

Annual Report  
2010/11

Graphisme, animation et nouveaux médias



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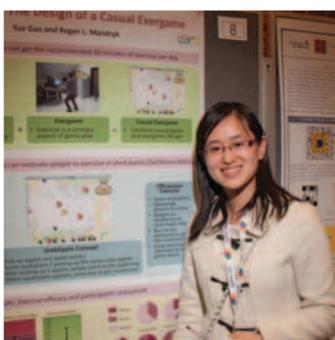
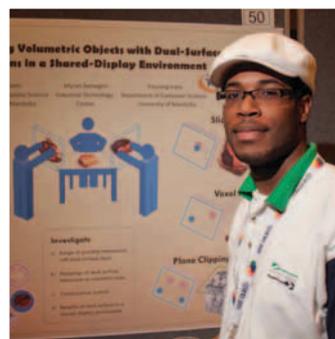
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To view the online version of the **GRAND NCE 2010/11 Annual Report**, please visit [www.grand-nce.ca/annualreport/2010](http://www.grand-nce.ca/annualreport/2010)



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Networks of Centres  
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d'excellence



## Message from the Chair of the Board & Scientific Director



C. Ian Kyer  
Chair, Board of Directors

**GRAND** has taken significant strides in the past 12 months towards meeting our goals and maturing as an organization. Although this is our second annual report, this summary of our progress is the first to address a full year of operations. Our initial report dealt with a “three-month year”. We have now been through one complete cycle of our annual workflow and have come to know our strengths and also where we need to improve to meet our challenges. In the following pages we present highlights from the past year and shine a spotlight on some of the people and activities that are making **GRAND** a great success.



Kellogg S. Booth  
Scientific Director

As we look back on the previous year, we are also looking forward to the coming year, knowing that we are approaching the midpoint in our initial five-year mandate. Planning for renewal has already begun. As we reach that mid-point we expect to see an evolution in our set of projects and network investigators. We shall also be putting additional emphasis on building bridges between our researchers and our corporate and institutional partners.

Following on the heels of our well-attended second annual conference in Vancouver, planning is well underway for the **GRAND** 2012 conference in Montréal. The annual conference is a chance for the **GRAND** community to gather together to exchange ideas, develop new partnerships, and celebrate the opportunities that the network offers.

**GRAND**'s distinct trainee strategy actively involves and engages students, postdoctoral fellows, and technicians within the network. Student-driven initiatives such as **GRAND** Cafés and activities promoted through the Graduate Student and Postdoc

Committee (GSPC) dovetail nicely with network-directed programs.

With a streamlined reporting system, the Research Management Committee (RMC) will begin its second internal assessment of network investigators and projects in October. We have been fortunate to recruit a stellar panel of international experts to serve on the International Scientific Advisory Committee (ISAC). These scholars and innovators will be providing additional feedback as part of the coming year's evaluation process.

As you read through the 2010-2011 annual report, the broad range of interests within **GRAND** may surprise you. There truly are a number of innovative thought leaders within **GRAND** and many activities are underway to find novel solutions that employ digital media to provide social, economic, and cultural benefits to Canada.

All of this activity relies on the efforts and dedication of the **GRAND** team. Without the many talented people who contribute to **GRAND**, none of this would be possible. Special thanks go to the members of the Board of Directors and the other committees that are part of the management structure, to our private and public sector partners, and of course to the researchers, students, postdoctoral fellows, and staff who are participating in **GRAND**.

- C. Ian Kyer, Chair, Board of Directors, GRAND
- Kellogg S. Booth, Scientific Director, GRAND

# CORPORATE PROFILE

**GRAND** is a research network and knowledge mobilization engine whose goal is to address complex issues in digital media and transform multidisciplinary research into user-centred solutions. **GRAND** will explore the use and application of digital media in a variety of settings including entertainment, healthcare, education, environmental sustainability, and public policy.

**GRAND** is a federally-funded **Networks of Centres of Excellence** supporting **34** research projects divided into **5** cross-pollinating themes involving more than **140** researchers and **250** students and postdoctoral fellows, at **24** universities across Canada with more than **60** industry, government, and nonprofit partners.

## Our Vision

Through technology solutions, training the next generation of talent and encouraging a robust policy environment, **GRAND** will play a pivotal role in supporting Canada's National Digital Economy Strategy.

## Our Mission

- Integrate and enhance Canada's thriving digital media sector through policy and practice
- Focus research and commercialization efforts towards solution-driven products and services
- Facilitate research across the broad spectrum of digital media by linking computer scientists and engineers with artists, designers and social scientists
- Develop opportunities for researchers and partner organizations to work together
- Teach and mentor the next generation of digital media innovators

## Our Themes

**GRAND** addresses 5 themes: New Media Challenges and Opportunities (**nMedia**); Games and Interactive Simulation (**GamSim**); Animation, Graphics and Imaging (**AnImage**); Social, Legal, Economic and Cultural Perspectives (**SocLeg**); and Enabling Technologies and Methodologies (**TechMeth**).

# ORGANIZATIONAL CHART



## Theme: nMedia

C. Middleton & D. Gromala  
New media challenges & opportunities

## Theme: GamSim

D. Szafron & R. Mandryk  
Games & interactive simulation

## Theme: AnImage

W. Heidrich & P. Poulin  
Animation, graphics & imaging

## Theme: SocLeg

S. Trosow & E. Toms  
Social, legal, economic & cultural perspectives

## Theme: TechMeth

J. Cooperstock & C. Gutwin  
Enabling technologies & methodologies



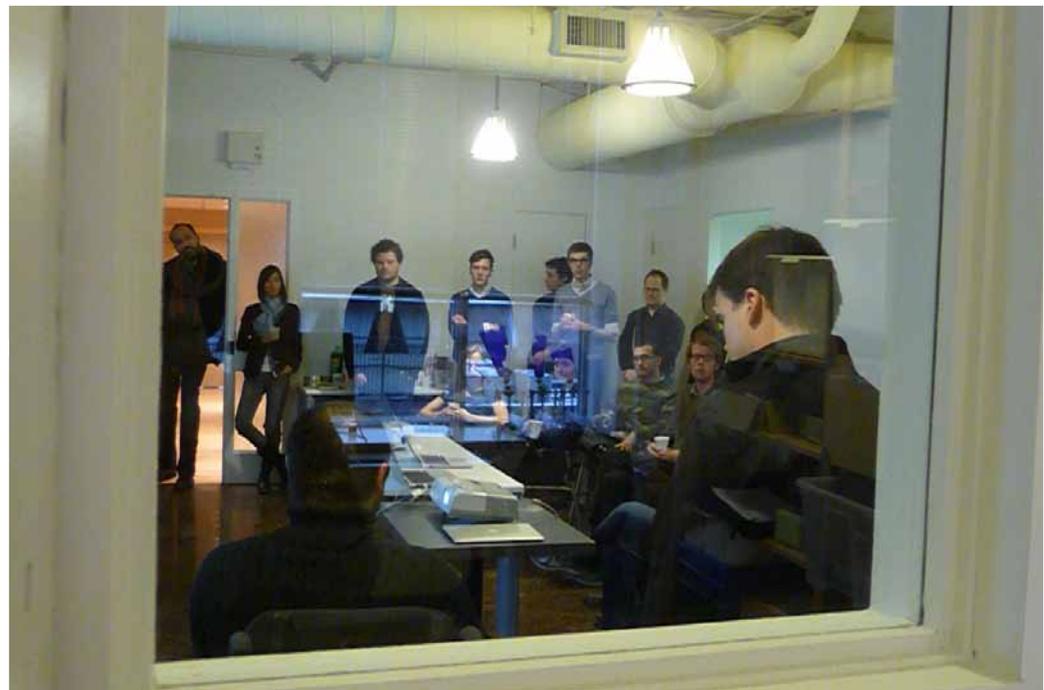


GRAND is comprised of more than 390 researchers, postdocs and students from 24 member universities located across Canada.

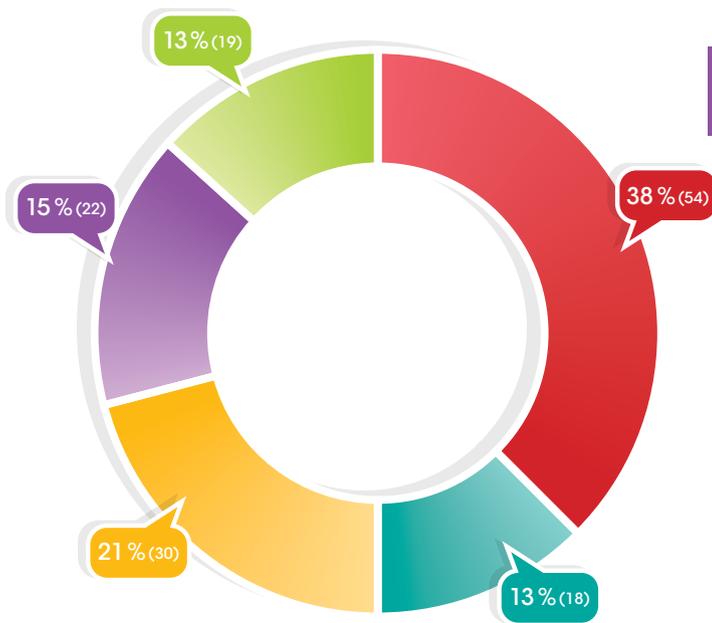
The multidisciplinary GRAND network addresses 34 projects cross-pollinated around 5 themes. GRAND projects explore the use and application of digital media in a variety of settings including entertainment, healthcare, education, environmental sustainability and public policy.

# MEMBER UNIVERSITIES MAP





## RESEARCHERS BY DISCIPLINE GROUP



|                                    | %   | actual # |
|------------------------------------|-----|----------|
| Computer Science                   | 38% | 54       |
| Other Sciences & Engineering       | 13% | 18       |
| Media, Arts & Design               | 21% | 30       |
| Other Social Sciences & Humanities | 15% | 22       |
| Information Science                | 13% | 19       |

The following discipline groups are comprised of the individual university departments, faculties and schools as listed below.

| Computer Science                            | Other Sciences & Engineering                      | Media, Arts & Design               | Other Social Sciences & Humanities | Information Science                         |
|---|---|------------------------------------|------------------------------------|---|
| Computer & Mathematical Sciences (5)        | Architecture (1)                                  | Design (5)                         | Communication Studies (2)          | Business & Information Technology (1)       |
| Computer Science (35)                       | Architecture & Landscape Architecture (1)         | Design & Computational Arts (2)    | Early Childhood Education (1)      | Business Administration (1)                 |
| Computer Science & Software Engineering (2) | Clinical Neurological Sciences (1)                | Digital Futures Initiative (3)     | Education (1)                      | Information (2)                             |
| Computing Science (9)                       | Electrical & Computer Engineering (3)             | Film (2)                           | Educational Psychology (2)         | Information & Media Studies (4)             |
| Human Interface Technology (1)              | Engineering (1)                                   | Fine Arts (1)                      | English (1)                        | Information Management (1)                  |
| School of Computing (2)                     | Exercise Science, Physical & Health Education (1) | Interactive Arts & Technology (15) | English Language & Literature (1)  | Information Technology Management (2)       |
|   | Human Kinetics (1)                                | Theatre (1)                        | Forestry (1)                       | Journalism (2)                              |
|   | Information Technology & Engineering (2)          | Theatre & Film (1)                 | Geography (2)                      | Law (2)                                     |
|   | Mechanical & Industrial Engineering (1)           |                                    | History (1)                        | Library & Information Studies (1)           |
|   | Medical Biophysics (1)                            |                                    | History & Classics (1)             | Library, Archival & Information Studies (2) |
|   | Science & Engineering (1)                         |                                    | Liberal Arts & Sciences (1)        | Management Sciences (1)                     |
|   | Software & IT Engineering (1)                     |                                    | Liberal Studies (2)                |   |
|   | Surgery and Oncology (1)                          |                                    | Philosophy (1)                     |   |
|   | Systems & Computer Engineering (1)                |                                    | Psychology (2)                     |   |
|   | Systems Design Engineering (1)                    |                                    | Sociology (2)                      |   |
|   |   |                                    | Sociology & Anthropology (1)       |   |

transitions &  
appointments



The following is a list of transitions and appointments that have occurred within the **GRAND** network over the past year, as at September 2011.

