THE UNIVERSITY OF BRITISH COLUMBIA
Curriculum Vitae for Faculty Members

Date: June 21, 2022   Initials: TM

1.   **SURNAME:** Munzner   **FIRST NAME:** Tamara
                                       MIDDLE NAME: Macushla

2.   **DEPARTMENT/SCHOOL:** Computer Science

3.   **FACULTY:** Science

4.   **PRESENT RANK:** Professor   **SINCE:** August 2012

5.   **POST-SECONDARY EDUCATION**

(a)   Degrees

University or Institution	Degree	Subject Area	Dates
Stanford University	Ph.D.	Computer Science	Sep 1995 - Jun 2000
Stanford University	B.S.	Computer Science	Sep 1986 - Jun 1991

Title of Ph.D. Dissertation: Interactive Visualization of Large Graphs and Networks
Name of Supervisor: Pat Hanrahan

6.   **EMPLOYMENT RECORD**

(a)   Prior to coming to UBC

University, Company or Organization	Rank or Title	Dates
Compaq Systems Research Center	Research Scientist	9/00-5/02
Microsoft Research	Summer Intern	6/98-9/98
Silicon Graphics, Inc.	Part-Time Consultant and Summer Intern	3/96-6/98
The Geometry Center	Senior Technical Staff	6/92-5/95
The Geometry Center	Apprentice	6/91-6/92
Geometry Supercomputer Project	Summer Intern	6/90-9/90
ETA Systems	Summer and Part-Time Intern	6/86-9/88

Compaq SRC was formerly DEC SRC, before Digital was bought by Compaq. The Geometry Center was the short name of the NSF-funded National Science and Technology Research Center for Computation and Visualization of Geometric Structures, which existed from 1991 to 1998. It was located at the University of Minnesota. It grew out of the smaller Geometry Supercomputer Project, also funded by the NSF. ETA Systems was a supercomputer spinoff from Control Data Corporation.

(b)   At UBC

Rank or Title	Dates
Associate Head for Research and Faculty Affairs	Jul 2014 - Jul 2017
Professor	Aug 2012 - present
Associate Professor	Aug 2007 - Aug 2012
Assistant Professor	Jul 2002 - Aug 2007

(c)   Date of granting of tenure at UBC: August 2007

7.   LEAVES OF ABSENCE

(a)   From UBC

Type of Leave	Dates
Sabbatical	Jul 2018 – Jun 2019
Sabbatical	Jul 2013 – Jun 2014
Sabbatical	Jul 2008 – Jun 2009
Medical	Jan 2008 – Jun 2008

(b)   Visiting Researcher

University, Company or Organization	Position	Dates
Université de Bordeaux I	Visiting Researcher	Jun 2004 – Jul 2004
Technische Universität Berlin	Visiting Researcher	May 1995 – July 1995

8.   TEACHING

(a)   Areas of special interest and accomplishments

- **Publication of book,** *Visualization Analysis and Design* (CRC/Routledge, 2014): My book has become one of the most widely used texts in the field of visualization. It has received over 1500 citations (Google Scholar, May. 2022), has sold over 9000 copies, and is used in at least 100 courses around the world. I use it for both grad and undergrad teaching at UBC.

- **Design of CPSC 547/533C, graduate Information Visualization**: When I introduced this course in 2003 there were fewer than one dozen university offerings worldwide. The curriculum materials that I have developed for this course, including editable lecture slides and extensive additional reading lists, are all posted on the open web and have been widely adopted and adapted by many other instructors. 547 is usually the second-largest graduate course in our department, and attracts many students from other units including ECE, many life science departments, geography, and the iSchool.

- **Design of CPSC 436V, undergraduate Information Visualization**: I designed this new course to be fully flipped. To teach the theoretical material, I have created a full set of pre-class lecture videos for the theoretical material (over 500 minutes in total), followed with active learning exercises in class, and post-class foundations assignments. The programming platform (D3) is taught with a full suite of written tutorials and advanced case studies for students to work through at their own pace (checked with online quizzes), that we developed with Skylight funding. The concluding 6-week team project requires integration and synthesis of theory and practice.

- **Design of DSCI 531/532, Visualization for Data Science**: To support the Masters of Data Science (MDS) program I developed and taught two new 1-credit modules (4 weeks, 3 hrs/week). I adapted a subset of the foundational material from my CS graduate course augmented with new exercises in the R and python languages that we developed to dovetail nicely with the data science curriculum.

- **Design of JOURN 520M, Visualization for Journalists**: To support the J-School I developed a new 1.5 credit module (6 weeks, 3 hrs/weeks) for journalism master's students. I adapted foundational material from my standard graduate course, and developed a full set of exercises in the Tableau tool to make the material accessible to non-programmer journalist students without a background in data analysis.

- **Update of CPSC 314/414, Intro to Computer Graphics**: I substantially updated this course in my early years of teaching it, from 2003-2005, by integrating curricular approaches from several different strong graphics programs into the base of the previous offerings from UBC CS. Early versions of the course were purely lecture based; I introduced active learning elements starting in 2008, with think-pair-share exercises built around software demos. I continued to refine the course each year that I taught it, through 2016.

(b)   Courses Taught at UBC

Year	Session	Course Number	Name	Units	Weeks	Lecture Hrs/Week	Class Size	Student Evals
2022	Spring	CPSC 436V	Information Visualization (ugrad)	3	13	3	75	4.8
2021	Fall	CPSC 547	Information Visualization (grad)	3	13	3	33	4.6
2021	Spring	CPSC 436V	Information Visualization (ugrad)	3	13	3	77	4.67
2020	Fall	CPSC 547	Information Visualization (grad)	3	13	3	37	4.78
2020	Spring	CPSC 436V	Information Visualization (ugrad)	3	13	3	70	4.35
2019	Fall	CPSC 547	Information Visualization (grad)	3	13	3	31	4.83
2018	Spring	DSCI 532	Data Visualization I	1	4	3	43	3.6
2017	Fall	CPSC 547	Information Visualization (grad)	3	13	3	17	4.1
2017	Spring	CPSC 547	Information Visualization (grad)	3	13	3	18	4.7
2017	Spring	DSCI 532	Data Visualization II	1	4	3	21	3.0
2016	Fall	DSCI 531	Data Visualization II	1	4	3	22	3.5
2016	Fall	JRNL 520M	Visualization for Journalists	1.5	6	3	15	4.5
2016	Spring	CPSC 314	Intro to Computer Graphics	3	13	3	82	3.9
2015	Fall	JRNL 520M	Visualization for Journalists	1.5	6	3	18	4.2
2015	Fall	CPSC 547	Information Visualization (grad)	3	13	3	26	4.7
2014	Fall	CPSC 547	Information Visualization (grad)	3	13	3	19	4.8
2013	Spring	CPSC 314	Intro to Computer Graphics	3	13	3	67	4.1
2013	Fall	CPSC 213	Intro to Systems	3	13	3	71	3.9
2012	Spring	CPSC 213	Intro to Systems	3	13	3	117	3.8
2011	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	12	4.6
2010	Fall	CPSC 213	Intro to Systems	3	13	3	112	4.2
2010	Spring	CPSC 111	Intro to Programming	3	13	3	112	3.4
2010	Spring	CPSC 314	Intro to Computer Graphics	3	13	3	64	3.4
2009	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	16	4.7
2007	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	5	4.7
2007	Spring	CPSC 314	Intro to Computer Graphics	3	13	3	37	4.14
2006	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	10	4.43
2006	Spring	CPSC 111	Intro to Programming	3	13	3	76	3.58
2005	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	19	4.45
2005	Summer	CPSC 314	Intro to Computer Graphics	3	13	3	20	3.77
2005	Spring	CPSC 314	Intro to Computer Graphics	3	13	3	78	3.73
2004	Fall	CPSC 533C	Information Visualization (grad)	3	13	3	5	4.8
2004	Spring	CPSC 533C	Information Visualization (grad)	3	13	3	21	4.47
2003	Fall	CPSC 414	Intro to Computer Graphics	3	13	3	90	3.23
2003	Spring	CPSC 533C	Information Visualization (grad)	3	13	3	13	4.3

Funding for Course Development

Source	Course	Total Funds	Year(s)	PI
UBC Skylight / UBC CS	Information Visualization (436V)	$5500	2019-2020	Munzner

(c)   Students Supervised and/or Cosupervised at UBC

The start year indicates the year I began to supervise a student, not the year the student was enrolled in the program.

