker, **Teaching with Games, Once Removed**, [2006 International Conference on Teacher Education](#), November 2-4, 2006, University of Calgary, Calgary, Alberta (presentation)
9. Katrin Becker, **Classifying Learning Objectives in Commercial Games, Proof of Concept**, 2006 [Canadian Games Study Association Symposium](#) September 21-24, 2006, York University, Toronto (presentation)
10. Katrin Becker, **A Psycho-Cultural Approach to Video Games**, 2006 [Canadian Games Study Association Symposium](#) September 21-24, 2006, York University, Toronto (presentation)
11. J.R. Parker and Katrin Becker, **Games for Encapsulation and Promotion of Native Cultures**, IMAGINE Symposium, Banff Alberta, March 25-26, 2006 (presentation)
12. Katrin Becker, **On The Pedagogy of Commercial Video Games**, IMAGINE Symposium, Banff (presentation)
13. Katrin Becker, **Classifying Learning Objectives in Commercial Video Games**, Summer 2006 Institute - Linking Research to Professional Practice, University of Calgary, July 7 - 9, 2006 Alberta, March 25-26, 2006 (presentation and paper) [a remix and expansion of the poster presented at the NMC online conference, below]

2005

14. Katrin Becker, **Book Review: Learning by Doing, A Comprehensive Guide to Simulations, Computer Games, and Pedagogy in e-Learning and other Educational Experiences**, 2005. by Clark Aldrich. (John Wiley & Sons. 400 pages. ISBN: 0787977357), in *The Canadian Journal of Learning and Technology* v. 31, no. 2 pp 105-108 June 2005
15. Katrin Becker, [How are Learning Objectives Woven into the Design of a Serious Game? Instructional Design for Serious Games \[pdf\]](#) [unpublished Ph.D. Thesis Proposal, online] Jan. 2005

Before 2003

16. [Using The Web to Support a Traditional Lecture-Based Course](#). Katrin Becker. (2000-654-06) (paper)
17. [Topics and Tools in the Introductory Computer Science Curriculum](#). Katrin Becker. (1983-130-19), M.Sc. Thesis

Presentations, Invited Talks, Interviews:

2009

1. Katrin Becker, Jim Parker, **Doing What We Cannot Do in Order To Learn How to Do It** Invited Presentation at [Inside eLearning](#), Dec. 3 - 6 2009, [Banff New Media Institute](#), The Banff Centre, Banff, Alberta
2. Martha Burkle, Katrin Becker, Kevin McNulty, and Jim Parker, **Digital Game Based eLearning Invited Panel Discussion** at Inside eLearning, Banff New Media Institute, The Banff Centre, Banff, Alberta, Dec. 3 - 6 2009
3. Katrin Becker, **How Much Choice is Too Much?** Presentation at the Scholarship of Teaching and Learning (SoTL) Network speaker series, Jan 22 2009, Mount Royal University, Calgary, Alberta
4. Katrin Becker, **Good Games = Good Pedagogy: Video Game Pedagogy** Presentation at the Research and Scholarship @ Lunch speaker series, Jan 16 2009, Mount Royal University, Calgary, Alberta

2008

1. Katrin Becker, **An Hour of Play: Exploring Digital Games**, Presentation to the [The Foothills School Division](#) Regional Teacher Conference: [Digital Denizens](#). April 14, 2008 [\[presentation\]](#)
2. Katrin Becker, **The Importance of Being Ernest: A Trivial Talk for Serious People**, Presentation at the CBE Area 1 Junior High Schools Collaborative PD Day ([Tom Baines School](#)). Feb 4, 2008 [\[presentation & hands-on inquiry session\]](#)

