Natural Sciences and Engineering Research Council of Canada | Conseil de recherches en sciences naturelles et en génie du Canada

FORM 100
Personal Data Form
PART I

Date: 2013/06/15

Family name	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Tang	Anthony	AHT	Valid 258447

☐ I hold a faculty position at an eligible Canadian college (complete Appendices B1 and C)

☐ I do not or will not hold an academic appointment at a Canadian postsecondary institution

Place of employment other than a Canadian postsecondary Institution (give address in Appendix A)

APPOINTMENT AT A POSTSECONDARY INSTITUTION

Title of position: Assistant Professor

Department: Computer Science

Campus:

Canadian postsecondary institution: Calgary

Tenured or tenure-track academic appointment — Yes [X] No [ ]

Part-time appointment [ ] Full-time appointment [X]

- For all non-tenured or non tenure-track academic appointment and Emeritus Professors, complete Appendices B & C
- For life-time Emeritus Professor and part-time positions, complete Appendix C

ACADEMIC BACKGROUND

Degree	Name of discipline	Institution	Country	Date yyyy/mm
Bachelor's	Computer Science and Psychology	Simon Fraser	CANADA	2002 / 08
Master's	Computer Science	Calgary	CANADA	2004 / 12
Doctorate	Electrical and Computer Engineering	British Columbia	CANADA	2009 / 12

TRAINING OF HIGHLY QUALIFIED PERSONNEL

Indicate the number of students, fellows and other research personnel that you:

	Currently		Over the past six years (excluding the current year)		
	Supervised	Co-supervised	Supervised	Co-supervised	Total
Undergraduate	2		11	4	17
Master's	1	1		1	3
Doctoral		2			2
Postdoctoral					
Others	1		1	2	4
Total	4	3	12	7	26

Personal information collected on this form and appendices will be stored in the Personal Information Bank for the appropriate program.

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Not Completed

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ACADEMIC, RESEARCH AND INDUSTRIAL EXPERIENCE (use one additional page if necessary)

Position held (begin with current)	Organization	Department	Period (yyyy/mm to yyyy/mm)
Assistant Professor	Calgary	Computer Science	2011/07
Post-Doctoral Fellow	Georgia Institute of Technology	College of Computing	2010/02 to 2011/06
Research Intern	Microsoft Research	Advanced Prototyping	2009/01 to 2009/05
Teaching Assistant	University of British Columbia	Computer Science	2006/05 to 2008/08
Research Intern	Microsoft Research	Adaptive Systems and Interaction Team	2004/05 to 2004/08
Intern Program Manager	Microsoft	MSN Mobile	2002/05 to 2002/08
Program Manager Intern	Microsoft Corporation	Mobile Services	2001/05 to 2001/08
Research Assistant	Simon Fraser University	Department of Psychology	2001/09 to 2001/12
Teaching Assistant	Simon Fraser University	School of Computer Science	2000/09 to 2000/12
Program Manager Intern	Microsoft Corporation	Visual C++.NET Group	2000/05 to 2000/08

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ACADEMIC, RESEARCH AND INDUSTRIAL EXPERIENCE (use one additional page if necessary)

Position held (begin with current)	Organization	Department	Period (yyyy/mm to yyyy/mm)
Special Projects Student	Simon Fraser University	School of Computing Science	2000/09 to 2000/12
Research Programmer	National Research Council	Networking Group	1999/01 to 1999/04

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RESEARCH SUPPORT

Family name and initial(s) of applicant	Title of proposal, funding source and program, and time commitment (hours/month)	Amount per year	Years of tenure (yyyy)
List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.			
a) Support held in the past 4 years			
Anthony Tang	Supporting Transitions in Large Display Groupware University of British Columbia Pacific Century Graduate Scholarship 160 hours/month	17,000 17,000	2008 2009
Anthony Tang	Mobile Computing in Domestic Settings NSERC Post Doctoral Fellowship 160 hours/month	40,000 20,000	2010 2011
Sheelagh Carpendale and Anthony Tang	Sketch-based Mathematics in Education SURFNet Special Projects Grant 10 hours/month	13,000 (50%)	2011
Melanie Tory (+ 3 others)	Grand Peaks for Personal Visual Analytics GRAND NCE GRAND Peaks 5 hours/month	10,000	2011