## ISAC

**GRAND** is pleased to announce the initial members of the International Scientific Advisory Committee (ISAC).

- **Steven Bathiche**, Director of Research, Applied Sciences Group, Microsoft
- **Shawn Brixey**, Associate Professor of Digital Arts & Experimental Media, University of Washington
- **Steven Collins**, Adjunct Associate Professor, School of Computer Science & Statistics, Trinity College Dublin
- **Arvind Gupta**, CEO & Scientific Director, MITACS Inc. & Professor, University of British Columbia
- **Osman Khan**, Assistant Professor, School of Art & Design, University of Michigan
- **Scott Kirsner**, Writer & Journalist
- **Harry Lewis**, Professor of Computer Science, School of Engineering & Applied Sciences, Harvard University
- **Joe Marks**, Chair, ISAC, **GRAND** & Vice President, Disney Research
- **Jacquelyn Martino**, Artist-Researcher & IBM Master Inventor, IBM T.J. Watson Research Center
- **Jennifer Preece**, Professor & Dean, College of Information Studies, University of Maryland
- **Phillipp Slusallek**, Professor for Computer Graphics & Director of the Intel Visual Computing Institute, Saarland University

## RMC

**GRAND** has been strengthened by the addition of seven new members to its Research Management Committee (RMC). The RMC plays a crucial role in providing scientific leadership to and research assessment of the network.

- **Elizabeth Churchill**, Principal Research Scientist & Manager, Internet Experiences Group, Yahoo! Research
- **Jason della Rocca**, Founder & Senior Consultant, Perimeter Partners
- **Beverly Harrison**, Principal Engineer, Lab 126
- **Natalie Jeremijenko**, Associate Professor of Visual Art, Steinhardt School of Culture Education, & Human Development, New York University
- **Gerald Karam**, Distinguished Member of Technical Staff Networking & Services Research, AT&T Labs-Research
- **Duane Szafron**, University of Alberta, Theme Leader (GamSim)
- **Brian Wyvill**, University of Victoria, Theme Leader (AnImage)

## TRANSITIONS & APPOINTMENTS CONT.

### RMC Cont.

We thank the following for their service on the RMC: Wolfgang Heidrich and Jonathan Schaeffer, who were members of the RMC in their roles as Theme Leaders, and Vic DiCiccio, Abby Goodrum and Robert Woodbury, who filled temporary roles on the RMC as members of the **GRAND** Executive Committee until the external members of the committee had been added. Each of them will continue to play a significant role in **GRAND** through his/her ongoing research and/or involvement on other committees.

### GSPC

**GRAND** is pleased to introduce the following members of the inaugural Graduate Student and Postdoctoral Committee (GSPC). Their contributions have enriched **GRAND**'s support and promotion of Highly Qualified Personnel.

- Azin Ashkan, University of Waterloo
- Lorna Boschman, Simon Fraser University, SIAT
- Susan Campbell, OCAD University
- Neesha Desai, University of Alberta
- Tyler de Witt, University of Toronto
- Alex Hayter, Ryerson University
- Salman Khalili Araghi, Université de Montréal
- Vicky McArthur, York University
- Lori McCay-Peet, Dalhousie University
- Cindy Poremba, Concordia University
- Charlotte Tang, University of British Columbia
- Brett Taylor, University of Saskatchewan
- Lola Wong, University of Western Ontario

### Researchers

We gratefully acknowledge the work and efforts of the following network investigators who have demonstrated research excellence and strong leadership skills. Though their roles in the network have changed, **GRAND** is fortunate to benefit from their continued participation.

- **Magy Seif El-Nasr**, Simon Fraser University, SIAT, former Project Lead (EOVW) and Project Co-lead (BELIEVE) is now Associate Professor, joint between Colleges of Arts, Media and Design (Creative Industries Program) and Computer and Information Sciences, Northeastern University.

### Researchers Cont.

- **Elaine Toms**, Dalhousie University, former Theme Co-lead (SocLeg) and Project Lead (NGAIA) now Chair in Information Science at the Information School and Head of the Information Retrieval Research Group, University of Sheffield.
- **Wolfgang Heidrich**, University of British Columbia, former Theme Leader (AnImage), continues as a Principal Network Investigator and Project Leader (CAPSIM).
- **Jonathan Schaeffer**, University of Alberta, former Theme Leader (GamSim), continues as a Principal Network Investigator and Project Leader (MCSIG).

GRAND gratefully recognizes the following researchers who have accepted new roles within the network:

- **Luanne Freund**, University of British Columbia, Project Lead (NGAIA) replacing Elaine Toms.
- **Jennifer Jenson**, York University, Theme Co-lead (SocLeg) replacing Elaine Toms (effective Sept 2011).
- **Wolfgang Stuerzlinger**, York University, elected Network Investigator Representative, Board of Directors.
- **Duane Szafron**, University of Alberta, Theme Leader (GamSim) replacing Jonathan Schaefer
- **Brian Wyvill**, University of Victoria, Theme Leader (AnImage) replacing Wolfgang Heidrich (effective Sept 2011).

### New University Members

In 2010-11, five academic institutions from across Canada joined **GRAND**, for a new total of 24 member universities:

- **École de technologie supérieure**, Montréal, PQ
- **Emily Carr University of Art + Design**, Vancouver, BC
- **University of Manitoba**, Winnipeg, MB
- **University of Ontario Institute of Technology**, Oshawa, ON
- **University of Ottawa**, Ottawa, ON

### Staff

We thank the following for their contribution to **GRAND**.

- **Fauve Mackenzie**, Operations Coordinator, who worked on **GRAND**'s Guideline and Policy Manuals from September 2010 to January 2011.

## 2010 APRIL

- 10 ■ CHI 2010 *Atlanta, GA*
- 17 ■ GRAND RMC Meeting *Toronto, ON*

## 2010 MAY

- 06 ■ GDC Canada *Vancouver, BC*
- 10 ■ Canada 3.0 *Stratford, ON*
- 14 ■ GRAND Board Meeting *teleconference*
- 28 ■ Congress 2010 *Montréal, QC*
- 28 ■ Digital Kung Fu Workshop *Masters of Digital Media Program, Vancouver, BC*
- 31 ■ AI/GI/CRV *Ottawa, ON*

## 2010 AUGUST

- 09 ■ University of Manitoba joins GRAND Network
- 11 ■ MITACS Focus Period on Social Networks *Vancouver, BC*
- 11 ■ NSF Research Roadmap Workshop - Interactive Systems Architecture *Jackson, WY*
- 11 ■ University of Ontario Institute of Technology joins GRAND Network
- 30 ■ GRAND Researcher, Dr. D. Gromala, appointed to National Pain Centre

## 2010 SEPTEMBER

- 07 ■ GRAND Board Meeting *teleconference*
- 15 ■ NSF/NEA Workshop - Creativity-Based STEM Education *Arlington, VA*
- 17 ■ GRAND RMC Meeting *Toronto, ON*
- 23 ■ NSF Research Roadmap Workshop - Persuasive Technologies *Burbank, CA*
- 24 ■ Connecting Talent in Digital Media *Mississauga, ON*
- 30 ■ Inaugural GRAND Annual Report (web and PDF versions)

## 2010 DECEMBER

- 01 ■ "Computer Games and Canada's Digital Economy: The Role of Universities in Promoting Innovation" submitted to national consultations on a Digital Economy Strategy
- 05 ■ NCE Annual Meeting *Ottawa, ON*
- 08 ■ Online Reporting - Submission Deadline (Individual Reports)
- 15 ■ GRAND Network strengthened by addition of new members to the Research Management Committee (RMC)
- 17 ■ GRAND RMC Meeting *Teleconference*
- 31 ■ GRAND INRIA MOU

## 2011 JANUARY

- 07 ■ Online Reporting - Submission Deadline (Project Reports)
- 19 ■ SFU SIAT Research Colloquium ("The Talking Poles: Public Art based in Citizen Design", V. Moulder and L. Boschman) *Surrey, BC*
- 21 ■ GRAND researcher Dr. R. Wakkary takes the helm as co-editor of prestigious ACM publication, interactions
- 26 ■ GRAND researcher Dr D. Fels appointed to federal Research Ethics Panel

## 2010 JUNE

- 02 ■ GRAND Annual Conference 2010 *Ottawa, ON*  
(June 2-4)
- 03 ■ GRAND Meeting of Members *Ottawa, ON*
- 05 ■ GRAND-NeuroDevNet Workshop "When Virtual Meets Reality" Joint Workshop *Ottawa, ON*
- 24 ■ NI Final Award Letters issued (2010-11)
- 25 ■ Siggraph 2010 *Los Angeles, CA*

## 2010 JULY

- 06 ■ École de technologie supérieure joins GRAND Network
- 12 ■ GRAND submits paper "Enhancing Canada's Performance in the Digital Media Economy" to national consultations on a Digital Economy Strategy
- 14 ■ University of Ottawa joins GRAND Network

## 2010 OCTOBER

- 03 ■ UIST *New York, NY*
- 04 ■ Information & Social Networks Symposium *Dalhousie University, Halifax, NS*
- 07 ■ Canadian Federation for Humanities and Social Sciences Big Thinking Lecture Series ("From Canada 2.0 to a Digital Nation", Dr. C. Middleton) *Ottawa, ON*
- 20 ■ GRAND Meeting of Members *teleconference*
- 25 ■ NSF Research Roadmap Workshop - Ultra-large-scale Interaction *Chicago, IL*
- 28 ■ Canada Research Chairs Seminar Series ("Beyond Pain", Dr. D. Gromala) *SFU Surrey, BC*
- 29 ■ GRNCTY Project begins
- 30 ■ Game Dev Camp Graduation and Exhibition (Dr. M. Seif El-Nasr, Organizer) *Surrey, BC*

## 2010 NOVEMBER

- 01 ■ CASCON 2010 *Markham, ON*
- 04 ■ iDMAa Conference *Vancouver, BC*
- 04 ■ UBC Magic Demo Day *Vancouver, BC*
- 05 ■ Emily Carr University of Art + Design joins GRAND Network
- 15 ■ GRAND Board Meeting *videoconference*
- 18 ■ DIG 2010 *London, ON*
- 18 ■ NEUROGAM Project begins

## 2011 FEBRUARY

- 04 ■ GRAND RMC Meeting *Toronto, ON*
- 05 ■ GRAND GSPC Meeting and Facility Tour *Toronto, ON*
- 19 ■ Bellairs Workshop in Computer Animation: GRAND challenges, animation & geometry *St. James, BB*
- 23 ■ GRAND Board Meeting *videoconference*
- 24 ■ PICS UBC/SFU Lecture Series ("Lecture 5 - Sustainable Systems as if People Mattered", Drs. L. Bartram, S. Sheppard, R. Woodbury) *Vancouver, BC*
- 25 ■ Western Economic Diversification Canada (WD) Funding Agreement

## 2011 MARCH

- 01 ■ Planning for the GRAND 2011 Conference ramps up
- 01 ■ GRAND International Scientific Advisory Committee (ISAC) expansion plans nearing conclusion
- 08 ■ Sustainable laneway home, SFU West House, put to work as a living laboratory and evolving technology research space
- 24 ■ University of Waterloo Distinguished Lecture Series (Dr. J. Marks, GRAND ISAC Chair) *Waterloo, ON*
- 29 ■ PNI Interim Awards Issued (2011-12)

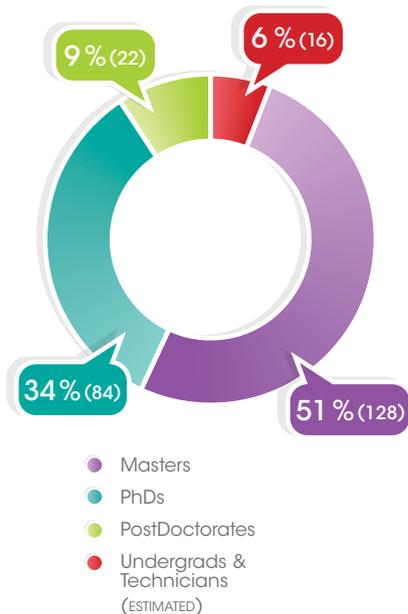


featuring

delivering hqp  
project profiles  
collaborations

recommended reads & views

HQP: BY CATEGORY



GRAND's Training Program attracts, develops and retains outstanding Highly Qualified Personnel (HQP). GRAND provides students and postdoctoral fellows access to a unique research environment in exciting new research areas within new media, animation and games. Mentored by some of the best researchers in the world and through ongoing interaction with industry partners, HQP develop highly marketable skills in a broad range of areas including IT, engineering, digital media and communications.