2007

3. Katrin Becker, **The Missing Link: Game Ethology, A Methodology for Analyzing Design through Behaviour in Games**, Presented at the Serious Games Symposium of [The Montreal International Game Summit](#), Nov 27-28, 2007 [\[presentation\]](#)
4. Katrin Becker, **Using Elluminate in CS**, Tutorial presented at the [Consortium for Computing Science in Colleges Northwest Conference](#), McMinnville, Oregon, October 12 and 13, 2007. [\[tutorial\]](#)
5. Katrin Becker, **An Afternoon of Play: Introduction to Video Game Literacy**, 1/2 Day Workshop [19th Annual World Conference on Educational Multimedia, Hypermedia & Telecommunications](#) (ED-MEDIA), 2007, Vancouver, Canada, June 25- June 29, 2007 [\[workshop\]](#)
6. Katrin Becker and D.Michele Jacobsen, **Teaching in a Virtual World**, [CADE/AMTEC Conference 2007](#), "Connecting the Global Village" Winnipeg, Manitoba, May 12 to 16, 2007 [\[presentation\]](#)
7. Katrin Becker and D.Michele Jacobsen, **The Importance of Being Ernest**, [CADE/AMTEC Conference 2007](#), "Connecting the Global Village" Winnipeg, Manitoba, May 12 to 16, 2007 [\[presentation\]](#)
8. Presentation, **An Hour of Play: The Current State of the Art in Gaming and Games for Learning**, Coffee and Conversation Forum, TERA (Technology Enhanced Research Area) Faculty of Education, University of Calgary. Jan. 18 2007
9. Presentation, **How Games can Enhance Learning & Elearning: There's More to Video Games Than you Think**, Friday Research Forum, TERA (Technology Enhanced Research Area) Faculty of Education, University of Calgary, Mar. 16 2007

2006

10. Interview, CBC News, Calgary, Chris Epp, Aired, CBC 6 O'Clock news Dec. 21 2006, MMOs and virtual economies.
11. Interview (telephone), [L'Actualité](#), Barbara Vignaux, Nov. 10 2006 Games and Education
12. Invited Speaker, **How Are Games Educational?** EDUC 688 Educational Gaming and Simulation, Morehead University, KY, Dr. Christopher T. Miller, October 2006
13. Guest Speaker, EDTP 502 – (EDUCATION TEACHER PREPARATION) LEARNERS AND LEARNING Digital Games: First Contact, Sept. 13, 2006, Instructor: D.M.Jacobsen
14. Interview (in person), University of Calgary On Campus Magazine, Michele Cook – Aug. 10 2006 – **Plugged into Learning** published Nov. 3, 2006 <http://www.ucalgary.ca/news/uofcpublications/oncampus/weekly/nov3-06/video-games/>
15. Guest Lecturer, COMS 717.69 – (Communication Studies) PRACTICE OF VISUAL REPRESENTATION: Idea to UN-Reality Mental Models, Jan 31, 2006, Instructor: R.M. Levy

2005

16. Interview (telephone), Robert Faulkner, [Hamilton Spectator](#), Dec. 27, 2005, Serious Games
17. Panel session **Exploring the Intersection of Gaming and Education**, (panel members: Patricia Youngblood, Stanford Medical Media and Information Technologies, James Ferolo, Bradley University, Kim Gregson, Ithaca College, Carl Heine, Illinois Mathematics and Science Academy, Katrin Becker, University of Calgary, Brett Blixler, Penn State University, Michelle Soler, University of North Carolina, Greenville, Jessica D. Bayliss, Rochester Institute of Technology), NMC Online Conference on Educational Gaming December 7-8, 2005 -- via the Internet http://www.nmc.org/events/2005fall_online_conf/index.shtml
18. Poster , Katrin Becker, **The Pedagogy of Commercial Video Games**, presented at NMC Online Conference on Educational Gaming December 7-8, 2005 -- via the Internet http://www.nmc.org/events/2005fall_online_conf/index.shtml
19. Invited Speaker, **Challenge Exams in CS** Dept. Computer Science Curriculum Committee Meeting, University of Calgary, Nov. 14, 2005
20. Invited Speaker, **How Are Games Educational?** EDUC 688 Educational Gaming and Simulation, Morehead University, KY, Dr. Christopher T. Miller, October 2005

21. Presentation, **Game Communities for Learning** Katrin Becker, The [32nd AMTEC Conference](#), "Powering Up New Learning Communities" Calgary, Alberta, May 24 to 27, 2005
22. Full-Day Workshop, **Are You Game? The Future of Learning With Technology** Katrin Becker, [The 32nd AMTEC Conference](#), "Powering Up New Learning Communities" Calgary, Alberta, May 24 to 27, 2005