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RESEARCH SUPPORT

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List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.			
a) Support held in the past 4 years			
Melanie Tory (+8 others)	Personal Visual Analytics VACCINE Seed Project 10 hours/month	19,400	2012
Anthony Tang (+ 3 others)	Pico-Projector Toolkits for Proximity-Aware Interaction SurfNet Special Projects 8 hours/month	12,500(100%)	2012
Anthony Tang	Research Assistantship in Human Computer Interaction Government of Alberta Summer Temporary Employment Program 5 hours/month	3,920	2012
Jerremie Clyde (+6 others)	Enhancing Policing: Officer Training and Community Education via Modifiable Digital Games, Simulations, and New Media Technology SSHRC Partnership Development Grant 5 hours/month	62,000 (5%) 62,000 (5%) 62,000 (5%)	2013 2014 2015

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RESEARCH SUPPORT

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List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.			
b) Support currently held			
Anthony Tang	n/a University of Calgary University Start-Up Grant 10 hours/month	30,000 30,000	2011 2012
Anthony Tang	Personal Informatics Tools for Self-Awareness University of Calgary University Research Services - Seed-grant 10 hours/month	12,000 6,000	2012 2013
Anthony Tang	Designing Digital Workrooms for Collaboration NSERC Discovery Grant 40 hours/month	22,000 22,000 22,000 22,000 22,000	2012 2013 2014 2015 2016
Anthony Tang	Interaction in Interstitial Spaces in Multi-Display Environments GRAND NCE Collaborating Network Investigator 5 hours/month	5,000 9,000	2012 2013

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Family name and initial(s) of applicant	Title of proposal, funding source and program, and time commitment (hours/month)	Amount per year	Years of tenure (yyyy)
List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.			
b) Support currently held			
Anthony Tang	Pico-Projectors for Visualizing Personal Information University of Calgary VP Research 5 hours/month	5,000	2013
Anthony Tang	Proxemic Pico-Projectors Nokia University Relations Grant 5 hours/month	18,500	2013
Melanie Tory (+3 others)	Collaborative Visual Analytics for Personal Use NSERC Collaborative Research and Development	134,000 (25%) 134,000 (25%) 134,000 (25%)	2014 2015 2016

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Highly Qualified Personnel (HQP)

Provide personal data about the HQP that you currently, or over the past six years, have supervised or co-supervised.

Personal identification no. (PIN)	Family name
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Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
(Name withheld)	Undergraduate (In Progress)	Supervised 2013 -	Freeplay among children	Undergraduate student
(Name withheld)	Undergraduate (In Progress)	Supervised 2013 -	Technologies for Remote Art Therapy	Undergraduate student
(Name withheld)	Res. Associate (In Progress)	Supervised 2013 -	EXCITE: Exploring Collaboration Interaction in Tracked Envir	Undergraduate student
(Name withheld)	Doctoral (In Progress)	Co-supervised 2013 -	Interactions in Multi-Surface Environments	PhD student
(Name withheld)	Master's (In Progress)	Supervised 2013 -	Stylizing Motion in Video	MSc Student
(Name withheld)	Doctoral (In Progress)	Co-supervised 2013 -	Technologies for Urban Planning Review	PhD student
Aseniero, Bon Adriel	Master's (In Progress)	Co-supervised 2012 -	Personal Visual Analytics	MSc student
Chan, Anthony	Undergraduate (Completed)	Co-supervised 2011 -	Visualization of Walking Activity	Undergraduate Research Assistant
Tam, Alex	Undergraduate (In Progress)	Co-supervised 2011 -	Visualization of Keyboard Activity	Undergraduate Research Assistant
(Name withheld)	Undergraduate	Supervised 2013 - 2013	Gamifying the Annotation of Physical Spaces	undergraduate student
MacLeod, Haley	Undergraduate (Completed)	Supervised 2012 - 2013	Personal Informatics Needs for Chronic Illness Management	PhD Student at University of Illinois
Dunlap, Matthew	Master's (In Progress)	Co-supervised 2011 - 2013	Science Caching: Applying Geocaching to Citizen Science	MSc Student
(Name withheld)	Undergraduate (Completed)	Supervised 2012 - 2012	Understanding Twitter Activity During Live Sporting Events	Programmer at Alstom Grid
(Name withheld)	Undergraduate (In Progress)	Supervised 2012 - 2012	Tutorials for Network Programming	Undergraduate student
(Name withheld)	Res. Associate (Completed)	Supervised 2012 - 2012	ProjectorKit: Toolkit for Mobile Projectors	PhD student
Aseniero, Bon Adriel	Undergraduate (In Progress)	Co-supervised 2011 - 2012	Visualization of Personal Information	Undergraduate Research Assistant
Perteneder, Florian	Res. Associate (Completed)	Co-supervised 2011 - 2011	Idea Playground: Beyond Brainstorming	Research Associate
Rendl, Christian	Res. Associate (Completed)	Co-supervised 2011 - 2011	Sketch-Based Mathematics Presentations	Research Associate
Massey, Jonathan	Undergraduate (Completed)	Supervised 2010 - 2011	Verbal Coordination First Person Shooters	Undergrad
(Name withheld)	RA (Completed)	Co-supervised 2010 - 2011	Interaction Techniques for MDEs	PhD Student