Postdocs Supervised

Student Name	Inst.	Year Start	Finish	Principal Supervisor	Co-Supervisor
Charles Berret	UBC	2020	cont	Tamara Munzner	
Jürgen Bernard	UBC	2019	2020	Tamara Munzner	
Michelle Borkin	UBC	2014	2015	Tamara Munzner	
Stephen Ingram	UBC	2013	2014	Tamara Munzner	
Michael Sedlmair	UBC	2010	2012	Tamara Munzner	
Miriah Meyer	Harvard	2008	2011	Hanspeter Pfister (Harvard)*	Tamara Munzner*
Melanie Tory	UBC	2004	2006	Tamara Munzner*	Kelly Booth (UBC)*

Bernard is now assistant professor at Zurich. Borkin is now an assistant professor at Northeastern. Ingram was at the startup Coho Data and is now at RISC Networks. Sedlmair was a junior professor at Vienna and is now professor at Stuttgart. Meyer is now associate professor at Utah. Tory was an associate professor at Victoria, then a research scientist at Tableau Research, now director of the Roux Institute of Northeastern.

PhD Students Supervised

Student Name	Inst.	Year Start	Finish	Principal Supervisor	Co-Supervisor
Mara Solen	UBC	2021	cont	Tamara Munzner	
Francis Nguyen	UBC	2019	cont	Tamara Munzner	
Steve Kasica	UBC	2018	cont	Tamara Munzner	
Michael Oppermann	UBC	2017	2021	Tamara Munzner	
Zipeng Liu	UBC	2016	2021	Tamara Munzner	
Anamaria Crisan	UBC	2015	2019	Tamara Munzner*	Jennifer Gardy (UBC)*
Georges Hattab	Bielefeld	2016	2018	Tim Nattkemper (Biel.)	Tamara Munzner
Matt Brehmer	UBC	2011	2016	Tamara Munzner	Joanna McGrenere (UBC)
Stephen Ingram	UBC	2007	2013	Tamara Munzner	
Penny McLachlan	UBC	2006	DNC†	Tamara Munzner	
James Slack	UBC	2005	DNC†	Tamara Munzner	
Heidi Lam	UBC	2004	2008	Tamara Munzner	
Daniel Archambault	UBC	2003	2008	Tamara Munzner*	David Auber (Bordeaux)*

Oppermann went on to senior data science consultant at Virtual Identity. Liu went on to assistant professor at Beihang. Crisan went on to permanent position at Tableau Research. Brehmer went on to postdoc at Microsoft Research and then permanent position at Tableau Research. Ingram was on leave from the PhD program from fall 2008 to winter 2009, and went on to a postdoc with me. McLachlan took a leave from the PhD program to co-found the Mobify startup, led it for a decade, and is now at Google. Slack is now at Oracle. Lam is at Google, after a stint at Tableau Research. Archambault is now associate professor at Swansea.

MSc Students Supervised

Student Name	Inst.	Year Start	Finish	Principal Supervisor	Co-Supervisor
Kimberly Dextras-Romagnino	UBC	2016	2018	Tamara Munzner	
Wenqiang (Dylan) Dong	UBC	2016	2017	Tamara Munzner	
Johanna Fulda	LMU/UBC	2014	2015	Tamara Munzner	Andreas Butz (LMU)

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*Symmetric co-supervision: both faculty members acted as principal supervisors.

†This student left for a job in industry before completing a thesis.

MSc Students Supervised (continued)

Student Name	Inst.	Year Start	Finish	Principal Supervisor	Co-Supervisor
Jessica Dawson	UBC	2011	2013	Tamara Munzner*	Joanna McGrenere (UBC)*
Joel Ferstay	UBC	2012	2013	Cydney Nielsen (BC Cancer)	Tamara Munzner
Stephen Ingram	UBC	2006	2007	Tamara Munzner	Marc Olano (UMBC)
Aaron Barsky	UBC	2006	2008	Tamara Munzner	
Penny McLachlan	UBC	2005	2006	Tamara Munzner	
Qiang Kong	UBC	2004	2006	Tamara Munzner*	Raymond Ng (UBC)*
Adam Bodnar	UBC	2004	2006	Tamara Munzner*	Joanna McGrenere (UBC)*
Dmitry Nekrasovski	UBC	2004	2005	Joanna McGrenere (UBC)*	Tamara Munzner*
Dale Beerman	Virginia	2003	2004	Greg Humphreys (Virginia)	Tamara Munzner
Kristian Hildebrand	Weimar/UBC	2003	2005	Bernd Froehlich (Weimar)	Tamara Munzner
Matt Williams	UBC	2003	2004	Tamara Munzner	
James Slack	UBC	2003	2005	Tamara Munzner	

Dextras-Romagnino went to Kabam then Booking.com. Dong went to The Sky Guys then Coastline Market. Fulda was a visiting student from Munich who stayed in Vancouver, with jobs at Cumul8 then Clir. Dawson went on to teaching in UBC CS as a lecturer and then enrolled in the UBC medical school program. Ferstay went on to AeroInfo, the company that partially funded his thesis work. Ingram went on to the UBC PhD program. Barsky went BC Cancer then Hemisphere Games then LionsGate then Aimsio. McLachlan went on to the UBC PhD program, then co-founded Mobify, then Google. Kong went to Electronic Arts. Bodnar went to WorkBrain. Nekrasovski went to IBM then ElasticPath then OpenText. Beerman went to StudyBlue. Hildebrand was a visiting student at UBC from Sep 2003 to Aug 2004; he went on to the PhD program at TU Berlin then prof at Beuth. Williams rejoined the Vancouver public school system as a math and computer science teacher.

Undergraduate Students Supervised

Student Name	Inst.	Program	Year Start	Finish	Principal Supervisor	Co-Supervisor
Edris Wu	UBC	Dir. studies	2022	now	Tamara Munzner	
Shabab Khan	UBC	Ugrad co-op	2021	2021	Tamara Munzner	Margo Seltzer (UBC)
Mara Solen	UBC	Dir. studies	2020	2021	Tamara Munzner	
Luce Liu	UBC	Dir. studies	2021	2021	Tamara Munzner	
Jude Shamsi	UBC	Dir. studies	2021	2021	Tamara Munzner	Margo Seltzer (UBC)
Shannah Fisher	UBC	Dir. studies	2018	2019	Tamara Munzner	
Yann Dubois	EPFL	Summer intern	2017	2017	Tamara Munzner	Jeff Andrews (UBC-O Stats)
Parmida Esmaeilpour	UBC	Dir. studies	2016	2016	Tamara Munzner	
Jessica Dawson	UBC	Dir. studies	2009	2011	Joanna McGrenere (UBC CS)	Tamara Munzner
Anton Zoubarev	UBC	Dir. studies	2009	2009	Tamara Munzner	
Alex Vostrov	UBC	Ugrad thesis	2005	2006	Tamara Munzner	Ken Elwood (UBC Civil)
David Westrom	UBC	Ugrad thesis	2004	2005	Tamara Munzner	
Ciarán Llachlan Leavitt	UBC	Ugrad	2003	2008	Tamara Munzner	
Janek Klawe	UBC	Ugrad thesis	2003	2004	Tamara Munzner	
Keith Lau	UBC	Ugrad thesis	2003	2004	Tamara Munzner	Ron Rensink (UBC CS)
Jordan Lee	UBC	Ugrad co-op	2003	2004	Tamara Munzner	

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*Symmetric co-supervision: both faculty members acted as principal supervisors.

Undergraduate Students Supervised *(continued)*

Student Name	Inst.	Program	Year Start	Finish	Principal Supervisor	Co-Supervisor
Dragana Radulovic	UBC	Ugrad co-op	2003	2004	Tamara Munzner	Raymond Ng (UBC CS)
Jeffrey Zhihui Zhang	UBC	Ugrad co-op	2003	2004	Tamara Munzner	

Solen went on to UBC CS PhD program. Liu joined Mark43. Fisher went on to U Saskatchewan. Esmaeilpour went on to UBC PoliSci grad school. Dawson went on to the UBC MSc program. Zoubarev works in a UBC bioinformatics research group. Leavitt joined Slant Six and then Aristocrat. Westrom joined Electronic Arts and then Zynga. Klawe went on to the Princeton PhD program. Lau earned a master's from Cornell and then joined at Bloomberg. Lee joined Electronic Arts. Radulovic joined Joule and then Tatara Systems. Zhang joined Business Objects.