Before 2005

23. Invited Talk, **Writing a Research Proposal**, EDER 603.02, Education, University of Calgary, June 10, 2004 , Instructor: M.Christesen <http://www.ucalgary.ca/~beckerk/EdTech/60302/Proposal-How-To.html>
<http://www.ucalgary.ca/~beckerk/EdTech/60302/Proposal-Rubric.html>
24. Telephone Interview. **Mink Hollow Farm's School Hatching Program** Neighbour's Magazine, Calgary Herald, June 2004
25. Invited Talk, **Mental Models: Idea to Un-reality - Challenges in Translating Mental Models into Virtual Ones: Describing What's in Your Head** Katrin Becker, Presented at: Simulation and Other Re-enactments: Modelling the Unseen, Banff New Media Institute Summit, April 29 - May 2, 2004, Banff, Alberta
http://www.banffcentre.ca/bnmi/programs/archives/2004/simulation/summit_listen.aspx
26. Invited Talk, **Inquiry-Based Learning** Dept. Computer Science Curriculum Committee Meeting, University of Calgary, March 16 2004
27. Invited Speaker, **Teaching Assistantships in Science**, Graduate Student's Association Teaching Assistant Workshop, Sept 2003
28. Panel Discussion Chair; **"Making CS More Fun"** Presented with Jerry Roth, Sharon M. Tuttle, and Steven R. Vegdahl at the Consortium for Computing Science in Colleges Northwest Conference, October 5-6 2001, Tacoma, Washington, 4 Panel Members

Other Publications:

[documents, papers, manuals, departmental documents; refereed and not]

- ❖ Course Websites for MRU courses: [GNED 1101](#) [2008], [COMP 1001](#) [2008/9], and [ENGR 1261](#) [2009]
- ❖ [An Illustrated Guide to Rabbit Coat Colour Genetics](#) [2008, updated 2009]
- ❖ Article on [Ways to Attract and Retain CS Undergraduates](#) [2005]
- ❖ [Serious Games Pathfinder](#) [2005] – used by other scholars and researchers in the field.
- ❖ [Mink Hollow Farm School Hatching Program](#) [2002, Major revision 2004, 2005] Used throughout the world.
 - [2005] [Colour Genetics](#) A short explanation of the Black/Brown colour gene, as expressed in Silver Appleyard Ducks.
 - [2005] [Duck Anatomy \(outside\)](#) A picture of a duck with various parts labeled. Pass the mouse over the picture to find closeups!
 - [2005] [Incubation Temperatures](#) A list of incubation temperatures for different birds and at different stages of incubation
 - [2005] [Breed Notes](#) New pictures.
 - [2005] [Stages of Development \(Embryology\)](#) Chart describing the developmental stages of an embryo. Some of it even looks like English.
 - [2005] [Embryology Glossary](#) Definitions and descriptions of words used when describing the development of a duckling in its egg.
- ❖ [What is Inquiry-Based Learning](#), [August 2005], notes from the talk delivered to CPSC in 2004.
- ❖ 1999 – 2002 Annually: Summarize & Produce Summary Document of Cpsc Degree Programs
- ❖ [The First Year Surprise](#) [2000]
- ❖ [Sage Advice From Senior Students](#) [2000]
- ❖ Information on [Advanced Placement/ Advanced Credit/ Special Assessment/ Challenge Exams](#) in Cpsc 231 and Cpsc 233 [2000]
- ❖ Justification for Language Change to Pascal/Java in CS101-102 [2000]
- ❖ Duties of Coordinator in Multiple Section Courses [1999]
- ❖ Duties of Teaching Assistants [1999]

Grants and Other Awards:

Awards:

[EduNET Choice Award](#) for the [Mink Hollow Farm Hatching Program](#) Website August, 2005