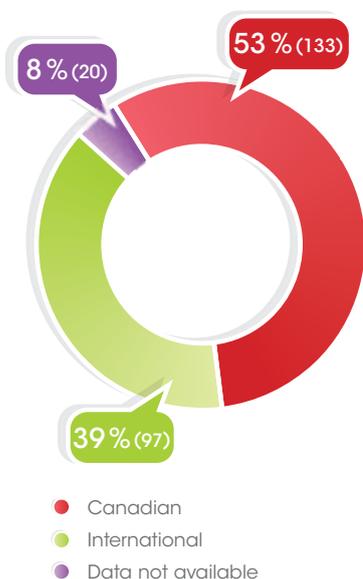
## HQP By Numbers

GRAND's Highly Qualified Personnel consists of 250 postdoctoral fellows, PhD, masters and undergraduate students as well as research technicians. In addition to a healthy balance of HQP at various points in their academic careers, GRAND also benefits from a talented mix of Canadian and International students. See graphs for percentage breakdowns.

## HQP Engagement— A Two Way Street

Engagement with and by Highly Qualified Personnel (HQP) continues to be one of the highest priority activities for GRAND NCE. Postdocs and students appreciate being invited to participate at all levels within the network, and they are actively seeking ways to play an even larger role in this dynamic network culture.

HQP: CANADIAN & INTERNATIONAL

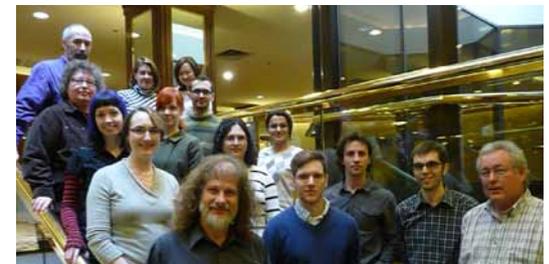


## GSPC—Planning Meeting and Facility Tour

In February 2011, the 12-member Graduate Student and Postdoctoral Committee (GSPC) gathered in Toronto for an intensive planning workshop with GRAND executives. GSPC members were selected from across the country and represent the diverse disciplines within GRAND.

To make the most of the trip, the GSPC workshop was preceded by a one-day tour of the three local downtown universities. More than 50 students and faculty from OCAD University, Ryerson University, and the University of Toronto participated. Research presentations, lab visits and demonstrations were followed by informal networking time. The event created an invaluable opportunity for GRAND HQP to get to know each other and each other's research.

The following day, the GSPC convened for an intensive feedback and planning session with members of the network management team. Among the many agenda items, two initiatives in particular were discussed at length and subsequently set into motion.



### GSPC Recommendations — Dedicated Student Track and GRAND Cafés

The GSPC strongly advocated for the addition of a dedicated student session at **GRAND** 2011. The resulting Works in Progress (WIPs) track was well-organized, well-attended, and an unqualified success.

The WIP track, competitively limited to 30 presentations, was organized by two student co-chairs and their 10-person team of associate chairs.

All **GRAND** HQP were invited to submit a WIP paper. More than 100 students representing all 34 **GRAND** projects participated in the “peer review” with each student peer reviewing at least three WIP submissions, often from different disciplines.

Feedback from a cross section of HQP who participated was extremely positive. Recurring comments included top marks for the WIP review process and how it was conducted according to high academic standards. For many, it was their first experience acting as a reviewer, an activity they were interested in pursuing to broaden their research skills. For all, it provided a valuable experience to add to their resumes.

**GRAND** Cafés are the second major initiative born out of the GSPC planning session. **GRAND** Cafés are HQP-driven regional events where students and postdocs can meet, network and learn about each other and their respective **GRAND** projects.

The agenda of each Café is determined by the student organizing committee in order to reflect the needs of the local group. Brainstorming exercises, guest speakers, lab and facility tours and other interactive activities round out the day. Planning is underway for up to three such events in the coming year.

### Network-directed HQP Activities

**GRAND** applauds student-led initiatives. They contribute to the ongoing slate of network-directed activities that strive to include students at all levels. HQP are involved in the progress reporting process, they are members of The Forum, and they are invited to participate in a number of workshops and symposia.

### Progress Reports

**GRAND** students and postdoctoral fellows are involved in the progress reporting function, thereby giving them a better understanding of the network’s objectives and the steps being taken to achieve them. In return, it gives them an opportunity to see the vital role they play within **GRAND**. This involvement also contributes to their training because they gain experience reporting on their individual research activities.

### The Forum

As members of the network, all HQP are listed on The Forum, **GRAND**’s invaluable intranet site. Individual profile pages list up-to-date biographical details, projects, supervisor names and publications, which are cross-linked within The Forum. The Forum is an effective and often-used networking and information-gathering tool maintained and updated by its users.



## Meeting of Minds

The **GRAND** network actively seeks opportunities for students to participate in policy-making initiatives, workshops, doctoral symposia and other events where they would both add value and receive benefit.

## Research Roadmaps

In 2010-11, HQP participated in three "Research Roadmap" workshops open to **GRAND** researchers. These policy-making initiatives canvassed ideas from research experts on targeted areas intended to shape funding for the National Science Foundation. In all three instances, (Jackson, WY, August 2010; Burbank, CA, September 2010; Chicago, IL, October 2010), **GRAND** students were invited to accompany the **GRAND** researchers who attended.

## Workshops & Symposia

Workshops and doctoral symposia are other avenues where students have an opportunity to share and gain knowledge. Often multi-disciplinary in nature, these interactive meetings provide a forum where **GRAND** students can explore and develop their research interests in an interdisciplinary environment, under the guidance of distinguished researchers.

In February, a three-day workshop held in Bel-lairs (Bahamas) brought together **GRAND** network investigators and students with other international experts in animation and geometry. Late in 2010-11, planning was underway for two doctoral symposia: the ACM CHI Doctoral

Consortium, held in May in Vancouver and the Social-Computational Systems Doctoral Symposium, held in June in Minneapolis.

*"...There's nothing like a gathering of scholars to break up old thinking patterns. Thanks for the wonderful push toward new directions!"*

– Lorna Boschman, Simon Fraser University, reflecting on her experience at the ACM CHI Doctoral Consortium.



*"As I looked around the room, my jaw dropped when I saw many of my research idols."*

– Noreen Kamal, PhD student, University of British Columbia attending the Social-Computational Workshop in Minneapolis, one of several **GRAND** supported international doctoral symposia.

...students  
have an  
opportunity  
to share  
and gain  
knowledge...



In 2010-11, GRAND increased its number of research projects from 32 to 34. The two new projects, GRNCTY and NEUROGAM, are relevant and timely additions to the network.



nMedia



SocLeg

# GRNCTY

Greenest City Conversations

GRNCTY is a two-year project examining how digital media and different modes of public engagement (“channels”) can be employed within civic discussions of issues related to sustainability. Co-funded with the Pacific Institute for Climate Solutions (PICS) ([www.pics.uvic.ca](http://www.pics.uvic.ca)), GRNCTY will develop partnerships between academia, the corporate sector and government, thereby contributing to a city-wide network for sustainability.

## GRNCTY + GC2020

GRNCTY has the potential to both integrate with and expand on the City of Vancouver’s “audacious” Greenest City mandate (GC2020) to become the greenest city in the world by 2020. An integral component of this initiative revolves around broad public engagement.

## Two-Way Discussion

New research suggests it is important to engage in two-way discussions in order to foster shared understanding and action. With the rise of new media engagement tools, the opportunities for public engagement on sustainability are ever-increasing. GRNCTY will target audiences of all ages, gender, ethnicities and neighbourhoods.

## Digital Media Engagement Tools

By using online technologies such as websites, social networks, ‘casual’ and mobile games, as well as traditional offline information kiosks and art

performances, the project aims to reach Vancouverites where they are, thus increasing and extending participation in the discussions. GRNCTY will not only create these multi-channel opportunities but the project will evaluate the effectiveness these channels have in changing behaviour.

## Evaluation, Evaluation, Evaluation

GRNCTY’s rigorous evaluation process will assess who participates, through what channels, what types of engagement they are exposed to, and, how that engagement impacts their opinions and support for collective action.

## GRNCTY Team

GRAND’s director of art and design practice, Robert Woodbury of Simon Fraser University, leads the six-researcher GRNCTY team with co-lead John Robinson of the University of British Columbia.

## Future Applications

The GRNCTY project provides an opportunity to further both theoretical and practical knowledge on collective pro-environmental behaviors and methods of public engagement, with potential future applications in other jurisdictions and at other scales.

# NEUROGAM

Employing Game Technology for the Remediation of Neurodevelopmental Disorders in Children

The NEUROGAM project was born out of the “When Virtual Meets Reality” workshop held in Ottawa on June 5, 2010, scheduled to coincide with GRAND’s first annual conference.

In this workshop, brain scientists and computer scientists from two Networks of Centres of Excellence, NeuroDevNet and GRAND respectively, came together to discuss how video game technologies could assist in the diagnosis and treatment of children with brain disorders such as cerebral palsy (CP) and fetal alcohol spectrum disorder (FASD).

## Combining Strengths

The one-day session clearly demonstrated how these two seemingly disparate research areas could combine their strengths and contribute to advances in understanding children’s neurological development.

## Dedicated Research and Funding

Following the meeting, GRAND and NeuroDevNet together committed \$500,000 to a two-year research project. The funding supports a set of sub-projects that use gaming platforms to assist children with developmental disorders. An original platform will be used to build motor skills for children with FASD. Researchers will also explore how exercise video games increase fitness and social interaction for teens with cerebral palsy.

## NCE Collaboration

This unique collaboration is a great example of how two Networks of Centres of Excellence can share knowledge and work together toward a common goal. The project also showcases a novel application of game technology used to enrich the lives of Canadian children and their families.

*“We are enthusiastic about applying video games to neuroscience research. We will not only expand our understanding of brain development, but also give children tools to improve their own learning, memory, attention, and well-being.”*

– Daniel Goldowitz,  
Scientific Director, NeuroDevNet

*“These projects demonstrate the unique and under-explored synergy between neuroscience and computer science. We are excited about using digital media technology in novel ways. It is all the more rewarding when those advances can lead to benefits in the lives of children.”*

– Kellogg S. Booth,  
Scientific Director, GRAND



Collaboration is a high priority for the **GRAND** network, both internally within project teams as well as with external partners. **GRAND** actively seeks out opportunities to promote and strengthen the network in Canada and abroad. By extending beyond its Canadian borders, the network can optimize knowledge exchange and adopt an international approach to solving common digital media challenges.