Graduate Supervisory Committees

For PhD students and MSc students outside of computer science, on committee. For MSc CS students, second reader for thesis. In both cases, start date reflects my own involvement with their work, not when the student began their program.

Student Name	Program	Start	Finish	Principal Supervisor
Negar Sadrzadeh	MSc	2022	cont	von Keyserlingk & Weary (UBC App. Animal Bio.)
Ivan Gill	MSc	2021	cont	Willam Hsiao (SFU Bioinf)
Paul Bucci	PhD	2020	cont	Ivan Beschastnikh (UBC CS)
Izabelle Jansen	PhD	2017	cont	Joanna McGrenere (UBC CS)
Theodore Smith	MSc	2019	2019	Philipp Lange (UBC Bioinf)
Javier Castillo	MSc	2019	2020	Bob Hancock (UBC Bioinf)
Dereck Toker	PhD	2015	2019	Cristina Conati (UBC CS)
Dirk Haupt	MSc	2016	2017	Tim Murphy (UBC Neuro.)
Chihua Ma	PhD	2016	2018	Angus Forbes (U Illinois Chicago)
Enamul Hoque	PhD	2014	2017	Giuseppe Carenini (UBC CS)
Hasti Seifi	PhD	2014	2017	Karon MacLean (UBC CS)
Rebecca McKnight Vandenberg	MSc	2015	2015	Nick Harvey (UBC CS)
Antoine Poinsard	MSc	2015	2016	Joanna McGrenere (UBC CS)
Nayantara Duttachoudhury	MSc	2015	2016	Rachael Pottinger (UBC CS)
Niels Hanson	PhD	2013	2015	Steve Hallam (UBC Microbio)
Dereck Toker	MSc	2012	2013	Cristina Conati (UBC CS)
Anna Flagg	MSc	2012	2012	Karon MacLean (UBC CS)
Will Chao	MSc	2011	2012	Michiel van de Panne (UBC CS)
Michael Welsman-Dinelle	MSc	2010	2011	Michiel van de Panne (UBC CS)
Chaoying Chiu	PhD	2008	2011	Alan Russell (UBC Civil)
Alan McConchie	MSc	2008	2009	Brian Klinkenberg (UBC Geog)
Dave Ternes	MSc	2008	2008	Karon Maclean (UBC CS)
Michael Huggett	PhD	2006	2007	Edie Rasmussen (UBC SLAIS)
Brian de Alwis	PhD	2004	2008	Gail Murphy (UBC CS)
Mik Kersten	PhD	2004	2007	Gail Murphy (UBC CS)
Jonathan Sillito	PhD	2004	2007	Kris de Volder (UBC CS)
Stephane Durocher	PhD	2002	2006	David Kirkpatrick (UBC CS)
Chen Yang	MSc	2006	2006	Michiel van de Panne (UBC CS)

(d)   Continuing Education Activities: Mini-Courses and Tutorials

Course: Visualization Analysis & Design
IEEE VIS 21, (virtual), 10/21 Full day
Bio+Med+Vis Spring School, virtual, 5/21 1 hr tutorial
IEEE VIS 20, (virtual), 10/20 Half day[*]
IEEE VIS 19, Vancouver BC, 10/19 Half day[*†]
Dept. Industry, Innovation and Science, Canberra Australia, June 2017. Full-day tutorial for Economic and Analytical Services Division.[†]
Institute for Advanced Studies, Princeton NJ, July 2016. 3 hrs, Prospects in Theoretical Physics Summer School[†]
VIVID Light, Music, & Ideas Festival, Sydney Australia, June 2017. Co-taught one-day masterclass.[†]
IEEE VIS 17, Phoenix AZ, 10/17 Full day[*†]
ACT Inc., Iowa City IL, July 2016. Full day[†]
IEEE VIS 16, Baltimore MD, 10/16 Half day[*†]
VIVID Light, Music, & Ideas Festival, Sydney Australia, June 2015. Co-taught one-day masterclass.[†]
IEEE VIS 15, Chicago IL, 10/15 Half day[*†]
IEEE VIS 14, Paris France, 11/14 Half day[*†]
Sanger / European Bioinformatics Institutes, Cambridge UK, June 2014. Two one-day courses[†]

Course: Information Visualization
LaBRI / University of Bordeaux I, Bordeaux France, 6/04 6 hours [†]
TECS Week, Pune India, 1/08 5 hours[†]

Course: Seeing, Hearing, and Touching: Putting It All Together
SIGGRAPH 04, Los Angeles CA, 8/04 Co-taught, tutorials on *Visual Encoding* and *Navigation through Space*[* †]

Course: Multimodal Interface Design
SIGGRAPH 03, San Antonio TX, 07/03 Tutorial title: *Applications in Information Visualization*[* †]

Course: Design and Application of Object-Oriented 3D Visualization Systems
SIGGRAPH 97, Los Angeles CA, 8/97 Tutorial title: *Survey of Visualization Toolkits*[* †]

Course: Visualizing Mathematics
SIGGRAPH 95, Los Angeles CA, 8/95 Tutorial titles: *Visualizing Mathematics through Interactive Software* and *Visualizing Mathematics through Video*[* †]

Course: Basic Issues on Computer-aided Math Visualization
AMS/MAA Joint Summer Meeting, Minneapolis MN, 8/94 Two-day course, co-taught with Mark Phillips and Stuart Levy.

9.   SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a)   Areas of special interest and accomplishments

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[*]Competitively selected.
[†]Expenses paid.

(b)   Research or Equivalent Grants

Comp indicates whether grants were obtained competitively (C) or non-competitively (NC).

Agency	Title	Comp	$/Year	Year(s)	PI *(& Co-PIs in italics)*
NSERC CRCEF	Canada Research Continuity Emergency Fund	N	$9,000 100%	2021	Tamara Munzner
Uber	Explainable Deep Graph Models and Latent Space Embeddings for Cohort Identification Using Visual Analytics	N	$23,000 100%	2021	Tamara Munzner
DSI	Visual Analytics Support for the HEiDi Virtual Physician COVID-19 Deployment	N	$40,000 100%	2020	Tamara Munzner
NSERC Discovery	Accelerating the Improvement of Visualization Design Methodology	C	$46,000 100%	8: 2014-22	Tamara Munzner
NSERC CREATE	Designing for People: Crossdisciplinary Program in Interactive Computational Technology	C	$1,650,000 8%	6: 2017-23	Karon MacLean & *10 others*
UBC VPRI Cluster	Designing for People	C	$200,000 n/a%	2020-21	Karon MacLean & *19 others*
Cisco/ Campus as Living Lab	Locational Service Analytics: Machine Learning and Data Visualization for CMX Data Applications	C	$43,000 100%	2017-2019	James Tansey
Adobe	(gift)	N	$26,000	2018-2019	Tamara Munzner
NSERC ENGAGE	Ocupado: Visual Analytics for Occupancy Applications	C	$25,000 100%	2018	Tamara Munzner
UBC VPRI Cluster	Designing for People	C	$200,000 n/a%	2019	Karon MacLean & *19 others*
UBC VPRI Cluster	Designing for People	C	$200,000 n/a%	2018	Karon MacLean & *15 others*
UBC VPRI Cluster	Designing for People	C	$100,000 n/a%	2017	Karon MacLean & *9 others*
MITACS Accelerate	Statistical and Machine Learning with Applications to a Hybrid Recommender System for Retail Data	C	$133,000 9%	2017	Sathish Gopalakrishnan
Mobify/ MITACS	Advancing Visualization for Mobile E-Commerce Clickstream Data	C	$30,000 100%	1: 2016-17	Tamara Munzner
NSERC CREATE	ECOSCOPE: Ecosystem Services, Commercialization, and Entrepreneurship	C	$1,650,000 0%	6: 2015-21	Steven Hallam & *10 others*
Pulse/ MITACS	Multidimensional Energy Consumption Analysis in Large Organizations: An Information Visualization Design Study	C	$15,000 100%	2013	Tamara Munzner
VIVA/ MITACS	Tackling the Challenge of Graph Comparison in Genomics	C	$30,000 100%	2013	Tamara Munzner & *C. Nielsen*
NSERC Discovery	Building and Evaluating Information Visualization Systems	C	$25,000 100%	5: 2008-12 (+1 yr. ext.)	Tamara Munzner
NSERC Strategic	Visually Enhanced Exploration of High-Dimensional Data	C	$163,216 25%	3: 2007-10 (+2 yr. ext.)	Torsten Moeller *& T. Munzner, N. de Freitas, M. Tory*
AT&T Labs	LiveRAC on Daytona	NC	$25,313 100%	2009	Tamara Munzner
Google	Session Viewer: A Tool to Visualize and Analyze Search Session Data	NC	$48,820 100%	2007	Tamara Munzner