Highly Qualified Personnel (HQP)

Provide personal data about the HQP that you currently, or over the past six years, have supervised or co-supervised.

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Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Leung, Clement	Undergraduate (Completed)	Supervised 2008 - 2009	Image Analysis and Slit-Tear Visualizations	Completed MSc; programmer at start-up
(Name withheld)	Undergraduate (Completed)	Supervised 2007 - 2007	Interaction in MDEs	Unknown
(Name withheld)	Undergraduate (Completed)	Co-supervised 2007 - 2007	Interaction with Large Wall Displays	Unknown
Van Beurden, Rimalda	Undergraduate (Completed)	Supervised 2007 - 2007	Interaction in MDEs	Unknown
Siu, Nelson	RA (Completed)	Co-supervised 2005 - 2005	Email Flow	Program Manager at Microsoft

1. Most Significant Research Contributions

My research involves designing and evaluating novel computational systems to support collaboration. This work is situated primarily in the fields of Human-Computer Interaction (HCI) and Computer Supported Cooperative Work (CSCW), and aims to augment collaborative processes while reducing barriers that people encounter when working together through technology. It typically requires building innovative computer systems, and draws on methodology from sociology and psychology for evaluation.

a. Mixed-Presence Collaboration. My work in "Mixed Presence Collaboration" ([3,11,27,37,42]), has had the biggest impact. I coined the term "Mixed Presence Groupware," delineating a new area of HCI research and identifying a unique set of design problems for groupware (software that allows people to collaborate) to support distributed teams [3]. Whereas prior work had primarily addressed distributed individuals or collocated teams, my work brought focus to distributed teams working with large shared displays. In [27,37], I illustrate how the arrangement reduces engagement of remote collaborators, and show how stylized video-based representations of collaborators addresses this problem. The original work and subsequent invited journal article [3] has been cited 52 times, and the solution I proposed [27,37] has been cited 46 times. Mixed presence collaboration was the focus of an Australian research consortium (the HxI Initiative), which studied and designed tools to support this configuration of collaborators [J,N]. Other researchers in the UK are involved in research relying on the principles I uncovered in this work [Q]. I was invited to give a talk in the UK on my MSc work [46], and to discuss its continuing implications with other international experts.

b. Large Display Collaboration. I am also well-known for my work on large display collaboration—particularly on digital tabletops. My top three publications in this space have received over 225 citations, and the interaction technique that we developed and introduced in [29] is now a *standard interaction technique on commercial digital tabletops* (e.g. Microsoft Surface). One paper focused on tabletop collaboration [28] has been required reading in at least four graduate courses in North America. My recent work in this area [14] has received a best paper nomination at the top specialized conference in CSCW, and the tools and techniques I developed for analyzing interaction and collaboration [12] are being used/adapted for use by at least three different research groups around the world.

c. Games and Collaboration. I have also been interested in games and gaming interfaces, as an alternative medium for understanding collaboration [1,2,9,11,13,15]. This burgeoning area of research is gaining traction in the research community, as it sheds light on recreational collaboration, and provides insight into the design of casual interactive systems. My grounding in traditional CSCW along with my personal interest in gaming puts me in the unique position to make substantial contributions in this domain.