### INRIA—International Partnership

In January 2011, **GRAND** signed a Memorandum of Understanding (MOU) with INRIA ([www.inria.fr](http://www.inria.fr)), the French National Institute for Research in Computer Science and Control.

INRIA is a world-class research facility with eight centres across France working on computer graphics, animation, user-interface design and human-computer interaction. Similar to **GRAND**, INRIA engages in international activities to further its scientific research.

The MOU between **GRAND** and INRIA formalized a pre-existing relationship that resulted in a number of faculty exchanges, research projects and publications. Capitalizing on this success, the MOU represents a formal, multi-year commitment of \$20,000 to support ongoing faculty visits, joint research, published papers and industry connections.

Professor Alla Sheffer was one of the first **GRAND** researchers to benefit from the new agreement which she helped develop. As part of her sabbatical from the University of British Columbia, under the MOU, Dr. Sheffer was able to resume her collaboration with Marie-Paule Cani who leads INRIA's Evasion group.

Their research picked up where a previously published paper, coauthored by INRIA and UBC researchers, left off. They addressed the problem of efficiently augmenting coarse (otherwise known in industry circles as "fast") cloth animation with realistic wrinkles. The research outcomes of this work are of particular interest to game companies, where the ability to run full-blown simulation is limited.

Going forward, **GRAND** will continue to connect with other networks with compatible research goals.

### Western Economic Diversification Canada

Closer to home, **GRAND** pursues opportunities to leverage its network within Canada. In February 2011, **GRAND** entered into a two-year funding agreement with Western Economic Diversification Canada (WD) ([www.wd.gc.ca](http://www.wd.gc.ca)) to accelerate **GRAND**'s commercialization efforts in British Columbia, Alberta, Saskatchewan and Manitoba. The total project budget is \$649,000, of which WD will contribute up to \$399,000 (more than 60%).

The program is intended to support existing companies with technology transfer initiatives and encourage entrepreneurial start-ups from academic research. The funding will also go towards organizing events and workshops to bring together industry and academia so that they may develop more meaningful and productive relationships.



Western Economic  
Diversification Canada

Diversification de l'économie  
de l'Ouest Canada



...**GRAND**  
actively  
seeks out  
opportunities  
to promote  
and  
strengthen  
the network in  
Canada and  
abroad...



recommended  
reads & views

Members of the **GRAND** community are experts in a variety of digital media applications covering graphics, animation and new media. Here is a sampling of reports, speaking opportunities and videos reflective of the type of research conducted by **GRAND** researchers over the past year.

### Computer Games and Canada's Digital Economy: The Role of Universities in Promoting Innovation

**GRAND** researchers submitted "Computer Games and Canada's Digital Economy: The Role of Universities in Promoting Innovation" in response to the federal government's open call for input on strengthening Canada's digital economy. The report, based on 307 companies and 25 industry interviews from across the country, demonstrates clearly why the video game industry is one worth getting to know.

Sean Gouglas, Jason Della Rocca, Jennifer Jenson, Kevin Kee, Geoffrey Rockwell, Jonathan Schaeffer, Bart Simon and Ron Wakkary authored the report with funding from SSHRC (Social Sciences and Humanities Research Council of Canada).

In the report, readers learn that the video game industry represents a critical engine of digital society and represents a Canadian success story. In Canada alone, the industry is worth \$2 billion, employs 14,000 people and is the third ranked game producer in the world, after the US and Japan.

Video games are expanding into different demographics. They appeal to females, who make up 38% of the gamer population. Further, video games are branching out into mobile platforms as well as "serious" (or non-entertainment) applications in healthcare, education and environmental sustainability.

Research plays a crucial role in this industry that needs to keep up with ever-increasing consumer demands, changing demographics and the untapped potential of the mobile and serious game market. Universities are a hotbed of software solutions, consumer analysis and forward-thinking applications.

Still, there are a number of challenges, as revealed in this no-holds barred report, that stand in the way of effective industry-university relations. Conflicting work schedules, an IP disconnect, and, at times, a deep disregard for each other's interests and problems, are among the issues that need to be addressed.

Notwithstanding these not-so-inconsequential obstacles, the report goes on to say that industry and universities (especially those interviewed in this report) demonstrate a genuine desire to iron out differences, wherever possible, and to work together.

To read the full report, "Computer Games and Canada's Digital Economy: The Role of Universities in Promoting Innovation" [click here](#).

...the video  
game  
industry  
represents  
a critical  
engine of  
digital  
society...

### From Canada 2.0 to a Digital Nation

In October 2010, **GRAND** Researcher Dr. Catherine Middleton, Ryerson University, was selected to deliver the first lecture in the prestigious Big Thinking Lecture Series organized in Ottawa by the Canadian Federation for the Humanities and Social Sciences. In her presentation, "From Canada 2.0 to a Digital Nation", Dr. Middleton challenged the politicians, policy makers, media and the public in attendance to realize a bold vision for a next-generation, broadband-enabled digital society.

Starting her talk with a story demonstrating that "digital era politicians ignore technology at their peril", Dr. Middleton went on to suggest that politicians and policy makers need to better understand current technologies and their implications in order to help shape Canada's digital strategy.

Dr. Middleton drew upon statistics and narrative to outline the importance of accessible, upgraded broadband connectivity for social and economic development and she described ways in which Canada could regain its position as a worldwide digital leader.

"From Canada 2.0 to a Digital Nation" can be read [here](#).

Dr. Middleton is one of Canada's leading experts on the emerging digital economy. Her research focuses on consumer adoption of new communication technologies, with a focus on mobile devices and fixed and wireless broadband networks. She is also interested in how Canadians use (or don't use) the Internet in their daily lives.

Dr. Middleton holds dual roles in **GRAND**. She is a theme leader of nMedia (New Media Challenges and Opportunities) and a project leader of DINS (Digital Infrastructures). At Ryerson University, Dr. Middleton is an Associate Professor and holds a Canada Research Chair in Communication Technologies in the Information Society.

### Sustainable Laneway Residence Built With Latest Smart Home Technology

SFU West House is an eco-friendly, state-of-the-art sustainable laneway home serving as a living laboratory and evolving technology research space. The home showcases the latest green technology: solar panels, a smart-meter ready electrical system and a highly efficient building envelope, and it is equipped with an Adaptive Living Interface System (ALIS).

ALIS (pronounced "Alice") is of particular interest to **GRAND**, whose researchers Drs. Lyn Bartram and Robert Woodbury, along with their team at Simon Fraser University and industry suppliers VerTech Solutions and Embedded Automation, developed the multi-faceted system.

By using ALIS' in-home touch screens, one can control the home's lighting, heating and appliances. For additional convenience, the system, which is browser-based, has remote capability accessible through a mobile device.

Built-in, real-time feedback and personal milestone applications allow for an easy and entertaining way to review energy consumption goals and make necessary adjustments in order to hit pre-determined targets.

...digital era politicians ignore technology at their peril...

Another tool is the kitchen backsplash - one unlike any seen before. It is a dynamic art element that visually displays water, electricity and gas use. As consumption increases, the design glows brighter.

Ultimately, the purpose of this living experiment is to assess the efficacy of specifically designed digital tools to actively engage people to use fewer resources more efficiently. The invaluable, 'real-life' feedback garnered from the tenants currently living in SFU West House will inform and influence sustainable housing product offerings currently available in the marketplace and those in the research pipeline.

A well-attended Open House was held on March 8 to celebrate the launch. City of Vancouver Mayor Gregor Robertson joined Simon Fraser University President Andrew Petter and Lisa Coltart, Executive Director, BC Hydro Power Smart, in congratulating the SFU West House team for turning an ambitious idea into reality.

SFU West House is part of HCTSL (Human Centred Technologies for Sustainable Living), one of 34 projects within the GRAND research network.

[For more information on SFU West House click here.](#)

### TedX Talk "Is Iron Man 2 Right?"

In his Tedx Talk, "Is Iron Man 2 Right? Re-investigating 3D User Interfaces" York University Associate Professor and **GRAND** researcher Wolfgang Stuerzlinger asks whether 3D technology, the kind depicted in blockbuster movies, is even possible. He then delves into the potential and limitations of 3D technology in our everyday lives.



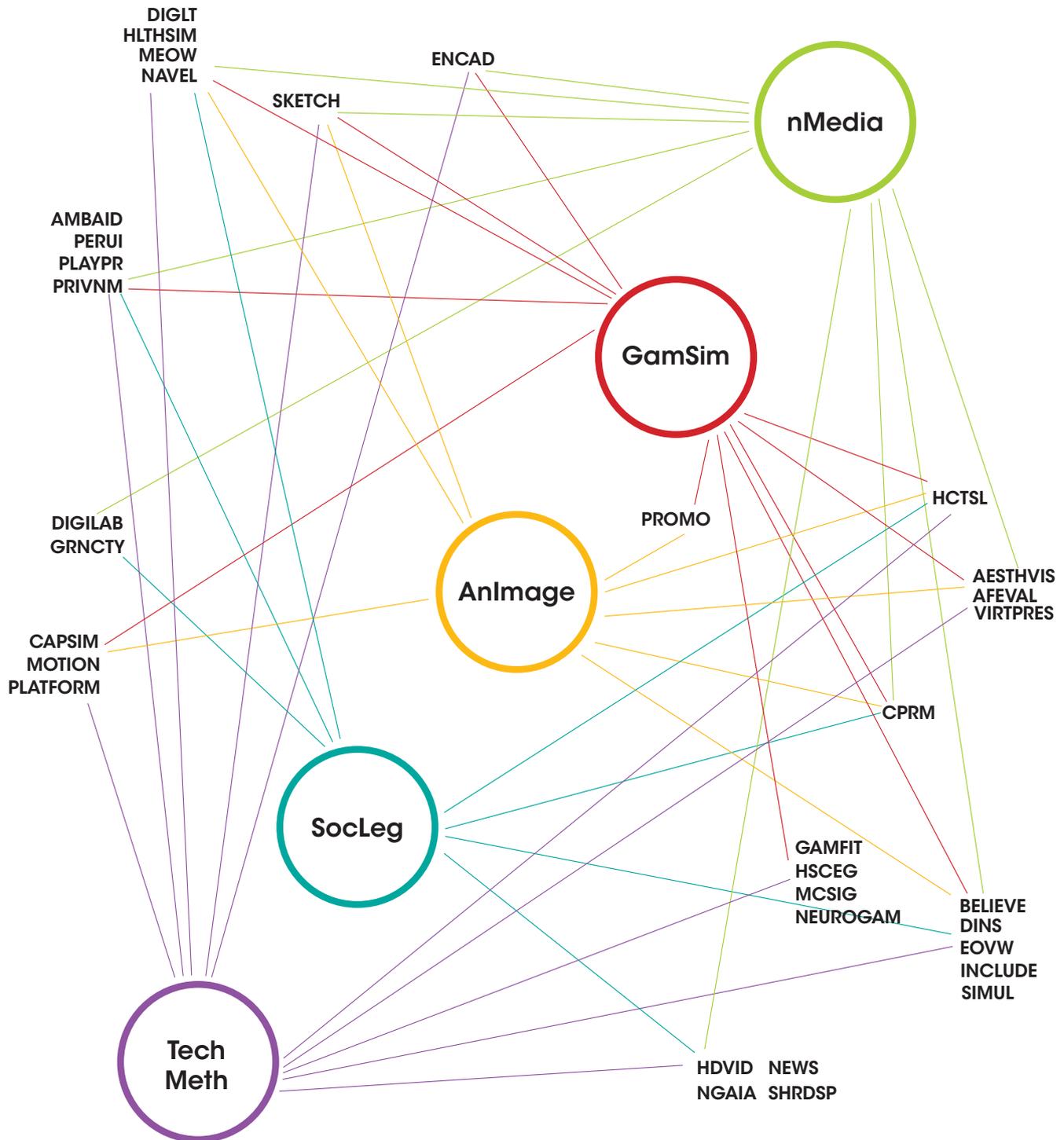
[To view Wolfgang Stuerzlinger's Tedx Talk on YouTube click here](#)

Dr. Wolfgang Stuerzlinger is a leading researcher in 3D user interfaces and virtual reality. At York University, he is an Associate Professor and a member of the interdisciplinary Centre for Vision Research (CVR). As a **GRAND** Researcher, Stuerzlinger works on three projects: ENCAD (Enabling Technologies for CAD Systems), HSCEG (High-Speed Coordination In Electronic Games) and PROMO (Procedural Modeling).