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(b)   Research or Equivalent Grants   (continued)

Agency	Title	Comp	$/Year	Year(s)	PI *(& Co-PIs in italics)*
AT&T Labs	Visualization of Large Network Oriented Datasets	NC	$50,520 $47,810 $39,000 100%	2008 2007 2006	Tamara Munzner
NSERC Discovery	Scalable Information Visualization	C	$21,000 100%	5: 2003-07	Tamara Munzner
Agilent Labs	Location Constrained Graph Layout Algorithms	NC	$29,000 100%	2007	Tamara Munzner
Agilent Labs	Information Visualization Evaluation	NC	$36,000 100%	2005	Tamara Munzner
GEOIDE NCE	CIRCUITS: Collaborative Interdisciplinary Research on Communities Using Information Technology for Sustainability	C	$124,500 15%	2: 2005-06	John Robinson & *13 others*
NSF ITR subcontract	Exploring the Tree of Life	C	$65,000 $73,476 100%	2003 2004	Tamara Munzner
IRIS NCE	Information Visualization for Data Mining	C	$35,000 100%	2003	Tamara Munzner
NSERC RTI	Displays of Disparate Resolution and Size	C	$88,332 33%	2003	Tamara Munzner & *K. MacLean, J. McGrenere, M. van de Panne*
GEOIDE NCE	GeoCognito: Connecting People with Ideas and Ideas with Place	C	$75,000 $75,000 $12,500 20%	2004 2003 2002	John Robinson & *8 others*
UBC	Startup Funds	NC	$60,000 100%	2002	Tamara Munzner

(c)   Keynotes

Problem-Driven Visualization Through Design Studies
Symposium on Visual Information Communication and Interaction (VINCI) 2021, Potsdam Germany (virtual), 9/21.
ChinaVis 2020, Xi'an China (virtual), 10/20.

Information Visualization Meets Biology: Models and Methods for Collaboration
Visualizing Biological Data (VIZBI) 2017, Sydney Australia, 6/17.*

Visualization and Journalism: Four Vignettes
Computation + Journalism Symposium 2016, Stanford CA, 10/16.*

Visualization Analysis & Design
Information Plus Conference (InfoPlus) 2016, Vancouver BC, 6/16.
IEEE Symposium on Pacific Visualization (PacificVis) 2016, Taipei Taiwan, 5/16.*

Visualization Analysis & Design for Biology
IEEE Symposium on Biological Visualization (BioVis) 2014, Boston MA, 7/14.*

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*Expenses paid.

Graph Drawing Through the Lens of a Framework for Analyzing Visualization Methods
Graph Drawing Conference (GD) 2013, Bordeaux France, 9/13.*

Dimensionality Reduction From Several Angles
Workshop on Visual Analytics for Multidimensional Projections (VAMP) 2013, Leipzig Germany, 6/13.*

Visualization Principles
Workshop on Visualizing Biological Data (VizBi) 2011, Boston MA, 3/11.*

(d)   Invited Presentations (Non-Conference)

Visual Data Analysis: Why? When? How?? conversation with Pat Hanrahan moderated by Jeff Heer
ACM Tech Talk, virtual, 3/22

Visualization: Abstractions & Idioms
University of Coimba Guest Lecture, virtual, 3/22

Developing Design Spaces for Visualization
Stanford HCI/PCS Seminar, virtual, 3/22

Problem-Driven Interactive Visualization for Imperfect Models
Huawei Vancouver, Vancouver BC, 1/22

Visualization Analysis & Design
UBC CS Industry/Alum Lecture Series, Vancouver BC, 2/20
UBC STAT 545 (Guest Lecture), Vancouver BC, 10/17
Bedford Lab, Fred Hutch Cancer Research Center, Seattle WA, 7/17
NASA Goddard Information Science and Technology Colloquium, Greenbelt MD, 12/16*
UBC STAT 545 (Guest Lecture), Vancouver BC, 10/16
University of Illinois at Chicago Distinguished Lecture, Chicago IL, 4/15*
Tableau Software, Seattle WA, 2/15*
Microsoft Research, Seattle WA, 2/15
City University London, London UK, 2/15*

Making Data Accessible Through Visualization
UBC DFP Downtown Salon, Vancouver BC, 4/19

Entry Points to Visualization: Different Methods for Different Problems
Viz@UBC Lecture Series, Vancouver BC, 3/19

Ocupado: Visual Analytics for Occupancy Applications
Cisco, Toronto ON, 6/18

Data Visualization Pitfalls to Avoid
Monash University, Caulfield Australia, 6/17
Monash University, Clayton Australia, 6/17*

Data Visualization Pitfalls to Avoid
CBR Arts Meets Science, Vancouver BC, 3/17

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*Expenses paid.

Visualization Design Methods
Design@Large Series, UCSD Design Lab, San Diego CA, 1/17

Dimensionality Reduction From Several Angles
UCSD Data Visualization (remote Guest Lecture), 2/17
UBC Okanagan, Kelowna BC, 8/16*
UCSD Data Visualization (remote Guest Lecture), 2/16
University of Sydney, Sydney Australia, 6/15
Johannes Kepler University, Linz Austria, 5/14
Distinguished Lecture, UNC Charlotte, Charlotte NC, 4/14*
SCI Distinguished Lecture, University of Utah, Salt Lake City UT, 2/13*
FODAVA Distinguished Lecture, Georgia Tech, Atlanta GA, 12/12*

Visualization Analysis & Design for Business Intelligence
Disney Research, Glendale CA, 7/15*

Visualization Analysis & Design for Genomics
Centre for Heart Lung Innovation, St. Paul's Hospital, Vancouver BC, 7/15

Visualization Analysis & Design for Biology
UBC CS 314 Computer Graphics (Guest Lecture), Vancouver BC, 10/14.

Variant View: Visualizing Sequence Variants in their Gene Context
Oxford University, Oxford UK, 7/14

Data Visualization in Genomics and In-Car Network Engineering
City University London, London UK, 7/14

A Duo of Visualization Design Studies
University of Vienna, Vienna Austria, 5/14*

A Trio of Visualization Design Studies
Northwestern University, Chicago IL, 4/14*

Visualization Principles
Twitter, San Francisco CA, 6/12
Exploratorium, San Francisco CA, 6/12*

Visualization and Biology: Fertile Ground for Collaboration
Technical University of Eindhoven, Eindhoven Netherlands, 6/09
Institute for Innovative Computing, Harvard University, Boston MA, 2/09
Harvard Medical School, Harvard University, Boston MA, 2/09
Broad Institute, Boston MA, 2/09*

Frameworks/Models
Harvard CS 171, Visualization (Guest Lecture), Boston MA, 2/09

Scalable Visual Comparison of Biological Trees and Sequences
University of Maryland College Park, College Park MD, 5/06*
Distinguished Lecture, University of Maryland Baltimore County, Baltimore MD, 5/06*

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*Expenses paid.

Indiana University, Bloomington IN, 2/06*
Stanford Computer Systems Lab Colloquium, Stanford CA, 5/04

15 Views of a Node-Link Graph: An InfoVis Portfolio
Google, Mountain View CA, 6/06
Agilent Labs, Santa Clara CA, 6/06
National Institutes of Health, Bethesda MD, 5/06
FOO (Friends of O'Reilly) Camp, Sebastopol CA, 8/05
Information Esthetics Lecture Series One, New York NY, 7/05*

Information Visualization at UBC
IBM TJ Watson Research, Hawthorne NY, 7/05

Information Visualization with Accordion Drawing
AT&T Research, Florham Park NJ, 7/05

TreeJuxtaposer: Scalable Tree Comparison using Focus+Context with Guaranteed Visibility
CAIDA/SDSC, San Diego CA, 8/03

Interactive Information Visualization
SFU Cmpt 775, Scientific Visualization (Guest Lecture), Burnaby BC, 11/04
UBC COGS 300 (Guest Lecture), Vancouver BC, 10/04
UBC CPSC 349 Honours Seminar (Guest Lecture), Vancouver BC, 10/04
SFU Cmpt 878, Scientific Visualization (Guest Lecture), Burnaby BC, 10/03
UBC CPSC 349 Honours Seminar (Guest Lecture), Vancouver BC, 9/03
Microsoft Research, Redmond WA, 7/03
UBC CPSC 414 Intro Graphics (Guest Lecture), Vancouver BC, 3/03
UBC CPSC 349 Honours Seminar (Guest Lecture), Vancouver BC, 10/02