2. Research Contributions and Practical Applications

In the publications listed below, I led projects where I am listed as 1st author; otherwise, I was an active, substantial collaborating contributor. Author order in my area is determined primarily by level of contribution with the exception that supervising authors are listed last. I have bolded my HQP.

Refereed Journal Articles: All three below were invited articles**.**

1. Miyaoku, K., Tang, A., and Fels, S. (2007). C-Band: A Ring Tag System Using A Color Pattern Code. *Information Processing Society of Japan Journal 48*(3), 1361-1371.
2. Jeffrey, P.**,** Blackstock, M., Finke, M., Tang, A., Lea R., Deutscher, M., Miyaoku, K. (2007). Chasing the Fugitive on Campus: Designing a Location-based Game for Collaborative Play. *Loading….* 1(1). (online journal, 14-page manuscript).
3. Tang, A., Boyle, M. and Greenberg, S. (2005). Understanding and Mitigating Display and Presence Disparity in Mixed Presence Groupware. *Journal of Research and Practice in Technology 37*(2), 71-88.

Submissions to Peer-Reviewed Conferences: CHI, CSCW, MM, UIST are top-tier conferences (acceptance rates ~20%). ECSCW, ITS, TEI and AVI are top specialized conferences for area (acceptance rates ~25-30%).

4. Chen, X., Tang, A., Boring, S., and Greenberg, S. (in submission). Body-centric interaction: using the body as an extended mobile interaction space. *In submission to CHI 2012.* (10 pages)
5. Grevet, C., Tang, A., and Mynatt, B. (in submission). Eating along together: social awareness during dinner. *In submission to CSCW 2012.* (4 pages)
6. Boring, S., Chen, X., Ledo, D., Marquart, N., Tang, A., and Greenberg, S. (in submission). Fat thumb: using contact size for single-handed mobile interaction. *In submission to CHI 2012.* (10 pages)
7. **Perteneder, F., Rendl, C.**, Walny, J., Brosz, Tang, A., Carpendale, S., and Haller, M. (in submission). Idea playground: when brainstorming is not enough. *In submission to CHI 2012*. (10 pages)
8. Reilly, D., Tang, A., Wu, A., and Edwards, W. K. (in submission). Shifting viewpoints moving furniture: physical layout and the cross-reality project room. *In submission to CSCW 2012.* (10 pages)
9. Tang, A., **Massey, J.**, Reilly, D., Wong, N., and Edwards, W. K. (in submission). Verbal coordination in first person shooter games. *In submission to CSCW 2012.* (4 pages)
10. Tang, A., and Boring, S. (in submission). EpicPlay: selecting video highlights for sporting events using twitter. *In submission to CHI 2012.* (4 pages)