The multidisciplinary **GRAND** network addresses 34 projects cross-pollinated around 5 themes. **GRAND** projects explore the use and application of digital media in a variety of settings including entertainment, healthcare, education, environmental sustainability, and public policy.

**matrix**



## RESEARCH THEMES

### nMedia—New Media Challenges and Opportunities

Leader: Catherine Middleton

Co-leader: Diane Gromala

nMedia researchers will identify, develop, and evaluate the tools, skills, and methodologies needed to advance the next generation of new media applications and distribution channels. nMedia will also address the ever-evolving challenges and impacts these changes will have on lifestyle, culture, law and business.

### GamSim—Games and Interactive Simulation

Leader: Duane Szafron

Co-leader: Regan Mandryk

Canada is an important global leader in the computer game production industry. Beyond entertainment, “serious applications” using interactive gaming technologies have made huge strides in education, training, healthcare, and social discourse. The GamSim theme will cover a broad range of research in the construction, use, and understanding of games in three areas: Game Development Technologies, Education, and Applications.

### AnImage—Animation, Graphics, and Imaging

Leader: Wolfgang Heidrich

Co-leader: Pierre Poulin

The AnImage theme will not only tackle the question of how to create content, it will also question what to create, including ways to intuitively guide creators toward the details that matter. Areas of focus will include: Animation, Scalable Content Generation, Effective and Intelligent User Interfaces, and Human Perceptions.

### SocLeg—Social, Legal, Economic and Cultural Perspectives

Leader: Samuel Trosow

Co-leader: Elaine Toms

SocLeg will ask hard questions about how GRAND research in the areas of new media, games, graphics and animation will be relevant and beneficial to Canadians in all walks of life, and from social, cultural, economic, political and legal contexts. SocLeg will also delve into how policymakers can best adopt legal and regulatory processes to the challenges of digital media.

### TechMeth—Enabling Technologies and Methodologies

Leader: Jeremy Cooperstock

Co-leader: Carl Gutwin

The TechMeth theme will identify and develop the building blocks that will be used to invent, design, produce and evaluate the next generation of games, animation and new media technologies for use by consumers, research and industry. Broadly speaking, the TechMeth theme will concentrate on four categories of reusable knowledge: Architectures, Specific Techniques, Methods and Methodologies, and Tools.



nMedia



GamSim



AnImage



SocLeg



Tech  
Meth

## AESTHVIS

Aesthetics and Visualization

PROJECT LEADER  
**Sheelagh Carpendale**  
*University of Calgary*

PROJECT CO-LEADER  
**Lyn Bartram**  
*Simon Fraser University*

AESTHVIS will develop empirical guidelines for aesthetics in visualization so designers can produce more imaginative and innovative visualizations less constrained by technology.

## AFEVAL

Evaluating Affective User Experience

PROJECT LEADER  
**Regan Mandryk**  
*University of Saskatchewan*

PROJECT CO-LEADER  
**Jeremy Cooperstock**  
*McGill University*

AFEVAL will provide better tools for testing the emotional impact of games and other digital media products to reduce development costs.

## AMBAID

Appropriate-Modality Bases For Ambient Information Display

PROJECT LEADER  
**Karon MacLean**  
*University of British Columbia*

PROJECT CO-LEADER  
**Ravin Balakrishnan**  
*University of Toronto*

AMBAID will provide multi-sensory input and output capability for next-generation digital media applications.

## BELIEVE

Believable Characters, Behaviors and Stories in Story-based Games

PROJECT LEADER  
**Duane Szafron**  
*University of Alberta*

PROJECT CO-LEADER  
**Magy Seif El-Nasr**  
*Simon Fraser University*

BELIEVE will provide authors a library of high-level behaviour, plot patterns, and game story idiom scripts for adaption to the story at hand.

## CAPSIM

From Capture to Simulation

PROJECT LEADER  
**Wolfgang Heidrich**  
*University of British Columbia*

PROJECT CO-LEADER  
**Eugene Fiume**  
*University of Toronto*

CAPSIM will produce general methods to capturing time-varying geometry of complex physical phenomena including fluids, fire, smoke, fabric, and facial expressions to bring a new level of realism to computer graphics.

## CPRM

Confronting Pain: Redefining Mobility

PROJECT LEADER  
**Diane Gromala**  
*Simon Fraser University*

PROJECT CO-LEADER  
**Chris Shaw**  
*Simon Fraser University*

CPRM will lead to improved pain management tools and techniques for people who suffer from chronic pain.

## DIGILAB

Digital Labour: Authors, Institutions and the New Media

PROJECT LEADER  
**Samuel Trosow**  
*University of Western Ontario*

PROJECT CO-LEADER  
**Bart Simon**  
*Concordia University*

DIGILAB will inform public policy on copyright, access to information, employment standards, and historical archiving.

## DIGLT

Digital Games for Learning and Training

PROJECT LEADER  
**Cristina Conati**  
*University of British Columbia*

PROJECT CO-LEADER  
**Jennifer Jenson**  
*York University*

DIGLT will identify the components of successful instructional game design and develop guidelines for developers.

## DINS

Digital Infrastructure

PROJECT LEADER  
**Catherine Middleton**  
*Ryerson University*

PROJECT CO-LEADER  
**Barry Wellman**  
*University of Toronto*

DINS will provide a better understanding of the continued evolution of Canada as a networked society and its relationship to the global network.

# RESEARCH PROJECTS CONT.

## ENCAD

### Enabling Technologies for CAD Systems

PROJECT LEADER  
**Temy Tidafi**  
*Université de Montréal*

PROJECT CO-LEADER  
**Wolfgang Stuerzlinger**  
*York University*

ENCAD will combine constraints, simulation, histories and alternatives with established representations so CAD system developers can readily transfer to commercial practice.

## EOVW

### Developing Methods for Evaluation of Virtual Worlds & Understanding User Experiences

PROJECT LEADER  
**Magy Seif El-Nasr**  
*Simon Fraser University*

PROJECT CO-LEADER  
**Regan Mandryk**  
*University of Saskatchewan*

EOVW will use Toki World to test telemetry of user behaviour and data mining techniques for understanding user play styles and learning methods.

## GAMFIT

### Gaming for Physical Fitness

PROJECT LEADER  
**Nicholas Graham**  
*Queen's University*

PROJECT CO-LEADER  
**Regan Mandryk**  
*University of Saskatchewan*

GAMFIT will harness the popularity of computer and video gaming to maintaining and improving physical and cognitive well being.

NEW

## GRNCTY

### Greenest City Conversations

PROJECT LEADER  
**Robert Woodbury**  
*Simon Fraser University*

PROJECT CO-LEADER  
**John Robinson**  
*University of British Columbia*

GRNCTY will engage the general public with participatory media events to understand the roles media can play in forming sustainable attitudes and actions.

## HCTSL

### Human Centred Technologies for Sustainable Living

PROJECT LEADER  
**Robert Woodbury**  
*Simon Fraser University*

PROJECT CO-LEADER  
**Lyn Bartram**  
*Simon Fraser University*

HCTSL will develop interactive control and visualization systems that help building occupants make appropriate energy and resource use decisions without imposing undue technological complexity.

## HDVID

### New Interactions Around HD Video

PROJECT LEADER  
**Edward Lank**  
*University of Waterloo*

PROJECT CO-LEADER  
**Lynn Hughes**  
*Concordia University*

HDVID will conduct case studies and develop prototypes designed to understand and enhance consumers' use of digital video appliances.

## HLTHSIM

### Multi-Modal Augmented Reality for Training Healthcare Professionals

PROJECT LEADER  
**Roy Eagleson**  
*University of Western Ontario*

PROJECT CO-LEADER  
**Eleni Stroulia**  
*University of Alberta*

HLTHSIM will use virtual world scenarios to train future health professionals to better collaborate in teams and enhance clinical-diagnostic skills.

## HSCEG

### High-Speed Coordination in Electronic Games

PROJECT LEADER  
**Carl Gutwin**  
*University of Saskatchewan*

PROJECT CO-LEADER  
**Nicholas Graham**  
*Queen's University*

HSCEG will develop tools for high-speed networked games that allow true coordination amongst players.

## INCLUDE

### Accessibility of New Media for Disabled, Elderly and Vulnerable Individuals

PROJECT LEADER  
**Deborah Fels**  
*Ryerson University*

PROJECT CO-LEADER  
**Ronald Baecker**  
*University of Toronto*

INCLUDE will explore, develop and evaluate technologies to improve access to interactive media systems for people with disabilities, people isolated from others, and seniors.

## MCSIG ○○

### Monte Carlo Search in Games

PROJECT LEADER  
**Jonathan Schaeffer**  
*University of Alberta*

PROJECT CO-LEADER  
**Holger Hoos**  
*University of British Columbia*

MCSIG will improve decision making for imperfect information games and in the presence of uncertainty, infer hidden state from move sequences, and model opponents' weaknesses.

## MEOW ○○○○○

### Media Enabled Organizational Workflow

PROJECT LEADER  
**Eleni Stroulia**  
*University of Alberta*

PROJECT CO-LEADER  
**Kellogg S. Booth**  
*University of British Columbia*

MEOW will ensure that GRAND uses 'best of breed' digital media tools to manage itself.

## MOTION ○○○

### Modeling Human Motion

PROJECT LEADER  
**Michiel van de Panne**  
*University of British Columbia*

PROJECT CO-LEADER  
**Paul Kry**  
*McGill University*

MOTION will develop results for animation, games, e-commerce, new media interfaces, health care applications, and entertainment robotics.

## NAVEL ○○○○○

### Network Assessment and Validity for Effective Leadership

PROJECT LEADER  
**Barry Wellman**  
*University of Toronto*

PROJECT CO-LEADER  
**Abby Goodrum**  
*Ryerson University*

NAVEL will be the yin for project MEOW's yang, ensuring GRAND researchers network effectively with each other.

## NEW NEUROGAM ○○

### Employing Game Technology for the Remediation of Neurodevelopmental Disorders in Children

PROJECT LEADER  
**Nicholas Graham**  
*Queen's University*

PROJECT CO-LEADER  
**Bruce Gooch**  
*University of Victoria*

NEUROGAM will research the effectiveness of digital games in improving the health and lifestyles of children with cerebral palsy (CP) and fetal alcohol spectrum disorder (FASD).

## NEWS ○○○

### Access to News Media: Production, Search, Retrieval and Distribution

PROJECT LEADER  
**Abby Goodrum**  
*Ryerson University*

PROJECT CO-LEADER  
**Charles Clarke**  
*University of Waterloo*

NEWS will explore the future of news seeking behavior, news retrieval, news mining and the interplay of social media and institutional media outlets in global news flows.

## NGAIA ○○○

### Next Generation Information Appliances

PROJECT LEADER  
**Elaine Toms**  
*Dalhousie University*

PROJECT CO-LEADER  
**Charles Clarke**  
*University of Waterloo*

NGAIA will examine the advantages of a task-based rather than document-based approach to the retrieval of information for workplace decision-making.