Interactive Visualization of Large Trees and Graphs
University of Bordeaux, Bordeaux France, 12/02
University of Calgary, Calgary AB, 9/02
University of British Columbia, Vancouver BC, 4/02*
UC Santa Cruz, Santa Cruz CA, 4/02*
University of Minnesota, Minneapolis MN, 4/02*
UC Davis, Davis CA, 4/02*
University of Utah, Salt Lake City UT, 3/02*
Georgia Tech, Atlanta GA, 3/02*

Visual Structural Comparison Between Evolutionary Trees
New York Academy of Sciences, New York NY, 2/02*

Interactive Visualization of Large Graphs and Networks
UT Austin, Austin TX, 3/01
UC Berkeley, Berkeley CA, 10/00
CWI, Amsterdam Netherlands, 7/00
Philips Design, Eindhoven Netherlands, 7/00
Graz University of Technology, Graz Austria, 7/00
Compaq SRC, Palo Alto CA, 5/00
Lucent/Bell Labs, Naperville IL, 4/00

Fast Layout and Drawing of Large Directed Graphs Using Spanning Trees in 3D Hyperbolic Space
CAIDA, San Diego CA, 11/98
HP Labs, Palo Alto CA, 11/98

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*Expenses paid.

Bell Labs, Murray Hill NJ, 2/98
AT&T Research, Florham Park NJ, 2/98

H3: Laying Out Large Directed Graphs in 3D Hyperbolic Space
Alexa, San Francisco CA, 1/98
AT&T Research, Florham Park NJ, 9/97
UC Santa Cruz, Santa Cruz CA, 6/97

Visualizing the Web in 3D Hyperbolic Space
SRI, Menlo Park CA, 4/98
MSRI, Berkeley CA, 12/96
BayCHI, Palo Alto CA, 11/96

Visualizing the Global Topology of the MBone
MSRI, Berkeley CA, 12/96
Interval Research, Palo Alto CA, 12/96

The Making of Outside In and The Shape of Space
University of Bielefeld, Bielefeld Germany, 7/95
University of Bonn, Bonn Germany, 7/95

Integrating 3D Visualization with the World Wide Web
Apple, Sunnyvale CA, 2/96
University of Bielefeld, Bielefeld Germany, 7/95
University of Bonn, Bonn Germany, 7/95
ZIB, Berlin Germany, 6/95

Exploring Science through Video
3D Visualization in Science
Spelman College, Atlanta GA, 2/95[*]

Visualizing the Invisible
Atlanta College of Art, Atlanta GA, 2/95

Mathematical Visualization Using Geomview
Spelman College, Atlanta GA, 2/95[*]
Swarthmore-Bryn Mawr Joint Visualization Project, Swarthmore PA, 6/94
Gustavus Adolphus College, St. Peter MN, 11/93
St. John's College, Collegeville MN, 11/93

(e)   Invited Conference/Workshop Presentations

Geometry Center Videos, Revisited
Gathering4Gardener Celebration of Mind 2021, virtual, 10/21

Visualization Challenges: Past and Future
Graphics Interface 2021, virtual, 5/21

Visualization Analysis & Design
Consortium for Computing Sciences in Colleges (CCSC), Portland OR, 10/16[*]

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[*]Expenses paid.

Microsoft Vancouver DataViz Symposium, Vancouver BC 8/18
Graphics Interface 2016, Victoria BC, 6/16*
Dagstuhl Seminar: Bridging Information Visualization with Machine Learning, Wadern Germany, 3/15

BELIV Provocations Fireside Chat: Thoughts on Design Studies
Evaluation and Beyond - Methodological Approaches for Visualization (BELIV) Workshop, IEEE VIS, virtual, 10/20

Panel: Vis Evaluation Moving Into the Next Decade
Evaluation and Beyond - Methodological Approaches for Visualization (BELIV) Workshop, IEEE VIS, virtual, 10/20

Decoding and Encoding Visualizations: Marks, Channels, and Color
Visualization for Informal Science Education (VisualISE), Exploratorium, San Francisco CA, 5/19*

Characterization of Information Visualization Systems
Conf. on Quantification in Visual Computing, Stuttgart Germany, 10/18*

Some Challenges of Color
THINK Conference 2017, Santa Cruz CA 11/17

Data Visualization as a Driver for Visual Cognition Research
2017 Workshop on Object Perception, Attention, and Memory (OPAM), Vancouver BC, 11/17

Handson: Visualization
2017 IRE Cross Border Reporting Workshop , Vancouver BC, 5/17

I sense a great disturbance in the Force: The replication crisis in psychology & its possible repercussions for the future of vis evaluation; or, What's making me lose sleep lately
Panel: On the Future of Evaluation and BELIV, BELIV 2016, Baltimore MD, 10/16

Scales and Methods of Engagement
VA Tool Users and Universities Panel, CANVAS 2014 Workshop, Vancouver BC, 8/14

Variant View: Visualizing Sequence Variants in their Gene Context
BioIT World Conference, Boston MA, 4/14*

Visualization for Hackers: Why It's Tricky, and Where to Start
Hackers On Planet Earth (HOPE) X, New York NY, 7/14

Dimensionality Reduction From Three Angles
SIAM Data Mining Workshop on Exploratory Data Analysis, Philadelphia PA, 4/14

Visualization: Why It's Tricky, Where To Start
Programming Knowledge Representation Workshop, Bellairs Barbados, 2/14

Visualization Principles
Cytoscape Symposium on Network Visualization, San Francisco CA, 12/12

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*Expenses paid.

Applying Information Visualization Principles to Biological Network Displays
Human Vision and Electronic Imaging (HVEI) 2011, San Francisco CA, 1/11

MulteeSum: A Tool for Comparative Spatial and Temporal Gene Expression Data
THINK Conference 2010, Santa Cruz CA, 11/10

Visualization and Biology: Fertile Ground for Collaboration
bigDATA Workshop, University of British Columbia, 5/10

Visualization Process and Collaboration
Dagstuhl Scientific Visualization Workshop, Wadern Germany, 6/09

Biology is Destiny: Of Graphs and Genes
Asilomar Microcomputer Workshop 2009, Monterey CA, 4/09

Big Data, Visualization, and Systems Biology
THINK Conference 22, Santa Cruz CA, 11/08

Research Cycles, Collaboration, and Visualization
VIEW Workshop, Leiden Netherlands, 6/07 *

When To Walk Away: Questions To Ask In Infovis Projects
Dagstuhl Seminar on Information Visualization, Wadern Germany, 5/07

Scalable Drawing of Trees and Graphs
Joint Statistical Meeting (Invited Session), Seattle WA, 8/06

LiveRAC: Live Reorderable Accordion Drawing
AT&T Labs University Symposium, Florham Park NJ, 8/06

TopoLayout: Layout of Graphs by Topological Feature
THINK Conference 21, Santa Cruz CA, 11/05

Scalable Visual Comparison of Biological Trees and Sequences
PaRISTIC, Bordeaux France, 11/05*

Steerable, Progressive Multidimensional Scaling
Asilomar Microcomputer Workshop 2005, Monterey CA, 4/05

Scalable Visualization with Accordion Drawing
Vancouver Studies in Cognitive Science 2005, Vancouver BC, 2/05

State of the Field: InfoVis
NSF/NIH Visualization Research Challenges Fall Workshop, Bethesda MD, 9/04.

Scalable Visual Comparison of Biological Trees and Sequences
Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration, Banff AB, 5/04.
Asilomar Microcomputer Workshop, Monterey CA, 4/04

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*Expenses paid.