Peer-Reviewed Conference Papers

11. Wu, A., Reilly, D., Tang, A., and Mazalek, A. (2011). Tangible Navigation and Object Manipulation in Virtual Environments. *ACM Tangible and Embedded Interfaces (TEI 2011)*, 37-44.
12. Tang, A., Pahud, M., Carpendale, S., and Buxton, B. (2010). VisTACO: Visualizing Tabletop Collaboration. *ACM Interactive Tabletops and Surfaces (ITS 2010)*, 29-38.
13. Neustaedter, C., Tang, A., and Judge, T.K. (2010). The Role of Community and Groupware in Geocache Creation and Maintenance. *ACM CHI 2010,* 1757-1766.
14. Tang, A., Pahud, M., Inkpen, K. M., Benko, H., Tang, J. C., and Buxton, W. (2010). Three's Company: Understanding Communication Channels in Three-way Distributed Collaboration. *ACM CSCW 2010*, 271-280. Best paper nominee (<5%).
15. Wong, N., Tang, A., Livingston, I., Gutwin, C., and Mandryk R. (2009). Character Sharing in World of Warcraft. *European conference on Computer Supported Cooperative Work (ECSCW 2009)*, 343-362.
16. Tang, A., Lanir, J., Greenberg, S., and Fels, S. (2009). Supporting Transitions in Work: Informing Large Display Application Design by Understanding Whiteboard Use. *ACM GROUP 2009*, 149-158.
17. Finke, M., Tang, A., Leung, R., and Blackstock, M. (2008). Lessons Learned: Game Design for Large Public Displays. *Digital Interactive Media in Entertainment and Arts (DIMEA 2008)*, 26-33.
18. Isenberg, P., Tang, A., and Carpendale, M. S. T. (2008). Exploratory Study of Visual Information Analysis. *ACM CHI 2008,* 1217-1226.
19. Lanir, J., Booth, K. S., and Tang, A. (2008). MultiPresenter: A Presentation System for (Very) Large Display Spaces. *ACM Multimedia (MM 2008),*519-528.
20. Tang, A., Finke, M., Blackstock, M., Leung, R., Deutscher, M., and Lea, R. (2008). Designing for Bystanders: Reflections on Building a Public Digital Forum. *ACM CHI 2008*, 879-882.
21. Tang, A., Greenberg, S., and Fels, S. (2008). Exploring Video Streams using Slit-Tear Visualizations. *ACM Advanced Visual Interfaces (AVI 2008),* 191-198.
22. Miyaoku, K., Tang, A., and Fels, S. (2007). C-Band: A Flexible Ring Tag System for Camera-Based User Interface. *HCI International (HCII 2007),* 320-328.
23. Shoemaker, G., Tang, A., and Booth, K. S. (2007). Shadow Reaching: A New Perspective on Interaction for Large Wall Displays. *ACM UIST 2007,* 53-56.

24. Fels, S., **Hausch, R.**, and Tang, A. (2006). Investigation of Haptic Feedback in the Driver Seat. *IEEE Intelligent Transportation Systems 2006*, 584-589.
25. Miyaoku, K., Tang, A., and Fels, S. (2006). C-Band: A Flexible Color Ring Tag System. *Interaction 2006*, 1-8.
26. **Siu, N.,** Iverson, L., and Tang, A. (2006). Go with the Flow: Email Awareness and Task Management. *ACM CSCW 2006*, 441-450.
27. Tang, A., Neustaedter, C., and Greenberg, S. (2006). VideoArms: Embodiments for Mixed Presence Groupware. *British HCI Conference 2006,* 85-102.
28. Tang, A., Tory, M., Po, B., Neumann, P., and Carpendale, M. S. T. (2006). Collaborative Coupling over Tabletop Displays. *ACM CHI 2006*, 1181-1190.
29. Kruger, R., Carpendale, M.S.T, Scott, S. D., and Tang, A. (2005). Fluid Orientation on a Tabletop Display: Integrating Rotation and Translation. *ACM CHI 2005*, 601-610.
30. Tang, A., McLachlan, P., Lowe, K., Saka, C. R., and MacLean, K. (2005). Perceiving Ordinal Data Haptically Under Workload. *ACM Int'l Conference on Multimodal Interfaces (ICMI 2005)*, 317-324. *Best paper nominee (<5%).*

Refereed Conference Videos: Video publications in the field of HCI are refereed with an acceptance rate around 50-75%. However, for interactive systems, they are important for demonstrating functionality.

31. Tang, A., Greenberg, S., and Fels, S. (2009). Exploring Video Streams Using Slit-Tear Visualizations. *ACM CHI 2009*. *Best research video nominee*.
32. Tang, A., Pattison, E. and Greenberg, S. (2005). DartMail: Digital Information Transfer through Physical Surrogates. *European conference on Computer Supported Cooperative Work 2005*.

Other Refereed Contributions: Doctoral colloquia are forums for established PhD students to meet with and discuss research with experienced researchers and practitioners.

33. Tang A. (2006). Surface Use in Meeting Room Collaboration. *ACM CSCW 2006 Doctoral Colloquium.* ACM.

Workshop Organization: Workshops bring together a community with a common research interest.