## PERUI ○○○○

### Personalized User Interfaces in Real World Contexts

PROJECT LEADER  
**Michael Terry**  
*University of Waterloo*

PROJECT CO-LEADER  
**Joanna McGrenere**  
*University of British Columbia*

PERUI will investigate interface personalization techniques to address problems of complexity and learnability in modern interfaces.

## PLATFORM ○○○

### Platform Performance

PROJECT LEADER  
**Alexandra Fedorova**  
*Simon Fraser University*

PROJECT CO-LEADER  
**Bruce Gooch**  
*University of Victoria*

PLATFORM will relieve game developers from thread and shared state management and will provide faster parallel algorithms for geometry processing.

# RESEARCH PROJECTS CONT.

## PLAYPR

### Play and Performance Interfaces for Culture and Games

PROJECT LEADER  
**Lynn Hughes**  
*Concordia University*

PROJECT CO-LEADER  
**Ron Wakkary**  
*Simon Fraser University*

PLAYPR will integrate the analysis, evaluation and design of cultural and entertainment applications with the development of interfaces for play, performance, and storytelling.

## PRIVNM

### Usable Privacy and Security for New Media Environments

PROJECT LEADER  
**Robert Biddle**  
*Carleton University*

PROJECT CO-LEADER  
**Konstantin Beznosov**  
*University of British Columbia*

PRIVNM will support privacy and security in new media environments by leveraging social science research and exploring new designs and legal perspectives.

## PROMO

### Procedural Modeling

PROJECT LEADER  
**Pierre Poulin**  
*Université de Montréal*

PROJECT CO-LEADER  
**Przemyslaw Prusinkiewicz**  
*University of Calgary*

PROMO will extend the range of procedural modeling capabilities and extend it to a number of applications areas and industry uses.

## SHRDSP

### Understanding Roles and Rules for Shared Display Environments

PROJECT LEADER  
**Sidney Fels**  
*University of British Columbia*

PROJECT CO-LEADER  
**Ravin Balakrishnan**  
*University of Toronto*

SHRDSP will investigate a range of computer display modalities and techniques to enhance human-human communication.

## SIMUL

### Enhanced Communication in Simulation and Training

PROJECT LEADER  
**Gerald Penn**  
*University of Toronto*

PROJECT CO-LEADER  
**Carl Gutwin**  
*University of Saskatchewan*

SIMUL will provide direct benefit to Canada's defence and aerospace technology sectors, and has civilian applications such as video gaming and voice-controlled operation.

## SKETCH

### Sketch Interfaces

PROJECT LEADER  
**Karan Singh**  
*University of Toronto*

PROJECT CO-LEADER  
**Faramarz Samavati**  
*University of Calgary*

SKETCH will design new interaction interfaces that leverage affordances of sketching to infer user intent, recognize complex gestural communication, and create 3D models and animation.

## VIRTPRES

### Enhanced Virtual Presence and Performance

PROJECT LEADER  
**Jeremy Cooperstock**  
*McGill University*

PROJECT CO-LEADER  
**Stephen Brooks**  
*Dalhousie University*

VIRTPRES will enhance the next generation of virtual presence and live performance technologies in a manner that supports the task-specific demands of communication, interaction and production.

Detailed theme and project descriptions are available at [grand-nce.ca/research](http://grand-nce.ca/research)

## Board of Directors

as of September 2011

|                       |   |   |
|-----------------------|---|---|
| Kellogg S. Booth      | Scientific Director                       | GRAND   |
| Jim Brookes           | Consultant                                | NeuroDevNet                                   |
| Sara Diamond          | President                                 | OCAD University                               |
| Vic DiCiccio          | Director, Institute for Computer Research | University of Waterloo                        |
| Kim Douglas*          | NCE Observer                              | Networks of Centres of Excellence Secretariat |
| Angus Frame           | Group Director, Digital Media             | The Globe & Mail                              |
| Abby Goodrum          | Vice President, Research,                 | Wilfrid Laurier University                    |
| John Hepburn          | Vice President, Research                  | University of British Columbia                |
| P. Thomas Jenkins     | Executive Chairman                        | Open Text                                     |
| Jason Kee             | Director, Policy & Legal Affairs          | Entertainment Software Association of Canada  |
| C. Ian Kyer (Chair)   | Counsel                                   | Fasken Martineau                              |
| David Martin          | Executive Chairman                        | Smart Technologies Inc.                       |
| Ron Price, CMA        | Vice President, Finance                   | Canada Goose Inc.                             |
| Paul Salvini          | Chief Technology Officer                  | Christie                                      |
| Adrian Sheppard*      | Network Manager                           | GRAND   |
| Gerri Sinclair        | Corporate Director/Strategic Consultant   | The Gerri Sinclair Group                      |
| Wolfgang Stuerzlinger | Network Investigator Representative       | GRAND   |

*\*non-voting members*

## NETWORK COMMUNITY CONT.

### International Scientific Advisory Committee (ISAC) as of September 2011

|                   |   |                                 |
|-------------------|---|---------------------------------|
| Steven Bathiche   | Director of Research, Applied Sciences Group                                    | Microsoft                       |
| Shawn Brixey      | Associate Professor, Digital Arts & Experimental Media                          | University of Washington        |
| Steven Collins    | Adjunct Associate Professor, School of Computer Science & Statistics            | Trinity College Dublin          |
| Arvind Gupta      | CEO & Scientific Director   | MITACS, Inc.                    |
| Osman Khan        | Assistant Professor, School of Art & Design                                     | University of Michigan          |
| Scott Kirsner     | Writer/Columnist  |                                 |
| Harry Lewis       | Professor, Computer Science, School of Engineering & Applied Sciences           | Harvard University              |
| Joe Marks (Chair) | Vice President  | Disney Research                 |
| Jacquelyn Martino | Artist - Researcher & IBM Master Inventor                                       | IBM T.J. Watson Research Center |
| Jennifer Preece   | Professor and Dean, College of Information Studies                              | University of Maryland          |
| Philipp Slusallek | Professor, Computer Graphics & Director of the Intel Visual Computing Institute | Saarland University             |

### Research Management Committee (RMC) as of September 2011

|                         |  |                     |
|-------------------------|--|---------------------|
| Kellogg S. Booth        | Scientific Director  | GRAND               |
| Elizabeth Churchill     | Principal Research Scientist and Manager, Internet Experiences Group                             | Yahoo! Research     |
| Jeremy Cooperstock      | Theme Leader (TechMeth)  | GRAND               |
| Jason della Rocca       | Founder & Senior Consultant  | Perimeter Partners  |
| Beverly Harrison        | Principal Engineer   | Lab126              |
| Natalie Jeremijenko*    | Associate Professor of Visual Art, Steinhardt School of Culture Education, and Human Development | New York University |
| Gerald Karam            | Distinguished Member of Technical Staff Networking and Services Research                         | AT&T Labs Research  |
| Gord Kurtenbach (Chair) | Director, Research   | Autodesk            |
| Catherine Middleton     | Theme Leader (nMedia)  | GRAND               |
| Duane Szafron           | Theme Leader (GamSIm)  | GRAND               |
| Samuel Trosow           | Theme Leader (SocLeg)  | GRAND               |
| Brian Wyvill            | Theme Leader (AnImage)   | GRAND               |

*\*Added after March 31, 2011*

## Graduate Student & Postdoc Committee (GSPC)

|                       |                                |         |
|-----------------------|--------------------------------|---------|
| Azin Ashkan           | University of Waterloo         | PhD     |
| Lorna Boschman        | Simon Fraser University        | PhD     |
| Susan Campbell        | OCAD University                | Masters |
| Tyler de Witt         | University of Toronto          | PhD     |
| Neesha Desai          | University of Alberta          | PhD     |
| Alex Hayter           | Ryerson University             | Masters |
| Salman Khalili Araghi | Université de Montréal         | Masters |
| Victoria McArthur     | York University                | PhD     |
| Lori McCay-Peet       | Dalhousie University           | PhD     |
| Cindy Poremba         | Concordia University           | PhD     |
| Charlotte Tang        | University of British Columbia | Postdoc |
| Brett Taylor          | University of Saskatchewan     | Masters |
| Lola Wong             | University of Western Ontario  | PhD     |

## GRAND Staff

|                  |  |
|------------------|--|
| Grace Battiston  | Director, Communications               |
| Kellogg S. Booth | Scientific Director                    |
| Brie Chauncey    | Program Assistant                      |
| Josh Miller      | IT Support                             |
| Adrian Sheppard  | Director, Operations & Network Manager |

# NETWORK COMMUNITY CONT.

## Member Universities

Carleton University  
Concordia University  
Dalhousie University  
École de technologie supérieure  
Emily Carr University of Art + Design  
McGill University  
NSCAD University  
OCAD University  
Queen's University  
Ryerson University  
Simon Fraser University  
Université de Montréal  
University of Alberta  
University of British Columbia  
University of Calgary  
University of Manitoba  
University of Ontario Institute of Technology  
University of Ottawa  
University of Saskatchewan  
University of Toronto  
University of Victoria  
University of Waterloo  
University of Western Ontario  
York University

## Principal Partners

Autodesk  
Deluxe  
Electronic Arts  
Rogers Communications Inc. /  
Rogers New Ventures  
Side Effects Software

## Partners

3D3 Solutions  
Bardel Entertainment Inc.  
Bay of Fundy EcoSystem Partnership  
BC Hydro Power Smart  
BC Innovation Council  
BioWare  
Bravo!FACT  
CAE  
Canadian Association of University Teachers  
Canadian Digital Media Network  
Canadian Film Centre  
Canadian Pain Society  
Canoe.ca  
CBC Newsworld Archive at Carleton  
University Library  
City of Vancouver  
CMLabs Simulations, Inc.  
Communications Research Centre Canada  
Coole Immersive  
Credo Interactive  
CSTAR  
Custom Prototypes  
Defence Research Development Canada  
Disney Research  
Entertainment Software Association of Canada  
Fasken Martineau  
The Globe & Mail  
Great Northern Way Campus  
gsmprjct  
HITLab  
Immersion  
in Motion  
Intel  
International Oceans Institute  
Masters of Digital Media Program  
Metranome  
Mingleverse  
MITACS  
MT Innovations Ltd.  
Museum of Anthropology  
National Film Board  
Nokia Vancouver  
Ontario Information and  
Privacy Commissioner  
Open Text  
Pain BC Society  
Pew Internet and American  
Life Project  
Pixar  
Precision Conference Solutions  
Ramius  
SAP  
Science World  
Smart Technologies  
SpongeLab  
Thought Technology  
Toronto Rehab  
TubettiWorld Games  
Vancouver ACM SIGGRAPH