Human Perception Tidbits
THINK Conference 19, Fresno CA, 11/03

Visual Comparison of Large Evolutionary Trees.
Quintessence: The Clumpy Matter of Art, Science and Math Visualization, Banff AL, 9/02

Information Visualization for Systems People
Usenix 2002, Monterey CA, 6/02

Workshop Participant
National Science Foundation Assembling the Tree of Life Workshop II, Davis CA, 10/00

Video Topology
Asilomar Microcomputer Workshop, Asilomar CA, 4/00

Interactive Navigation of Large Graphs and Networks.
Workshop on Data Visualization, Memphis TN, 6/99

Interactive Navigation of Large Networks.
Asilomar Microcomputer Workshop, Asilomar CA, 4/99

Guaranteed Frame Rate Drawing for Interactive Navigation of Large Graphs.
DIMACS Workshop on External Memory Algorithms and/or Visualization, Rutgers NJ, 5/98

H3: Laying Out Large Directed Graphs in 3D Hyperbolic Space
THINK Conference 13, Santa Rosa CA, 11/97

Information Visualization with VRML
World Movers, San Francisco CA, 2/97

Visualizing the Global Topology of the MBone
Workshop on Software and Mathematical Visualization, Princeton NJ, 6/96

Dimension, Space, Information Visualization and the Web
Imagina 96, Monte Carlo, Monaco, 2/96*

Integrating 3D Visualization with the World Wide Web
International Workshop on Visualization and Mathematics,
Technical University of Berlin (SFB288), Berlin Germany, 6/95

Visualization Videos talk
Mathematical Visualization Using Geomview demo
Fourth MSI Workshop on Computational Geometry, Cornell University, Ithaca NY, 10/94

Mathematical Visualization Using Geomview.
Regional Geometry Institute, Smith College, Amherst MA, 7/93

Introduction to Geomview.
Second MSRI Conference on Geometric Visualization,
Mathematical Sciences Research Institute, Berkeley CA, 10/92 (with Mark Phillips and Stuart Levy)

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*Expenses paid.

(f)   Peer-Reviewed Tutorials

I list combined with all tutorials in Section 8d on Continuing Education Activities.

(g)   Peer-Reviewed Panels

Panel: Our History and Future Innovation
VIS 21, virtual, 10/21

Panel: Reflection on Reflection in Design Studies
VIS 17, Phoenix AZ, 10/17

Panel: Pathways for Theoretical Advances in Visualization **(won Best Panel award)**
VIS 16, Baltimore MD, 10/16

Teaching Across the Researcher-Practitioner Gap
Vis, The Next Generation: Teaching Across the Researcher-Practitioner Gap
VIS 15, Chicago IN, 10/15

Evaluation, When and How
Panel: How Much Evaluation is Enough? VIS 13, Atlanta GA, 10/13

Grassroots Reproducability: Just Do It!
Panel: Reproducible Visualization Research: How Do We Get There? VisWeek 12, Seattle WA, 10/12

UBC Grad Course in InfoVis
Panel: Perspectives on Teaching Data Visualization **(won Best Panel award)**
VisWeek 10, Salt Lake City UT, 10/10

Outward and Inward Grand Challenges
Panel: Grand Challenges in Information Visualization **(won Best Panel award)**
InfoVis 08, Columbus OH, 10/08

Mathematics For Visualization versus Visualization Of Mathematics
Panel: The Mathematical Concepts Beneath Contemporary Visualization
Visualization 07, Sacramento CA, 10/07

A Panorama of Publication Pitfalls
Panel: Publishing Your Visualization Research
Visualization 06 Doctoral Colloquium, Baltimore MD, 10/06
Panel: How to Get Your Paper Published
VIEW Workshop, Leiden Netherlands, 6/07
SFU (Guest Lecture), Burnaby BC, 10/07

Visualization Careers: Academia
Panel: Visualization Careers
Visualization 06 Doctoral Colloquium, Baltimore MD, 10/06

Information and Scientific Visualization: Separate but Equal
Panel: Information and Scientific Visualization: Separate but Equal or Happy Together At Last
Visualization 03, Seattle WA, 10/03

In Search Of: Prescriptive Advice for Visualization
Panel: Visualization Needs More Visual Design!
Visualization 99, San Francisco CA, 10/99

Panel: *Mathematical Visualization: Standing at the Crossroads*
Moderator and co-organizer **(won Best Panel award)**
Visualization 96, San Francisco CA, 11/96

3D Graphics through the Internet
Panel: 3D Graphics through the Internet: A Shootout
SIGGRAPH 95, Los Angeles CA, 8/95

Visualization through the World Wide Web with Geomview, Cyberview, W3Kit, and WebOOGL
Panel: Visualization and the Web
World Wide Web Fall 94, Chicago IL, 10/94

(h) Conference Participation (Organizer, Keynote Speaker, etc.)

Steering/Executive Committees

- **VIS Restructuring Committee**, VIS, 2016–2019
  Committee struck by the VEC to investigate whether VAST, InfoVis, and SciVis should merge, and whether to handle associated events differently.
- **Executive Committee (VEC) Chair**, VIS, 2012–2017
  VIS is the major umbrella event in our area with the three major conferences VAST, InfoVis, and SciVis and additional symposia and workshops including BioVis, LDAV, and VizSec.
- **Steering Committee**, InfoVis, 2010–2014, 2015–2017
  (IEEE Conference on Information Visualization)
- **Steering Committee Chair**, InfoVis, 2014–2015
- **Executive Committee Member**, VisWeek, 2011–2012
- **Steering Committee**, BioVis (IEEE Symposium on Biological Data Visualization), 2012–2013
  I was a founding member of the SC for this new venue.

Papers Chair

- **Papers Co-Chair**, EuroVis 2010 (Eurographics/IEEE VGTC Symposium on Visualization), Bordeaux
- **Papers Co-Chair**, EuroVis 2009, Berlin
- **Papers Co-Chair**, InfoVis 2004 (IEEE Symposium on Information Visualization), Austin
- **Papers Co-Chair**, InfoVis 2003, Seattle

Organizer

- **Test of Time Committee**, InfoVis 2021
- **Best Papers Committee**, PacificVis 2016
- **Co-Organizer**, Dagstuhl Seminar: Bridging Information Visualization with Machine Learning, 2015, Germany
- **Best Papers Chair**, InfoVis 2006
- **Best Papers Committee**, InfoVis 2005
- **Massive Data Thrust Co-Organizer**, Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration Workshop, 2004, Banff
- **Posters Co-Chair**, InfoVis 2002
- **Posters Chair**, InfoVis 2001 I began the posters program as the inaugural chair
- **Co-Organizer**, AMW 2002 (Asilomar Microcomputer Workshop)

- **Co-Organizer**, AMW 2001
- **Web Chair**, InfoVis 1999-2002

Conference participation in the form of keynote addresses, peer-reviewed panels, and peer-reviewed tutorials is listed in Section 9.

10.   SERVICE TO THE UNIVERSITY

(a)   Memberships on committees, including offices held and dates

Departmental Committees, Chair

2019-cont	Communications
2017-2018	Space
2014-2017	Faculty Affairs
2014-2016	Faculty Recruiting
2011-2013	Peer Teaching Evaluation
2004-2008	FoWCS: Focus On Women in Computer Science

Departmental Committees, Member

2021	Faculty Recruiting
2020	Ad Hoc Workload
2017-2018	Communications
2016-2017	Faculty Recruiting
2012-2013	Faculty Affairs
2010-2011	Graduate Recruiting
2010-2011	Space
2009-2010	Faculty Affairs
2009-2010	Faculty Recruiting
2007-2008	Faculty Recruiting
2005-2008	Brown Bag Facilitator
2003	Ad Hoc Administrative Manager Search
2003-2004	ICICS Distinguished Lecture
2002-2006	Curriculum

(b)   Other service, including dates

Dean's Advisory Committee

- 2021-now, Chair

UBC Awards Adjudication

- 2019, 2021, Google Fellowships
- 2021, Distinguished University Scholar

Departmental Outreach Talks

- January 2012
- February 2006
- March 2005

Chair, Doctoral Proposal Defense

- Aug 2014, Mikhail Bessmeltsev

Examiner, University Doctoral Exam

- August 2017, Jimin Joy
- July 2015, Dutch Meyer
- July 2011, Thomas Hentrich

Chair, University Doctoral Exam

- April 2010, Victor F. Sanchez Silva
- August 2009, Alex Wang

11.   SERVICE TO THE COMMUNITY

(a)   Memberships on scholarly committees, including offices held and dates

- 2014–2017, IEEE VGTC Executive Committee Member

- 2004–2008, IEEE VGTC (Visualization and Graphics Technical Committee)
  Executive Committee Member At Large

I list additional committee memberships associated with the organization of conferences or workshops in Section 9(h), and those associated with the reviewing of papers in Section 11(d).

(b)   Editorships (list journal and dates)

Book Series Editorships

- Editor 2014–cont: AK Peters Visualization Series, CRC Press.