34. Judge, T., Neustaedter, C., Tang, A. and Harrison, S. (2010). Bridging the Gap: Moving from Contextual Analysis to Design. *Workshop at ACM CHI 2010.*

Theses

35. Tang, A. (2010). Understanding and Supporting Transitions with Large Display Applications. Ph.D. Thesis. University of British Columbia, Vancouver, BC. May, 2010.
36. Tang, A. (2005). Embodiments in Mixed Presence Groupware. M.Sc. Thesis. University of Calgary, Calgary, AB. February, 2005.

Selected Workshop Papers: Generally lightly reviewed.

37. Sundaresan, S., Feamster, N., Teixeria, R., Tang, A., Edwards, W. K., Grinter, R. E., Chetty, M, and de Donato, W. Helping Users Shop for ISPs with Internet Nutrition Labels. *ACM SIGCOMM 2011 Workshop: Home Networks.* Organized by: Keshav, S., Liebeherr, J.
38. Reilly, D., Tang, A., Wu, A., Echenique, A., **Massey, J.,** Mathiasen, N.**,** Mazalek, A., and Edwards, W. K. (2011) Organic UIs and Cross-Reality Spaces. *TEI 2011 Workshop: Organic User Interfaces (OUI).* Organized by Girouard, A., Vertegaal, R., and Poupyrev, I.
39. Lanir, J., Booth, K. S., and Tang, A. (2010). Enabling Student Control of a Classroom's Shared Screen. *ACM CHI 2010 Workshop on Next Generation of HCI and Education: Workshop on UI Technology and Educational Pedagogy*. Organized by Tse, E., Schöning, J., Rogers, Y., Shen, C., and Morrison, G.

40. Tang, A. and Fels, S. (2008). Four Lessons from Traditional MDEs. *ACM CSCW 2008 Workshop on Beyond the Laboratory: Supporting Authentic Collaboration with Multiple Displays*. Organized by Biehl, J., Golovchinsky, G., and Lyons, K.
41. Tang, A. and Greenberg, S. (2005). Supporting Awareness in Mixed Presence Groupware. *ACM CHI 2005 Workshop on Awareness Systems: Known Results, Theory, Concepts and Future Challenges*. Organized by Markopoulos, P., de Ruyter, B., and Mackay, W.

3. Other Evidence of Impact and Contributions

Invited Lectures

43. Ubiquitous collaboration. *Invited Lecture*. University of Calgary. January 5, 2011.
44. Tabletop collaboration. *Guest Lecture for Mobile and Ubiquitous Computing CS7470*. Taught by Gregory Abowd and Thad Starner. Georgia Institute of Technology. October 28, 2010.
45. From Traditional Surfaces to Interactive Displays: Informing Large Display Application Design by Understanding Traditional Surface Use. *Guest Lecture at FX PAL*. Hosted by Gene Golovchinsky. February 20, 2009.
46. Mixed presence groupware: Sharing a visual workspace with distributed teams. *Challenging Groupware: Emerging configurations for distributed interactions*. Organized by Dylan Tutt and Michael Fraser. Commonwealth Club, London, UK. February 12, 2008.
47. How and why wall and table displays will be used. *MAGIC Workshop on Large Displays.* Organized by Mattias Finke and Rodger Lea. University of British Columbia, Vancouver, BC. March 29, 2007.

Selected Scholarships

I have been a recipient of several major scholarships throughout my graduate and undergraduate career.

1. *NSERC Post-Doctoral Fellowship*, 2009, for research excellence; national.
2. *NSERC Post-Graduate Scholarship-D*, 2005, for research excellence and potential; national.
3. *NSERC Post-Graduate Scholarship-M***,** 2003, for research potential and academic excellence; national.
4. *Pacific Century Graduate Scholarship***,** 2007, for research excellence and potential; institutional.

Selected Awards

My work has received best paper nominations, and other projects have received recognition.

1. *ACM Conference on Computer Supported Cooperative Work*, 2010, best paper nominee.
2. *ACM Interactive Tabletops & Surfaces Application Design Contest*, 2009, winner.
3. *SIGCHI Conference on Human Factors in Computing Systems*, 2009, best research video nominee.
4. *ACM International Conference on Multimodal Interfaces*, 2005, best paper.

Professional Activities: Program Committees

I actively participate in the program committee for conferences in my field to help enhance those communities. ITS is the top specialized conference in my research area.