## Principal Network Investigators (PNI)

|                                       |                     |
|---------------------------------------|---------------------|
| Carleton University                   | Robert Biddle       |
| Carleton University                   | David Mould         |
| Concordia University                  | Lynn Hughes         |
| Concordia University                  | Bart Simon          |
| Dalhousie University                  | Stephen Brooks      |
| Dalhousie University                  | Elaine Toms         |
| Emily Carr University of Art + Design | Maria Lantin        |
| McGill University                     | Jeremy Cooperstock  |
| McGill University                     | Paul Kry            |
| OCAD University                       | Paula Gardner       |
| Queen's University                    | Nicholas Graham     |
| Queen's University                    | Roel Vertegaal      |
| Ryerson University                    | Deborah Fels        |
| Ryerson University                    | Abby Goodrum        |
| Ryerson University                    | Catherine Middleton |
| Simon Fraser University               | Alissa Antle        |
| Simon Fraser University               | Lyn Bartram         |
| Simon Fraser University               | Alexandra Fedorova  |
| Simon Fraser University               | Diane Gromala       |
| Simon Fraser University               | Magy Seif El-Nasr   |
| Simon Fraser University               | Chris Shaw          |
| Simon Fraser University               | Ron Wakkary         |
| Simon Fraser University               | Robert Woodbury     |
| Université de Montréal                | Pierre Poulin       |
| Université de Montréal                | Temy Tidafi         |
| University of Alberta                 | Geoffrey Rockwell   |
| University of Alberta                 | Jonathan Schaeffer  |

|                                |                          |
|--------------------------------|--------------------------|
| University of Alberta          | Eleni Stroulia           |
| University of Alberta          | Duane Szafron            |
| University of British Columbia | Konstantin Beznosov      |
| University of British Columbia | Kellogg S. Booth         |
| University of British Columbia | Cristina Conati          |
| University of British Columbia | Sidney Fels              |
| University of British Columbia | Luanne Freund            |
| University of British Columbia | Wolfgang Heidrich        |
| University of British Columbia | Holger Hoos              |
| University of British Columbia | Karon MacLean            |
| University of British Columbia | Joanna McGrenere         |
| University of British Columbia | Alla Sheffer             |
| University of British Columbia | Michiel van de Panne     |
| University of Calgary          | Sheelagh Carpendale      |
| University of Calgary          | Przemyslaw Prusinkiewicz |
| University of Calgary          | Faramarz Samavati        |
| University of Saskatchewan     | Carl Gutwin              |
| University of Saskatchewan     | Regan Mandryk            |
| University of Toronto          | Ronald Baecker           |
| University of Toronto          | Ravin Balakrishnan       |
| University of Toronto          | Eugene Fiume             |
| University of Toronto          | Aaron Hertzmann          |
| University of Toronto          | Kyros Kutulakos          |
| University of Toronto          | Gerald Penn              |
| University of Toronto          | Karan Singh              |
| University of Toronto          | Barry Wellman            |
| University of Victoria         | Bruce Gooch              |

## NETWORK COMMUNITY CONT.

### Principle Network Investigators (PNI) CONT.

|                               |                   |
|-------------------------------|-------------------|
| University of Victoria        | Brian Wyvill      |
| University of Waterloo        | Charles Clarke    |
| University of Waterloo        | Edward Lank       |
| University of Waterloo        | Michael Terry     |
| University of Western Ontario | Jacquelyn Burkell |

|                               |                       |
|-------------------------------|-----------------------|
| University of Western Ontario | Roy Eagleson          |
| University of Western Ontario | Samuel Trosow         |
| York University               | Barbara Crow          |
| York University               | Jennifer Jenson       |
| York University               | Wolfgang Stuerzlinger |

### Collaborating Network Investigators (CNI)

|                                 |                 |
|---------------------------------|-----------------|
| Carleton University             | Brian Greenspan |
| Carleton University             | Gabriel Wainer  |
| Concordia University            | Jason Camlot    |
| Concordia University            | Jason Lewis     |
| Concordia University            | Lisa Lynch      |
| Concordia University            | Sudhir Mudur    |
| Concordia University            | Elena Razlogova |
| Concordia University            | Kim Sawchuk     |
| Concordia University            | Xin Wei Sha     |
| Dalhousie University            | Anatoliy Gruzd  |
| École de technologie supérieure | Eric Paquette   |
| McGill University               | Tina Piper      |
| NSCAD University                | Sam Fisher      |
| OCAD University                 | Patricio Davila |
| OCAD University                 | Kate Hartman    |
| OCAD University                 | Martha Ladly    |
| OCAD University                 | Bill Leeming    |
| OCAD University                 | Barbara Rauch   |
| OCAD University                 | Geoffrey Shea   |

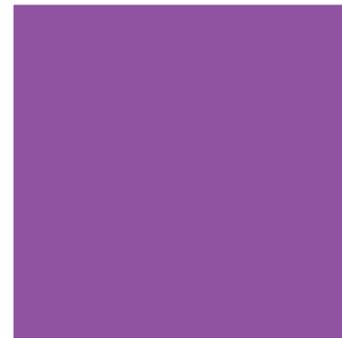
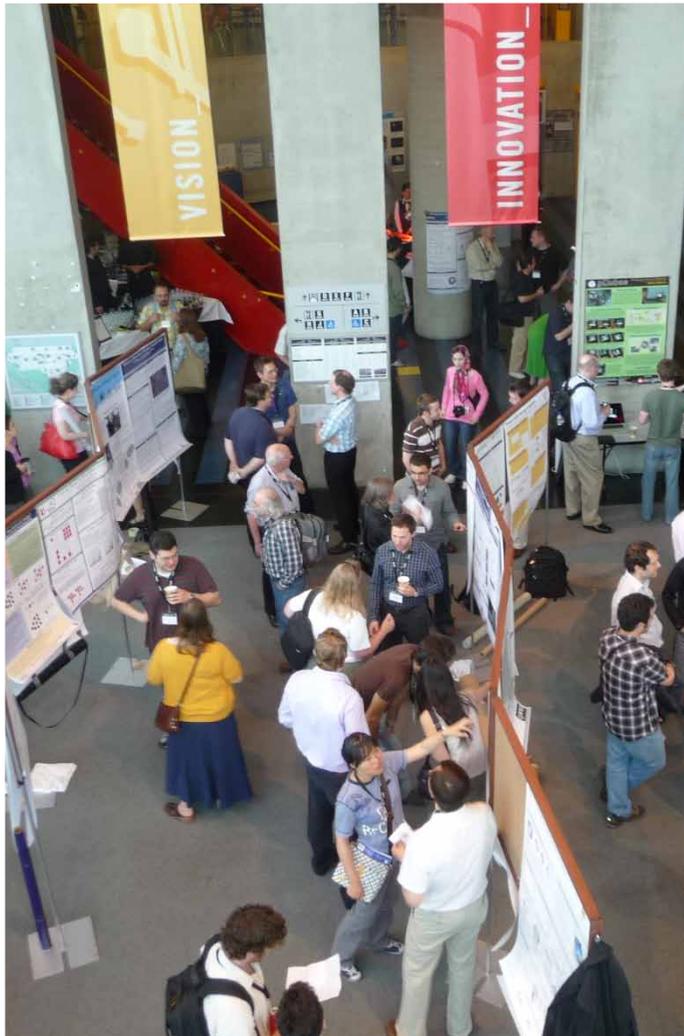
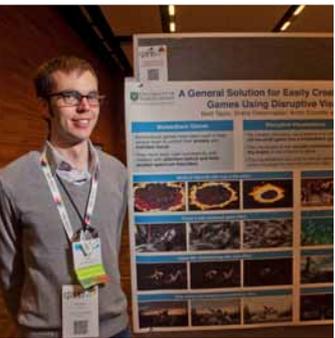
|                         |                      |
|-------------------------|----------------------|
| OCAD University         | Suzanne Stein        |
| OCAD University         | Greg Van Alstyne     |
| OCAD University         | Emma Westecott       |
| Ryerson University      | Gerd Hauck           |
| Ryerson University      | Jason Nolan          |
| Ryerson University      | Frank Russo          |
| Simon Fraser University | Belgacem Ben Youssef |
| Simon Fraser University | Jim Bizzocchi        |
| Simon Fraser University | Tom Calvert          |
| Simon Fraser University | Halil Erhan          |
| Simon Fraser University | Marek Hatala         |
| Simon Fraser University | Kate Hennessy        |
| Simon Fraser University | Carman Neustaedter   |
| Simon Fraser University | Jian Pei             |
| Simon Fraser University | Bernhard Riecke      |
| Simon Fraser University | Richard (Hao) Zhang  |
| University of Alberta   | Michael Buro         |
| University of Alberta   | Mike Carbonaro       |
| University of Alberta   | Sean Gouglas         |

## Collaborating Network Investigators (CNI) CONT.

|  |                   |                               |                         |
|--|-------------------|-------------------------------|-------------------------|
| University of Alberta                            | Sharla King       | University of Toronto         | Mark Chignell           |
| University of Alberta                            | Martin Mueller    | University of Toronto         | Alexandra Marin         |
| University of Alberta                            | Ioanis Nikolaidis | University of Toronto         | Siobhan Stevenson       |
| University of Alberta                            | Toni Samek        | University of Toronto         | Yuri Takhteyev          |
| University of British Columbia                   | Robert Bridson    | University of Victoria        | Amy Gooch               |
| University of British Columbia                   | Ray Cole          | University of Victoria        | Ryan Rhodes             |
| University of British Columbia                   | Robert Gardiner   | University of Victoria        | Melanie Tory            |
| University of British Columbia                   | Alan Kingstone    | University of Waterloo        | Mark Hancock            |
| University of British Columbia                   | Heather O'Brien   | University of Waterloo        | Craig Kaplan            |
| University of British Columbia                   | John Robinson     | University of Waterloo        | George Labahn           |
| University of British Columbia                   | Stephen Sheppard  | University of Waterloo        | Stacey Scott            |
| University of British Columbia                   | Darren Warburton  | University of Western Ontario | Sandrine de Ribaupierre |
| University of Calgary                            | Jeffrey Boyd      | University of Western Ontario | Nick Dyer-Witthford     |
| University of Manitoba                           | Andrea Bunt       | University of Western Ontario | Diana Mok               |
| University of Manitoba                           | Pourang Irani     | University of Western Ontario | Terry Peters            |
| University of Ontario<br>Institute of Technology | Bill Kapralos     | University of Western Ontario | Anabel Quan-Haase       |
| University of Ottawa                             | Jochen Lang       | University of Western Ontario | Christopher Schlachta   |
| University of Ottawa                             | Won Sook Lee      | University of Western Ontario | Matt Stahl              |
| University of Saskatchewan                       | Kevin Stanley     | York University               | Ali Kazimi              |
| University of Toronto                            | Jeremy Birnholtz  |                               |                         |

## Collaborating Network Investigators (CNI) - International

|                                       |                 |
|---------------------------------------|-----------------|
| University of Canterbury, New Zealand | Mark Billingham |
| University of Canterbury, New Zealand | Andy Cockburn   |



## INDEPENDENT AUDITOR'S REPORT

To the Directors of Graphics, Animation and New Media NCE Inc.

We have audited the financial statements of the GRAND Fund – Network Centres of Excellence (the "Fund"), which comprise the statements of financial position as at March 31, 2011 and 2010 and the statements of operations and cash flows for the year ended March 31, 2011 and the period from commencement, January 8, 2010 to March 31, 2010 and a summary of significant accounting policies and other explanatory information.

### *Management's Responsibility for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditor's Responsibility*

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Opinion*

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Fund as at March 31, 2011 and 2010, and the results of its operations and its cash flows for the year ended March 31, 2011 and the period from commencement of the Fund, January 8, 2010 to March 31, 2010 in accordance with Canadian generally accepted accounting principles.