Guest Editorships

- Eurographics Computer Graphics Forum 29:3, June 2010 (special issue, Proc. EuroVis 10). (with Guy Melançon and Daniel Weiskopf)
- Eurographics Computer Graphics Forum 28:3, June 2009 (special issue, Proc. EuroVis 09). (with Hans-Christian Hege and Ingrid Hotz)
- Information Visualization, Palgrave. 4:2, Summer 2005. (with Matt Ward)
- IEEE TVCG (Trans. Visualization and Computer Graphics) 11:2, July/August 2005. (with Matt Ward)
- Information Visualization, Palgrave. 3:2, Summer 2004. (with Stephen North)
- IEEE TVCG (Trans. Visualization and Computer Graphics) 10:4, July/August 2004. (with Stephen North)
- IEEE CG&A (Computer Graphics and Applications), Special Issue on Information Visualization, Jan/Feb 2002.

(c)   Program Committees

- InfoVis: IEEE Symposium on Information Visualization 2000-2004, 2006-2007, 2009-2010, 2012-2014, 2016-2017, 2019-2022
- CHI: ACM Conf. Computer-Human Interaction 2020-2022
- EuroVis: Eurographics/IEEE VGTC Symposium on Visualization 2005-2008, 2011-2014, 2017, 2021-2022
- InfoPlus: Information Plus 2021
- Graph Drawing: 2015, 2020
- BELIV: BEyond time and errors: novel evaLuation methods for Information Visualization 2010, 2012, 2014, 2016
- EuroVis Short Papers: 2015
- BioVis: IEEE Symp. on Biological Visualization 2014-2015
- ISMB: Intl. Conf. on Intelligent Systems in Molecular Biology 2012
- Vis: IEEE Visualization 2003, 2009
- MediVis: Conference on Medical/Biomedical Visualization 2007
- I3D: Symposium on Interactive 3D Graphics 2005
- GI: Graphics Interface 2003-2004
- ISMA: Internet Statistics and Metrics Analysis - Network Visualization 1999
- DIMACS Workshop on External Memory Algorithms and Visualization 1998
- VRML: Virtual Reality Modelling Language Symposium 1997
- VisMath: Visualization and Mathematics 1997

(d)   Reviewer (journal, agency, etc., including dates)

Funding agencies

- NSERC Discovery Grant Panel: 2020-2022
- MITACS: Mathematics of Information Technology and Complex Systems 2009-10, 2018-21
- NSERC: Natural Sciences and Engineering Research Council 2003-2005, 2007, 2010-11, 2013, 2019-2021
- FWF: Austrian Science Fund 2006, 2010, 2013, 2015-2017, 2020
- NWO: Netherlands Organisation for Scientific Research, 2011
- ERC: European Research Council 2010
- US NSF: United States National Science Foundation 2007, 2009
- FQRNT: Fonds Québécois de la Recherche sur la Nature et les Technologies 2009
- UK EPSRC: United Kingdom Engineering and Physical Sciences Research Council 2007
- UC-MICRO: Univ. California Microelectronics Innovation and Computer Research Opportunities 2006

Journals

- IDJ: Information Design Journal 2022
- PSPI: Psychological Science in the Public Interest 2020
- TVCG: IEEE Transactions on Visualization and Computer Graphics 2002-2014, 2016-2019
- CG&A: IEEE Computer Graphics and Applications 1996-1997, 2003-2005, 2007, 2009, 2011, 2019
- TIIS: IEEE Transactions on Interactive Intelligent Systems 2020
- JGAA: Journal of Graph Algorithms and Applications, 2016
- IVS: Information Visualization Journal 2002, 2004, 2005, 2008-2010, 2014
- F1000: F1000 Research 2014
- CG: Computers&Graphics 2010, 2013
- Neurocomputing, 2013
- PLoSONE: Public Library of Science ONE 2011-2012
- IJCM: International Journal of Computer Mathematics 2011-2012
- Computer: IEEE Computer 2011-12

- Bioinformatics: BMC Bioinformatics 2005, 2008, 2011
- EE: Ecology and Evolution 2011
- IJHCS: International Journal of Human-Computer Studies 2009-2010
- CGF: Computer Graphics Forum 2010
- TOG: IEEE Transactions on Graphics 2009
- ACM Computing Surveys 2004, 2006-2007
- CACM: Communications of the ACM 2007
- ToCHI: IEEE Transactions on Computer Human Interaction 2006
- AMM: American Mathematical Monthly 2007
- TIR: Transactions on Internet Research 2006
- FM: Field Methods 2006
- TAP: IEEE Transactions on Applied Perception 2003

Conferences

- SIGGRAPH Papers 1999-2001, 2004-2007, 2010-2011, 2022
- SIGCHI Papers 2005-2007, 2009-2018
- SciVis: IEEE Conf. Scientific Visualization 2017
- BioVis Contest Judge, 2011
- InfoVis: IEEE Conf. Information Visualization 2011
- UIST: User Interface Software and Technologies 1999, 2001, 2006, 2010
- Vis: IEEE Visualization 1996, 2005-2007, 2010
- SIGGRAPH Asia Papers 2009-2010
- VAST: IEEE Conf. Visual Analytics Science and Technology 2006-2007, 2009-2010
- Eurographics 2003, 2007, 2009
- WABI: Workshop on Algorithms in Bioinformatics 2009
- SOCG: ACM Symposium on Computational Geometry 2009
- SIGGRAPH Sketches 2006-2007
- VMLS: Visualization in Medicine and Life Sciences 2006
- SIGGRAPH Courses 2002-2006
- InfoVis: IEEE Symp. Information Visualization 1997-2000, 2005
- NPAR: Non-Photorealistic Animation and Rendering Symposium 2004
- VDA: Visual Data Analysis 2003
- SIGKDD: Knowledge Discovery and Data Mining 2003
- I3D: ACM Symposium on Interactive 3D Graphics 2000
- VisSym: Joint Eurographics/IEEE Symposium on Visualization 2000
- VRML: Virtual Reality Modelling Language Symposium 1998
- SCG Video: Symposium on Computational Geometry (video proceedings) 1996

Publishers

- Morgan Kaufmann books 2009-2010
- AK Peters books 2006-2007, 2009
- Springer-Verlag books 2005

(e)   External examiner (indicate university and dates)

Student Name	Year	Institution	Country	Supervisor	Examined
Sarah Goodwin	2014	City University London	UK	Jason Dykes	In person
Michael Sedlmair	2010	LMU Munich	Germany	Andreas Butz	By Skype
Danny Holten	2009	TU Eindhoven	Holland	Jarke J. van Wijk	In person
*	2007	*	Australia	*	By report
Jerôme Thièvre	2006	INA / Univ. de Montpellier	France	Mountaz Hascoët	In person
François Boutin	2005	Université de Montpellier	France	Guy Melançon	In person
Fabien Jourdan	2004	Université de Montpellier	France	Guy Melançon	In person
David Auber	2002	Université de Bordeaux I	France	Maylis Deleste	In person

* Identifying information elided in keeping with institution's confidentiality policy.

(f)   Habilitation jury (indicate university and dates)

Name	Year	Institution	Country	Examined
Petra Isenberg	2022	Université Paris Saclay	France	virtual

(g)   Consultant (indicate organization and dates)

- Lytix, 2010-2012

(h)   Other service to the community

Advisory Boards and Site Visits

- Degree Program Review, Northeastern University, 2021
- Data Visualization Society Advisory Council, 2019–cont
- Data Literacy LLC Advisory Board, 2019–cont
- National Resource for Network Biology External Advisory Council, 2011–cont. Site visits May 2011 San Diego, Dec 2012 San Francisco, Jul 2014 Boston, Jul 2018 Chicago.
- Microsoft–INRIA Joint Research Center Site visit June 2010 Paris France.

12.   AWARDS AND DISTINCTIONS

(a)   Awards for Scholarship (indicate name of award, awarding organizations and date)

- CHCCS/SCDHM Achievement Award of the Canadian Human-Computer Communications Society, 2021
- Best Paper Award, Honorable Mention: IEEE InfoVis 2009, 2012, 2017, 2021
- 10-Year Test of Time Award, IEEE InfoVis, 2019
- Visualization Academy Member, 2019
- UBC Killam Research Prize 2019
- IEEE Senior Member, 2018
- Best Panel Award: IEEE VIS/Visualization 1996, 2008, 2010, 2016
- IEEE VGTC Visualization Technical Achievement Award 2015
- Best Paper Award, Honorable Mention (2nd Best): EuroVis 2009
- InfoVis Contest, Overall First Place Winner: IEEE InfoVis 2003
- Microsoft Research PhD Fellowship 1998-2000
- National Science Foundation Graduate Research Fellowship (USA) 1995-1998

(b)   Awards for Service (indicate name of award, awarding organizations and date)

- IEEE Meritorious Service Award, 2018

(c)   Other Awards

- UBC Killam Teaching Award Nomination, 2021

13.   OTHER RELEVANT INFORMATION (Maximum One Page)

Publication Strategy

My research is primarily published in visualization venues. The strongest conferences have at least as much impact as the top journals as a means of disseminating research results in this area. Most of the top-tier visualization conferences now publish their proceedings as special issues of journals, with a stringent two-phase peer review process and acceptance rates around 25% - 30%.

