



# Matthew Brehmer

p. 1 / 2

Data Visualization Researcher  
PhD, MSc, BComp  
Vancouver, British Columbia

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## Research Interests

Data visualization / information visualization, human-computer interaction, cognitive science, visual analytics, task analysis, exploratory data analysis, design and evaluation methodologies.

## Education

University of British Columbia  
**Doctor of Philosophy** (Computer Science)  
Dissertation: *Why Visualization? Task Abstraction for Analysis and Design*  
Supervisory committee: Tamara Munzner (chair), Joanna McGrenere, & Ron Rensink

Vancouver, Canada  
**2011 – 2016**

**Master of Science** (Computer Science, Sub-Specialization in Human Computer Interaction)  
Thesis: *Usability and the Effects of Interruption in C-TOC: Self-Administered Cognitive Testing on a Computer*.  
Supervised by Joanna McGrenere & Claudia Jacova

**2009 – 2011**

Queen's University  
**Bachelor of Computing (Honours) with Distinction**  
Specialization in Cognitive Science with Professional Internship

Kingston, Canada  
**2004 – 2009**

## Publications

\* papers accepted

Matches, Mismatches, and Methods: Multiple-View Workflows for Energy Portfolio Analysis. <b>Brehmer</b> , Ng, Tate, & Munzner. In <i>IEEE Trans. Visualization and Computer Graphics / Proc. InfoVis</i> , 22(1). p. 449-458.	<b>2015</b> 39 / 178* (22%)
TimeLineCurator: Interactive Authoring of Visual Timelines from Unstructured Text. Fulda, <b>Brehmer</b> , & Munzner. <i>IEEE Trans. Visualization and Computer Graphics / Proc. Visual Analytics Science &amp; Technology (VAST)</i> , 22(1). p.300-309.	<b>2015</b> 31 / 149* (21%)
Overview: The Design, Adoption, and Analysis of a Visual Document Mining Tool For Investigative Journalists. <b>Brehmer</b> , Ingram, Stray, & Munzner. <i>IEEE Trans. Visualization and Computer Graphics / Proc. InfoVis</i> , 20(12). p. 2271-2280.	<b>2014</b> 45 / 196* (23%)
Visualizing Dimensionally-Reduced Data: Interviews with Analysts and a Characterization of Task Sequences. <b>Brehmer</b> , Sedlmaier, Ingram, & Munzner. <i>Proc. ACM Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV)</i> . p1-8.	<b>2014</b> 23 / 30* (77%)
Pre-Design Empiricism for Information Visualization: Scenarios, Methods, and Challenges. <b>Brehmer</b> , Carpendale, Lee, & Tory. <i>Proc. ACM Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV)</i> . p.147-151.	<b>2014</b> 23 / 30* (77%)
C-TOC (Cognitive Testing on Computer): Investigating the Usability and Validity of a Novel Self-administered Cognitive Assessment Tool in Aging and Early Dementia. Jacova, McGrenere, Lee, Wang, Le Huray, Corenblith, <b>Brehmer</b> , Tang, Hayden, Beattie, & Hsiung. <i>Alzheimer and Related Disorders</i> .	<b>2014</b>
A Multi-Level Typology of Abstract Visualization Tasks. <b>Brehmer</b> & Munzner. <i>IEEE Trans. Visualization and Computer Graphics / Proc. InfoVis</i> , 19(12). p. 2376–2385.	<b>2013</b> 38 / 152* (25%)
Investigating Interruptions in the Context of Computerised Cognitive Testing for Older Adults <b>Brehmer</b> , McGrenere, Tang, & Jacova. <i>Proc. ACM Conf. Human Factors in Computing Systems (CHI)</i> , p.2649-2658.	<b>2012</b> 370 / 1577* (23%)
The Haptic Crayola Effect: Exploring the Role of Naming in Learning Haptic Stimuli. Hwang, Maclean, <b>Brehmer</b> , Hendy, Sotirakopoulos, & Choi. <i>Proc. IEEE World Haptics Conference (WHC)</i> , p. 385-390.	<b>2011</b>



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p. 2 / 2

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## Publications (cont.)

Activate Your GAIM: A Toolkit for Input in Active Games.

2010

**Brehmer**, Graham, & Stach. Proc. ACM Academic Conference on the Future of Game Design and Technology (Future Play), p. 151-158.

2009

Classifying Input for Active Games.

Stach, Graham, Brehmer, & Hollatz. Proc. ACM Advances in Computer Entertainment (ACE), p. 379-382.

## Presentations & Posters

Visualization Task Abstraction from Multiple Perspectives.

2014

**Brehmer**. Presentation and Poster at the IEEE VIS Doctoral Colloquium.

18 / 30\*

A Tale of Two Studies: Investigating the Impact of Interruptions on Task Performance in Older Adults.

2011

**Brehmer**, Tang, McGrenere, & Jacova. Work-in-progress presentation at the GRAND NCE AGM.

## Research Community Service

### External Reviewer

IEEE VIS (InfoVis, VAST), IEEE Transactions on Visualization & Computer Graphics (TVCG)

2013 – 2016

The Eurographics Conference on Visualization (EuroVis), Sage Information Visualization

2013

ACM Transactions on Human-Computer Interaction (TOCHI)

2013 – 2016

ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)

## University Service

University of British Columbia Department of Computer Science

Vancouver, Canada

**Graduate Admissions and Recruitment Committee**

2013 – 2015

University of British Columbia Computer Science Graduate Students' Association

Vancouver, Canada

**Vice President (Social Events)**

2010 – 2011

**Graduate Student Orientation Committee**

2012

**Un-Distinguished Lecture Series Organizer**

2010 – 2011, 2012 – 2013

## Industry Experience

Microsoft Research

Redmond, USA

**Research Intern**; mentor: Bongshin Lee (neXus Group)

Summer 2015

EnerNOC (formerly Pulse Energy)

Vancouver, Canada

**Mitacs-Accelerate Graduate Research Intern**

2013 – 2014

EMC

Toronto, Canada

**User Experience Design Intern**

2007 – 2008

Killam Properties, Inc.

Halifax, Canada

**Web Developer, IT Support Staff**

2006

## Teaching Experience

University of British Columbia Department of Computer Science

Vancouver, Canada

Guest Lecturer: *Information Visualization* (CPSC 547)

2014, 2015

Guest Lecturer: *Introduction to Human Computer Interaction Methods* (CPSC 344)

2012 – 2013

Teaching Assistant: *Advanced Human Computer Interaction Methods* (CPSC 444)

2010

Teaching Assistant: *Introduction to Human Computer Interaction Methods* (CPSC 344)

2009

## Honours & Awards

University of British Columbia Department of Computer Science Student Service Award

2016

University of British Columbia Department of Computer Science Volunteering Award

2015

Mitacs-Accelerate Graduate Research Internship Program Award

2013 – 2014

Natural Sciences & Engineering Research Council of Canada (NSERC) Postgraduate Scholarship

2011 – 2014

University of British Columbia Four Year Doctoral Fellowship

2011 – 2015

University of British Columbia Department of Computer Science Merit Scholarship

2009 – 2011

Queen's University Dean's Entrance Scholarship in Computing

2004 – 2005