Chartered Accountants  
Vancouver, British Columbia  
August 19, 2011

# FINANCIAL STATEMENTS CONT.

## Statement of Financial Position

March 31, 2011 and 2010

|  | 2011                   | 2010               |
|--|------------------------|--------------------|
| <b>ASSETS</b>                                    |                        |                    |
| <b>Current</b>                                   |                        |                    |
| Cash - unrestricted                              | \$ 32,328              | -                  |
| Cash - restricted                                |                        |                    |
| Uncommitted                                      | 797,209                | 822,133            |
| Committed to research funding                    | -                      | 873,400            |
| Accounts receivable                              | 11,497                 | -                  |
| Research administration advances                 | 61,315                 | -                  |
| Prepaid research funding                         | 1,164,500              | -                  |
|  | <hr/> 2,066,849        | <hr/> 1,695,533    |
| <b>LIABILITIES</b>                               |                        |                    |
| <b>Current</b>                                   |                        |                    |
| Accounts payable and accrued liabilities         | 37,095                 | 32,627             |
| Research funding commitments                     | -                      | 873,400            |
| Deferred research funding contributions (Note 4) | 1,998,765              | 790,353            |
|  | <hr/> 2,035,860        | <hr/> 1,696,380    |
| <b>NET ASSETS</b>                                | <hr/> <b>\$ 30,989</b> | <hr/> <b>(847)</b> |

**Statement of Operations**

Year ended March 31, 2011 and period from commencement, January 8, 2010 to March 31, 2010

|   | 2011             | 2010             |
|---|------------------|------------------|
| <b>REVENUE</b>                                      |                  |                  |
| Contribution from Networks of Centres of Excellence | \$ 3,453,682     | 1,534,647        |
| Other contributions                                 | 71,277           | -                |
|   | <b>3,524,959</b> | <b>1,534,647</b> |
| <b>EXPENDITURES</b>                                 |                  |                  |
| Events  | 138,866          | 1,892            |
| Professional fees                                   | 20,961           | 19,044           |
| Administration                                      | 121,172          | 8,109            |
| Research funding grants (Note 3)                    | 2,808,674        | 1,430,000        |
| Salaries and benefits                               | 263,911          | 75,861           |
| Travel  | 139,539          | 588              |
|   | <b>3,493,123</b> | <b>1,535,494</b> |
| <b>INCREASE (DECREASE) IN NET ASSETS</b>            | <b>31,836</b>    | <b>(847)</b>     |
| <b>NET ASSETS, BEGINNING OF PERIOD</b>              | <b>(847)</b>     | <b>-</b>         |
| <b>NET ASSETS, END OF PERIOD</b>                    | <b>\$ 30,989</b> | <b>(847)</b>     |

# FINANCIAL STATEMENTS CONT.

## Statement of Cashflows

Year ended March 31, 2011 and period from commencement, January 8, 2010 to March 31, 2010

|  | 2011              | 2010             |
|--|-------------------|------------------|
| <b>Cash provided by (used in)</b>                    |                   |                  |
| <b>Operating activities</b>                          |                   |                  |
| Cash received from Networks of Centres of Excellence | \$ 4,650,000      | 2,325,000        |
| Cash received from host university                   | 50,000            | -                |
| Cash received from other sources                     | 21,875            | -                |
| Cash disbursed for research funding grants           | (4,846,574)       | (556,600)        |
| Cash disbursed for administration and events         | (741,297)         | (72,867)         |
| <b>INCREASE (DECREASE) IN CASH</b>                   | <b>(865,996)</b>  | <b>1,695,533</b> |
| <b>NET ASSETS, BEGINNING OF PERIOD</b>               | <b>1,695,533</b>  | <b>-</b>         |
| <b>NET ASSETS, END OF PERIOD</b>                     | <b>\$ 829,537</b> | <b>1,695,533</b> |
| <b>Cash Composed of</b>                              |                   |                  |
| Unrestricted cash                                    | \$ 32,328         | -                |
| Restricted cash                                      | 797,209           | 1,695,533        |
|  | <b>\$ 829,537</b> | <b>1,695,533</b> |

March 31, 2011

## 1. OPERATIONS

The Networks of Centres of Excellence Program (the "NCE") was created by the Government of Canada to mobilize Canadian research talent in the academic, private and public sectors and apply it to the task of developing the Canadian economy and improving the quality of life of Canadians. The **GRAND** Fund (the "Fund") was established jointly on January 8, 2010 by the Natural Sciences and Engineering Research Council ("NSERC") and the Social Sciences and Humanities Research Council ("SSHRC") specifically for the purpose of promoting research in new media, animation and games, initially for the period ending on January 7, 2015, and Graphics, Animation and New Media NCE Inc. (the "Network") was selected to operate the Fund and the University of British Columbia ("UBC") was selected to serve as the host institution for the Network and the Fund, providing facilities and services for the Network's administrative centre and acting as the legal entity on behalf of the Fund.

The Network is a not for profit company which was incorporated under Part II of the Canada Corporations Act on December 9, 2009 to achieve the following objectives:

- Build an integrated, multi-disciplinary understanding of the technical aspects of new media, animation, and games as well as the social, legal, economic and cultural aspects.
- Foster an appreciation for the role of design in the research and development of technology.
- Develop strong end-to-end networking and partnerships among the academic, private and public sectors to enhance Canada's competitive advantage.
- Conduct world class research in new media, animation and games.
- Train highly qualified personnel and facilitate knowledge and technology exchanges that lead to commercialization and innovation.

On January 8, 2010, the Network entered into a supplemental Memorandum of Agreement with UBC, to clarify UBC's responsibilities as the host institution.

These financial statements include only the **GRAND** Fund contributions received from NCE by the Network and disbursed on behalf of NCE. During the period the Network received all of its revenue from NCE and may not be able to maintain the operations described in these financial statements should this funding be significantly reduced or ended.

## 2. SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared on the basis of Canadian accounting principles generally accepted ("GAAP") for non-profit organizations, which include the following significant policies:

### Contributions from the Networks of Centres of Excellence (NCE)

Contributions to Fund and other programs are recorded as "receipts" at the time all criteria established in the funding agreement are satisfied. The agreement for each grant or fund determines the appropriate disbursement of NCE contributions, and contributions received but not disbursed at the end of a fiscal period are recorded as "deferred" and are transferred to "receipts" when disbursed during a subsequent fiscal period.

Any contributions received and not spent when the Fund is ended are to be refunded to NCE, no later than three months of the end of the Fund.

# NOTES TO FINANCIAL STATEMENTS CONT.

## Financial Assets and Financial Liabilities

The Fund's financial assets, other than cash, and financial liabilities are classified as follows:

- Accounts receivable and contributions receivable are classified as "loans and receivables" and are measured at amortized cost.
- Accounts payable and accrued liabilities and deferred contributions are classified as "other financial liabilities" and are measured at amortized cost.

The carrying amounts of these financial assets and financial liabilities as at March 31, 2011 and 2010 approximate their fair values due primarily to their short term nature or maturities.

Transaction costs directly attributable to the acquisition or issue of a financial instrument are added to the carrying amount of the financial instrument and are amortized to operations using the effective interest rate method.

The Fund classifies and discloses fair value measurements based on a three-level hierarchy:

- Level 1 – inputs are unadjusted quoted prices in active markets for identical assets or liabilities;
- Level 2 – inputs other than quoted prices in Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3 – inputs for the asset or liability that are not based on observable market data.

## Income Taxes

The Fund is not subject to Federal or Provincial income taxes.

## Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets, liabilities and commitments at the date of the financial statements and the reported amount of revenues and expenses during the reporting periods.

Significant estimates and assumptions in these financial statements include, among others, research funding commitments and deferred research funding contributions.

Actual results could differ from the estimates and assumptions made in the preparation of these financial statements.

## Future Accounting Changes

In 2006, the Accounting Standards Board ("AcSB") of the Canadian Institute of Chartered Accountants ("CICA") ratified a strategic plan that was to result in Canadian GAAP, as used by not-for-profit organizations, evolving and being converged with International Financial Reporting Standards ("IFRS"). In December 2010, the AcSB released Part III of the CICA Handbook – Accounting, which consists of accounting standards for not-for-profit organizations. The standards will be effective January 1, 2012 and allow non-governmental not-for-profit organizations to apply accounting standards for not-for-profit organizations with a reference to standards for private enterprises where appropriate or IFRS.

The Fund has assessed the impact of these options and has decided to adopt IFRS as it will most completely and accurately reflect the Fund's operations in its financial statements. The Fund does not expect the adoption to result in any material changes in its financial statement disclosure or its operating procedures.

### 3. GRANTS TO NETWORK MEMBERS

During the year the Fund granted \$3,973,174 (2010 - \$1,430,000) of the NCE contributions to Network Members. This amount includes \$2,808,674 for the 2010-2011 award period and \$1,164,500 for the 2011-2012 award period. Of the total NCE contributions granted to Network Members, \$1,034,873 (2010 - \$1,430,000) was reported as unspent at the end of the fiscal year. These amounts are expected to be spent by the Network Members during the next fiscal year.

### 4. CONTRIBUTIONS

#### Networks of Centres of Excellence

In January 2010 NSERC and SSHRC agreed to contribute funding of \$23,250,000 for the Fund for five years to January 7, 2015. The funding is to be received according to the following schedule:

| Fiscal Year   | NSERC         | SSHRC        | Total         |
|---------------|---------------|--------------|---------------|
| 2009-2010     | \$ 1,860,000  | \$465,000    | \$ 2,325,000  |
| 2010-2011     | 3,595,000     | 1,055,000    | 4,650,000     |
| 2011-2012     | 2,800,000     | 1,850,000    | 4,650,000     |
| 2012-2013     | 2,800,000     | 1,850,000    | 4,650,000     |
| 2013-2014     | 2,800,000     | 1,850,000    | 4,650,000     |
| 2014-2015     | 1,400,000     | 925,000      | 2,325,000     |
| Total Funding | \$ 15,255,000 | \$ 7,995,000 | \$ 23,250,000 |

The annual contributions of will be released subject to:

- Parliamentary appropriation of the funds in each fiscal period
- Satisfactory progress, as determined by the NCE Secretariat, towards predetermined milestones for the NCE Network
- Continuing eligibility of the NCE Network Host and the NCE Network, and
- Compliance with the terms of the funding agreement

When all the conditions for the release of contributions to the Fund committed by, but not yet received from, NCE under this agreement have been met, the contributions to be received will be recorded as "Research contributions receivable" and "Deferred research project contributions" on the statement of net assets of the Fund.

#### Western Economic Diversification

The Fund entered into an agreement with Western Economic Diversification Canada ("WED") on February 25, 2011, which was amended on March 28, 2011, to receive the following funding:

| Fiscal Year   | Total      |
|---------------|------------|
| 2011-2012     | \$ 4,266   |
| 2012-2013     | 163,000    |
| 2013-2014     | 231,734    |
| Total Funding | \$ 399,000 |

This funding is from the Western Diversification Program ("WDP") for small and medium enterprise outreach, commercialization and technology transfer and is intended to strengthen British Columbia and Western Canada's digital media cluster. The funding will be for the reimbursement of 64% of directly related project costs.

# NOTES TO FINANCIAL STATEMENTS CONT.

## 5. CAPITAL MANAGEMENT

The Fund's capital management objectives are to meet the requirements of the funders providing grants for research and to safeguard its ability to continue as a going concern in order to pursue the advancement of graphics, animation and new media. The Fund considers its capital for these purposes to be its available received and committed grants, as disclosed on the statement of net assets. The Fund manages its capital by preparing annual expenditure budgets, which are revised periodically based on current commitments and available funds, and potential additional funding which it may be actively pursuing. Annual budgets and budgets which are materially updated during the year are approved by the Board of Directors.

## 6. FINANCIAL RISK

The Fund's activities expose it to a variety of financial risks, which include credit risk and liquidity risk. The Fund's risk management program focuses on the unpredictability of financial markets and seeks to minimize the risk to its assets and its ability to meet its mandate.

### (a) Credit risk

Credit risk is the risk of financial loss to the organization if a counterparty to a financial instrument fails to meet its contractual obligations, and arises mainly from its cash. The organization limits its exposure to credit risk arising from these instruments by only depositing cash in major Canadian financial institutions and holding only financial instruments of institutions with the highest credit rating.

### (b) Liquidity risk

Liquidity risk is the risk that the Fund will not be able to meet its financial obligations as they fall due. Accounts payable and accrued liabilities are due within the current operating period. The Fund manages this risk through its capital management programs (Note 5).

The Fund does not hold financial instruments which subject it to market risks.

## 7. COMPARATIVE FIGURES

The comparative figures have been reclassified where necessary in order to conform to the presentation used in the current year.

Photo Credit:

Thank you to Bill Buxton for the use of photos from his  
Collection of Interactive Devices & to NeuroDevNet.

**GRAND NCE**

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FMS Creative Inc.