AMTEC Educational Media Award of Excellence Katrin Becker, for the Mink Hollow Farm [Candling Tutorial](#) (student category), Presented by [AMTEC](#) at The 32nd AMTEC Conference, "Powering Up New Learning Communities" Calgary, Alberta, May 25 2005

J. B. Hyne Research Innovation Award, to recognize graduate student excellence in research, 2006

Year/ Duration	Grant/Award	Amount	Agency	Role
2008	MRU PD Funding	\$1310.00	Mount Royal	
2006	J. B. Hyne Research Innovation Award	\$500.00	Grad Studies, U of C	
2006	Graduate Teaching Fellowship	\$3000.00	Grad Studies, U of C	

2003	Graduate Assistantship (Teaching) Education	\$1800.00	GDER, U of C	
	Course Development Grant	\$16000.00	Fac.Science/CPSC	PI
	URGC Travel Grant	\$1500.00	U of C	
2002	Learning Commons Fellowship	\$5000.00	U of C	PI
2001	U of C Travel Grant	\$1257.00	U of C	
	SCP Grant	\$1500.00	U of C	PI
	Departmental Travel Grant	\$1140.00	U of C	
2000-2004	Equity-Research Grant	\$8000.00	U of C	PI
1999	Professional Development Award	\$5000.00	U of C	
1983	Graduate Assistantship (Research) CPSC		U of C	
1982	Swan Memorial Book Prize		U of C	
1982	Graduate Assistantship (Teaching) CPSC		U of C	

Teaching:

Innovations:

- Created course design that allows for flexible deadlines, open-ended assignments, and incorporation of current news and developments into CS102.
- Designed program to incorporate leading edge research into junior undergraduate year course.
- Designed alternate assessment mechanism for programming assignments using rubrics (general & specific grading rubrics).
- Designed multi-level performance measures for programming assignments (A, B, C level specifications).
- Designed novel reward system for student contributions and work (bonus point system).
- Implemented novel design for an Inquiry-Based Introduction to Computer Science.
- Complete curriculum design for 1st year CS program, including lectures, assignments, solutions, labs, software support, and supplementary material.
- Created consistency for all sections of first year introductory programming courses.
- Coordinated labs with up to 750 students, 30 labs and 22 teaching assistants and tutors.
- Incorporated Games Design into 1st year assignments as a motivator.
- Founded 1st year tutors to provide students in large classes with additional help.
- Developed 1st year assignments as coherent set.
- Addressed the problem of meeting needs of students with dramatically different backgrounds. We now have students who continue to work on assignment projects months after an assignment has been submitted.
- Designed, built, and maintain extensive course websites (total: 13,000+ files).
- Consistently ranked by department heads as one of the top teachers in the department.

Supervision (5xx = 4th year undergraduate course):

503 [2004]: 2 students; projects: Music Genre Classifier; Non-Text-Based Image Searching
503 [2003]: 2 students; project: Physics Game (high school curriculum); Photo Db & organizer
503 [2002]: 3 students; project: Image Matching
599.23 [2002]: 1 student; outcome: Pascal Program Animator
599.23 [2001]: 1 student; outcome: VennExplorer [Venn Diagrams Demonstration Tool]
599.23 [2000]: 1 student; outcome: FSA Demonstration Tool
599.23 [1999]: 1 student; outcome: B-Tree Demonstration Tool

Teaching Experience:

Sessional Instructor, Art Department, Faculty of Fine Arts, University of Calgary, Winter Term, 2010
Instructor, Part-time, Department of Mathematics, Physics and Engineering, Mount Royal University, 2009 - 2010
Instructor, Department of Computer Science and Information Systems, Mount Royal University, 2008 - 2009
Adjunct Professor, School of Interactive Arts and Technology, Simon Fraser University (BC, Canada) 2009 - present
Sessional Instructor, part -time, 2008, Graduate Division of Educational Research, Faculty of Education, University of Calgary
Sessional Instructor, part -time, 2006, Graduate Division of Educational Research, Faculty of Education, University of Calgary

Senior Instructor 2000-2006, Department of Computer Science, Faculty of Science, granted tenure in 2003, University of Calgary
Instructor II 1998-2000, Department of Computer Science, Faculty of Science, University of Calgary
Sessional Instructor, part and full-time, 1983-1998, Department of Computer Science, Faculty of Science, University of Calgary