1. 2011, 2010—ACM Interactive Tabletops & Surfaces (ITS)
2. 2011—ACM Interactive Tabletops & Surfaces (ITS): Posters Co-Chair
3. 2011—Personal Public Displays (PPD)
4. 2011—CRIWG Conference on Collaboration Technology
5. 2011, 2010—SIGCHI Conference on Human Factors in Computing Systems (CHI): Media Showcase
6. 2009—ACM SIGCHI Conference on Human Factors in Computing Systems: Works-in-Progress

Professional Activities: Organising Committees

1. 2011—SIGCHI Conference on Human Factors in Computing Systems (CHI): Posters Chair
2. 2007—ACM Conference on Supporting Group Work (GROUP): Web & Publicity Co-Chair

Professional Activities: Review Committees

I am a regular reviewer for many international conference and journal submissions a year. (currently: ~20 manuscripts a year.)

1. 2004-2011—SIGCHI Conference on Human Factors in Computing Systems (CHI)
2. 2006-2012—ACM Conference on Computer Supported Cooperative Work (CSCW)
3. 2008,2009—ACM Conference on Interactive Tabletops and Surfaces (ITS)

4.-18. 2005-2012—Various (UIST; UBICOMP; TEI; HCII; ICMI; IEEE CG&A; BCS-HCI; Interacting with Computers; IJHCS, InfoVis, GI; NIME; GROUP; 3DUI)

4. Contributions to Training of HQP

My multi-disciplinary research focus in HCI and emphasis on mentorship provides an excellent training ground for HQP. Even though I have only recently been employed as a professor, I have already had success training HQP in both official and unofficial capacities. HQP training in HCI requires a broad set of skills, which I nurture in my students. In particular, it asks them to be good observers of human activity (for requirements gathering and evaluation of interaction techniques/applications), as well as excellent infrastructure and tool builders (we often push the boundaries of interface devices and technologies). This latter requirement asks that they be well-versed (or become well-versed) in the application of computer vision, computer networking, and distributed programming. Depending on the project, I aim to provide my students with a subset of these skills, but the goal is always to push their boundaries so that they both learn and apply a variety of methodologies from other fields.

Although I have only recently started as a faculty member (July 2011), I have already established a small research team. This research team is already engaged in projects that relate to the themes outlined in this proposal. My current and past students include the following:

1. **Matthew Dunlap**, 2011-present, MSc student, University of Calgary – co-supervised with Dr Saul Greenberg. Dunlap is exploring the use of mobile devices for data foraging and crowd-sourced validation.
2. **Florian Perteneder**, 2011-present, Research intern, University of Calgary – co-supervised with Dr Sheelagh Carpendale. Perteneder's work explores the design of large scale digital workrooms (pertinent to the first major theme of this proposal) for creativity. The environment supports pen-based interaction, as well as integration with content captured asynchronously and remotely. *This work has resulted in a joint submission to the ACM SIGCHI CHI Conference* [7].
3. **Christian Rendl**, 2011-present, Research intern, University of Calgary – co-supervised with Dr Sheelagh Carpendale. Rendl has designed a system to support mathematics lectures on multiple large displays.
4. **Bon Adriel; Alex Chan; Anthony Tam**, 2011-present, Undergrad research assistants, University of Calgary – co-supervised with Dr Sheelagh Carpendale. All three are exploring how data can be collected from mobile devices and visualized for collaborative analysis in large display environments.
5. **Jonathan Massey**, 2010-11, Undergrad research assistant, Georgia Institute of Technology. Supervision of independent research on verbal coordination in first-person shooter games. *This work resulted in a joint submission to the ACM Conference on Computer Supported Cooperative Work* [9].
6. **(Name withheld)**, 2010, PhD, Georgia Institute of Technology. Supervised the design and study of a novel interaction technique for multiple-display environments. *Resulted in a joint publication.*
7. **Clement Leung**, **Rimalda van Beurden, (Name withheld), (Name withheld),** 2008-09, Undergrad research assistants, University of British Columbia. Supervised independent projects on interaction across multiple displays, and video analysis.
8. **Nelson Siu**, 2005, MSc Student, University of British Columbia. I unofficially mentored Nelson's project on exploring how people use email to coordinate their daily activities. This work was published as [19].