2008-2009: (MRU) GNED 1101, Scientific and Mathematical Literacy for the Modern World, **(MRU) COMP 1001**, Introduction to Computer-Based Problem Solving for the Sciences (**UofC**) **EDER 679.17**, Graduate Course in Digital Game-Based Learning

University of Calgary:

2007: EDER 679.17, Graduate Course in Digital Game-Based Learning

2005-2006: CPSC 235, Inquiry-Based Introduction, 20 students, **CPSC 233** ~35 students, ~100 students, **EDER 679.17**, Graduate Course in Digital Game-Based Learning

2004-2005: Sabbatical **EDER 679.17**, Graduate Course in Digital Game-Based Learning

2003-2004: CPSC 235, Inquiry-Based Introduction, 20 students, **CPSC 461**, ~100 students, **EDER 679.02** teaching assistant. **CPSC 233**, Special Assessment, **CPSC 503**, supervise 3 students, **EDER 679.12** teaching assistant. **CPSC 231**, ~150 students

2002-2003: CPSC 461, 2 sections, ~100 students each section, Coordinate **CPSC 233**: 4 lecture sections; 30 labs, **CPSC 233**, 3 sections, ~100 students each section, **CPSC 503**, supervise 3 students

2001-2002: CPSC 231, 1 section, ~200 students, **CPSC 461**, 2 sections, ~100 students each section, Coordinate **CPSC 231**: 3 lecture sections; 30 labs, **CPSC 233**, 2 sections, ~100 students each section, **CPSC 599.23**, supervise 1 student

2000-2006: Senior Instructor: 00/07/01-2006 F/T Senior Instructor (teaching CPSC 231, 233, 461 plus coordinating labs for 231-233)

1998-2000 Instructor II: 98/07/01-00/06/30 F/T Instructor II (teaching CPSC 215, 231, 233, 461 plus coordinating labs for 231-233)

1997-1998 Full Time Sessional Instructor: 97/09/01-98/06/30 F/T Sessional Instructor (teaching CPSC 203, 215, 461 plus coordinating labs for 203)

1986-1997 Part-Time Sessional Instructor: 86/01/01-86/04/30, 87/01/01-87/04/30, 89/07/04-89/08/19, 90/01/01-90/04/30, 91/01/01-91/04/30, 92/01/01-92/04/30, 92/09/01-93/04/30, 95/09/01-95/12/31, 96/01/01-96/04/30, 96/09/01-97/04/30, 97/05/14-97/06/30

1983-1984 Full-Time Sessional Instructor: 83/09/01-84/04/30 (Coordinating labs for CPSC 300 & 302)

Courses Taught:

General Education:

GNED 1101 (MRU) Scientific and Mathematical Literacy

Computer Science:

COMP 1001 (MRU) Introduction to Computer-Based Problem Solving

CPSC 201/203 (UofC): Introduction to Computers (general literacy with use of various Applications Packages: First Choice, Clarisworks, MSOffice, Hypercard; taught on both Macs and IBM)

CPSC 213 (UofC): Introduction to Computer Architecture (including assembler programming)

CPSC 215 (UofC): Introduction to Programming (Pascal)

CPSC 231 (UofC): Introduction to Computer Science I (C++, Pascal)

CPSC 233 (UofC): Introduction to Computer Science II (C++, Java & OOP)

CPSC 235 (UofC): Inquiry-Based Introduction to Computer Science (Java, C)

CPSC 255 (UofC): Modern Programming for Social Sciences (Fortran, Pascal, BLSS, SPSS)

CPSC 300 (UofC): Machine Architecture and Assembler Programming : Coordinated labs

CPSC 301 (UofC): Programming Techniques (2nd yr. Required Major's course on Programming using Modula-2)

CPSC 302: (UofC) Procedure Language Programming (Pascal, PL/1, APL): Coordinated Labs

CPSC 461 (UofC): Information Structures III (File & Data Architecture, Processing, Mass Storage Management)

CPSC 599.23 (UofC): Topics in Technology Assisted Education (primarily tools for teaching CS concepts)

Engineering

ENGR 1271 (MRU): Engineering Design and Communication I

Educational Research:

EDER 679.02 (UofC) Computer Based Learning I (labs)

EDER 679.17 (UofC) Digital Game-Based Learning (new course, designed and implemented)

Service:

Academic & Professional Services:

External Professional Services

- [2008 – 2009] Editorial Advisory Board, *Interdisciplinary Models and Tools for Serious Games: Emerging Concepts and Future Directions*, Richard Van Eck (Ed). Hershey, PA: IGI Global.
- [July 1 2009 - Dec. 31 2009] **Advisory Board Member:** [Association of Virtual Worlds](#)
- [July 1 2008 - June 30 2011] Associate Editor of the *International Journal of Gaming and Computer-Mediated Simulations* <http://www.igi-global.com/ijgcms>
- [2006 - present] Advisory Board Member, Northern Alberta Institute of Technology (NAIT) Digital and Interactive Media Design <http://www.dimd.nait.ca/index.php>

Internal Services

June 14, 2008 – University of Calgary Campus Fair – Faculty of Education Exhibit Organizer

Ongoing to 2006:

- ❖ Support for 1st Year Students: advising, program, other help. (uncredited)
- ❖ Participate in UofC 101; Science Awareness Week; Scholar's Advantage
- ❖ Undergraduate Advisor, Mentor, Advocate (uncredited)
- ❖ High School Liaison (status unknown)
- ❖ Special Assessment/ Advanced Placement Advisor (uncredited)
- ❖ Elementary and Secondary School Duck Hatching Program, since 1988

Instructional Design, Course Development & Educational Support in CS

[2002] Coordinator, 1st Year Curriculum, CS102

[2000] Created and Founded a Departmental Tutor Service for 1st Year Majors [maintained through to 2006]

[1999-2001] Coordinator, 1st Year Curriculum

Referee/Reviewer

[Ongoing]

- Conferences:
 - SIGCHI [since 2008]
 - Serious Games Canada [since 2006]
 - Futureplay [since 2005]
 - Consortium for Computing Science in Colleges (CCSC, reviewed for several regional chapters) [since 2001]
- Journal: IEEE Transactions on Education [since 2006]
- Journal: Loading.... Journal of the Canadian Games Research Association [since 2006]
- [2008] IGDA Curriculum Framework for The Study of Games and Game Development (reviewer/contributor)
- [2008] Book Chapters: *Digital Simulations to Improve Education* Edited by David Gibson and Young Kyun Baek
- [2007] Book Chapters: *Handbook of Research on Effective Electronic Gaming in Education*
- [2007] Book: *Introduction to Game Development* by Steve Rabin, Charles River Media/Thomson Learning
- [2006] Journals:
 - *International Journal of Interactive Technology and Smart Education*
 - Preliminary Review for *Canadian Journal of Learning Technology*
- [2006] Conferences:
 - The IASTED International Conference on Education and Technology –ICET 2006– Calgary, Canada, July 4-6, 2006
 - 2006 World Congress in Computer Science, Computer Engineering, and Applied Computing, Sessions on Internet Computing, Networking and CS/CompE Education
 - WCCCE 2006 - The Western Canadian Conference on Computing Education, Calgary, Alberta, May 4-6, 2006
- [2006] Book: *Java 5 Illuminated, 2nd Edition*, Jones and Bartlett
- [2005] Book Chapters: *Games and Simulations in Online Learning: Research and Development Frameworks*, in press at Idea Group Inc <http://www.idea-group.com/> edited by David Gibson
- [2005] The IASTED International Conference on Education and Technology –ICET 2005– Calgary, Canada, July 4-6, 2005
- [2005] CLOE – assessed two learning object submissions in CS education
- [2003] Book: *It Sounded Good When We Started* by Dwayne Phillips with Roy O'Bryan, for IEEE
- [2003] Book: *An Introduction to Computer Science Using Java* by John Carter for McGraw-Hill