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SEND ONE ORIGINAL ONLY DO NOT PHOTOCOPY

APPENDIX A
Personal Data
(Form 100)

Complete this appendix (i) if you are an applicant or co-applicant applying for the first time; (ii) if you need to update information submitted with a previous application; or (iii) if you do not hold an appointment at a Canadian postsecondary institution. For updates, include only the revised information in addition to the date, your name and your PIN.

This information will be used by NSERC primarily to contact applicants and award holders. It may also be used to identify prospective reviewers and committee members, and to generate statistics. It will not be seen or used in the adjudication process.

Date: 2013/06/15

Family name	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Tang	Anthony	AHT	**Valid** 258447

Position and complete mailing address if your primary place of employment is not a Canadian postsecondary institution or if your current mailing address is temporary

If address is temporary, indicate:

Starting date

Leaving date

Telephone number	Facsimile number	E-mail address
1 (403) 2106912		tonyt@ucalgary.ca

Telephone number (alternate)

Give an alternate telephone number only if you can be reached at that number during business hours.

Gender (completion optional): [X] Male [ ] Female

LANGUAGE CAPABILITY

English	Read [X]	Write [X]	Speak [X]
French	Read [ ]	Write [ ]	Speak [ ]

I wish to receive my correspondence: in English [X] in French [ ]

AREA(S) OF EXPERTISE

Provide a maximum of 10 key words that describe your area(s) of expertise. Use commas to separate them. If you have expertise with particular instruments and techniques, specify which one(s).

computer-supported cooperative work, ubiquitous computing, human-computer interaction

Research subject code(s)

Primary: 2710

Secondary: 2700

Appendix D (Form 100)
Consent to Provide Limited Personal Information About Highly Qualified Personnel (HQP) to NSERC

NSERC applicants are required to describe their contributions to the training or supervision of highly qualified personnel (HQP) by providing certain details about the individuals they have trained or supervised during the six years prior to their current application. HQP information must be entered on the Personal Data Form (Form 100). This information includes the trainee's name, type of HQP training (e.g., undergraduate, master's, technical etc.) and status (completed, in-progress, incomplete), years supervised or co-supervised, title of the project or thesis, and the individual's present position.

Based on the federal *Privacy Act* rules governing the collection of personal information, applicants are asked to obtain consent from the individuals they have supervised before providing personal data about them to NSERC. In seeking this consent, the NSERC applicant must inform these individuals what data will be supplied, and assure them that it will only be used by NSERC for the purpose of assessing the applicant's contribution to HQP training. To reduce seeking consent for multiple applications, applicants will only need to seek consent one time for a six-year period. If the trainee provides consent by e-mail, the response must include confirmation that they have read and agree to the text of the consent form.

When consent cannot be obtained, applicants are asked to not provide names, or other combinations of data, that would identify those supervised. However, they may still provide the type of HQP training and status, years supervised or co-supervised, a general description of the project or thesis, and a general indication of the individual's present position if known.

An example of entering HQP information on Form 100 (with and without consent):

Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Consent Received from Marie Roy				
Roy, Marie	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry in petroleum engineering	V-P (Research), Earth Analytics Inc., Calgary, Alberta
Consent Not Obtained from Marie Roy				
(name withheld)	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry	research executive in petroleum industry - western Canada

Consent Form

Name of Trainee

Applicant Information

Name: Tang, Anthony AHT

Department	Postsecondary Institution
Computer Science	Calgary

I hereby allow the above-named applicant to include limited personal data about me in grant applications submitted for consideration to NSERC for the next six years. This limited data will only include my name, type of HQP training and status, years supervised or co-supervised, title of the project or thesis and, to the best of the applicant's knowledge, my position title and company or organization at the time the application is submitted. I understand that NSERC will protect this data in accordance with the *Privacy Act*, and that it will only be used in processes that assess the applicant's contributions to the training of highly qualified personnel (HQP), including confidential peer review.

Trainee's signature _____ Date _____

Note: This form must be retained by the applicant and made available to NSERC upon request.