Conference Program Committees

Future Play, The International Conference on the Future of Game Design and Technology, Toronto, Ontario, Canada, Nov. 3-5, 2008, International program committee (IPC) member

Future Play, The International Conference on the Future of Game Design and Technology, Toronto, Ontario, Canada, Nov. 15-17, 2007, International program committee (IPC) member

Serious Games Canada symposium to be held in Montreal in conjunction with the Montreal International Games Summit in November, 2007, program committee (PC) member, Coordinator, Student Program

2006 SCS International Conference on Modeling and Simulation – Methodology, Tools, Software Applications (M&S-MTSA'06); Organizing Committee Member: Spouses Program; International program committee (IPC) member

The IASTED International Conference on Education and Technology ~ICET 2006~ Calgary, Canada, July 4-6, 2006; International program committee (IPC) member
FuturePlay 2006: The International Academic Conference on the Future of Game Design and Technology October 10-12, 2006, London, Ontario, Canada; International program committee (IPC) member
The IASTED International Conference on Education and Technology ~ICET 2005~ Calgary, Canada, July 4-6, 2005; Co-Chair, Special Session on Special Session: Computer Games for Learning and Teaching; Session Chair
Session Moderator, [DIGRA 2005](#) 2nd International Conference, "Changing Views: Worlds in Play" Vancouver, B.C. June 16-20, 2005
Session Chair: Consortium for Computing Science in Colleges Northwest Conference, October 5-6 2001, Tacoma, Washington

University Services :

[2005-2006] Science Representative on Faculty of Communication and Culture Council
[2002-2004] University Ad-Hoc Committee on Non-Academic Misconduct
[2001-2002] Science Representative on Faculty of Education Council
[1999-2001] Departmental Curriculum Committee
[1999-2001] Departmental Instructor Hiring Committee
[1998-1999] Strategic Directions Committee

Student Services :

Documents:

- ❖ CPSC Programs Outline, Degree Requirements, Diagrams of CPSC Course Relationships
- ❖ Advice for 1st Year Students
- ❖ Sample Exams; Exam Review Questions

Spare Time Programming Contest
Active Incorporation of Research into Undergraduate Teaching
Annex: Undergraduate Research Groups
Games Assignments, Open-Ended Assignment Specifications
Challenge Exams for Advanced Students
CSUS Affiliation
Invited Speaker at Graduate Student's Association Teaching Assistant Workshop, Sept 2003

Other Related Experience :

Webmaster, Southern Alberta Rabbit Breeders Association [2008 – present]

Short-term Contract Work, 1980-1992: contracts include:

- Statistical Programming (medical research, family therapy)
- Data Entry System with editing facilities and list creation capabilities (medical research)
- Database Programming: conversion and upgrading of custom database (family therapy)
- File Merge Programming (mapping data)
- ASCII Display facility for in-house GIC (Auto-trol Technology)
- Building Wire-Router (blueprint program)
- Graphics File Converters (various graphics file formats)

Affiliations:

ACM (Association for Computing Machinery), member	CEA (Canadian Education Association) member
CCSC (Consortium for Computing Science in Colleges), member	
IEEE (Institute of Electrical and Electronics Engineers), <i>member</i>	CIRA (Canadian Internet Registration Authority) member
DIGRA (Digital Games Research Association) member	SAFS (Society for Academic Freedom and Scholarship) member
NASAGA (North American Simulation and Gaming Association) member	
IGDA (International Game Developer's Association) member	Rare Breeds Conservancy (member since 1983)
CGSA (Canadian Game Studies Association) founding member, CGSA Chair to the Loading Journal Committee [2008]	Canadian Kennel Club (since 1983, kennel name: Mink Hollow, permanently registered)
	Rottweiler Club of Canada (since 1983, national secretary 1987-1993)
AACE (Association for the Advancement of Computing in Education)	American Rabbit Breeder's Association (since 1991, registered rabbitry name: Mink Hollow)
AECT (Association for Educational Communications and Technology) member	National Rex Rabbit Breeder's Association (since 1992)
CNIE (Canadian Network for Innovation in Education) member	Southern Alberta Rabbit Breeder's Association (since 1991)