- **TVCG/VIS** (IEEE Transactions on Visualization and Computer Graphics) is the very top journal for visualization. **IEEE VIS** is the premiere conference in visualization. Papers from IEEE VIS (formerly VAST/InfoVis/SciVis) are published as an annual special issue of TVCG, with acceptance rates of under 25%. Papers published in standard issues of TVCG can be presented at IEEE VIS. In 2021 the three previously separate conferences of InfoVis, VAST, and SciVis were fully unified into IEEE VIS.

   InfoVis (IEEE Conference on Information Visualization) had been published through TVCG since 2006, and was a symposium from 1995-2006. Prior to 2006, a small set of best papers was published in TVCG and IVS; afterwards, there were one best paper and two honorable mention awards annually. **VAST** (IEEE Conference on Visual Analytics Science and Technology) had been published through TVCG since 2013, and was a symposium from 2006 to 2009. **SciVis** (IEEE Conference on Scientific Visualization) was previously named IEEE Visualization from 1990-2011, and had been published through TVCG since 2006.

- **EuroVis** (Eurographics/IEEE VGTC Symposium on Visualization) is also a very strong venue. The proceedings is published as a special issue of Computer Graphics Forum. The review process is similar to InfoVis/VIS, with acceptance rates around 30% in recent years. It has always been an integrated conference accepting all subfields of visualization.

- **CHI** (ACM Conference on Human Factors in Computing Systems) is the top conference in the related field of human-computer interaction, and publishes many visualization-related papers each year. Acceptance rates are in the 15-25% range. Its proceedings are not published as a special issue.

- **PacificVis** (IEEE Pacific Visualization Symposium) is a moderate-impact regional venue with increasing strength.

- **BELIV** (Workshop on evaluation and BEyond - methodoLogIcal approaches for Visualization) is an important force for methodological introspection, with an impact higher than might be obvious from bibliometrics alone given its fairly relaxed acceptance rates.

- **IVS** (Information Visualization Journal, Sage/Palgrave) is the only journal for infovis specifically.

Occasionally a domain scientist collaborator includes my students and/or me as authors on papers published in their own literature, indicating that they consider the visualization system a critical part of their scientific work. I count these instances as a strong sign of success.

14.   REFEREED PUBLICATIONS

The standard authorship order is that students and postdocs are listed first and faculty last, except in unusual circumstances. Names of students or postdocs that I supervised are in bold. Names of students I taught where course projects led to publications are in italics. My h-index was 49 and total citation count over 11K as of May 2022. Citation counts over 100 or 1000 for works are from Google Scholar as of that date.

(a)   Journals

J54: **Zipeng Liu**, Yang Wang, **Jürgen Bernard**, and Tamara Munzner. Visualizing Graph Neural Networks with CorGIE: Corresponding a Graph to Its Embedding. *IEEE Transactions on Visualization and Computer Graphics (TVCG),* to appear, 2022.

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M1. Tamara Munzner. Applying Information Visualization Principles to Biological Network Displays. Proc. SPIE Human Vision and Electronic Imaging 2011, volume 7865, article 13.

(b)   Theses

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N15. LSQT: Low-Stretch Quasi-Trees for Bundling and Layout Rebecca Vandenberg, Madison Elliott, Nicholas Harvey, Tamara Munzner. arXiv preprint arXiv:2007.06237, 2020.

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16.   BOOKS

(a)   Authored

B3. Tamara Munzner. Visualization Analysis and Design. AK Peters Visualization Series. CRC Press, 2014. (404 pages) *(over 1000 cites)*

B2. **Heidi Lam** and Tamara Munzner. A Guide to Visual Multi-Level Interface Design From Synthesis of Empirical Study Evidence. Synthesis Lectures on Visualization Series, Lecture 1, Morgan Claypool, November 2010. (117 page monograph)

B1. Chris Johnson, Robert Moorhead, Tamara Munzner, Hanspeter Pfister, Penny Rheingans, and Terry S. Yoo. NIH-NSF Visualization Research Challenges Report. IEEE Computer Society Press, 2006, ISBN 0-7695-2733-7 (40 pages) *(over 100 cites)*

(b)   Edited

E2. Proceedings of the 2004 IEEE Symposium on Information Visualization (InfoVis), Tamara Munzner and Matt Ward, eds.

E1. Proceedings of the 2003 IEEE Symposium on Information Visualization (InfoVis), Tamara Munzner and Stephen North, eds.

(c)   Chapters

D3. Tamara Munzner, **Aaron Barsky**, **Matt Williams**. Reflections on QuestVis: A Visualization System for an Environmental Sustainability Model. Scientific Visualization: Interactions, Features, Metaphors. Dagstuhl Follow-Ups 2, 2011, Chapter 17, p 240–259.

D2. Tamara Munzner. Visualization. Chapter 27, p 675-707, of *Fundamentals of Graphics, Third Edition.* by Peter Shirley and Steve Marschner, with additional contributions by Michael Ashikhmin, Michael Gleicher, Naty Hoffman, Garrett Johnson, Tamara Munzner, Erik Reinhard, Kelvin Sung, William B. Thompson, Peter Willemsen, Brian Wyvill. AK Peters, 2009.

D1. Tamara Munzner. Process and Pitfalls in Writing Information Visualization Research Papers. Chapter in *Information Visualization: Human-Centered Issues and Perspectives.* Andreas Kerren, John T. Stasko, Jean-Daniel Fekete, Chris North, eds. Springer LNCS Volume 4950, 2008, pages 134–153. *(over 100 cites)*

17.   PATENTS

18.   SPECIAL COPYRIGHTS

Outside In was shown in excerpt at the SIGGRAPH 94 Electronic Theater and won prizes at Nicograph, Prix Ars Electronica, Prix Pixel Imagina, and the London Effects and Animation Festival. The Shape of Space was shown in excerpt at the SIGGRAPH 95 Electronic Theater and Prix Pixel Imagina. Outside In has been viewed over 14 million times on YouTube (see `https://www.cs.ubc.ca/~tmm/gc/`).

V3. Tamara Munzner and Delle Maxwell. The Shape of Space [video, 11 minutes]. Producer: The Geometry Center. Key Curriculum Press, 2000.

V2. Nina Amenta and Tamara Munzner. Four-Polytopes and a Funeral (for my Conjecture) [video, 5 minutes]. 1995 Computational Geometry Symposium Video Proceedings.

V1. Silvio Levy, Delle Maxwell, and Tamara Munzner. Outside In [video, 22 minutes]. Producer: The Geometry Center. AK Peters, 1994.

19.   OTHER WORKS

(a)   Software released publicly arising from research from me and my group

S26. **gevit.net.** (with Anamaria Crisan; 2018) Visualization tool to browse genomic epidemiology typology. Open source.

S25. **Adjutant.** (with Anamaria Crisan; 2018) Visualization tool to support systematic literature surveys. Open source.

S24. **PaperQuest.** (with Antoine Ponsard and Francisco Escalona; 2016) Visualization tool to support literature review. Open source.

S23. **TimeLineCurator.** (with **Johanna Fulda** and **Matt Brehmer**; 2015) Authoring tool for journalists and others to create timeline from free-form text. Open source.

S22. **SEQIT.** (with Mike Wu; 2014) Visualization system designed for sequence analysis of eye tracking data. Open source.

S21. **APQ and QSNE.** (with **Stephen Ingram**; 2014) All-Pairs Query, or APQ, nearest-neighbor algorithm and the Q-SNE, dimensionality reduction algorithm. Open source.

S20. **Overview.** (with **Stephen Ingram**, Jonathan Stray, Jonas Karlsson, and Adam Hooper; 2012-2013) Visualization and analysis tool for large sets of documents, intended to support investigative journalism. Open source.

S19. **Variant View.** (with **Joel Ferstay** and Cydney Nielsen; 2013) Visual analysis tool genomic sequence variant analysis. Open source.

S18. **Vismon.** (with Maryam Booshehrian and Torsten Moeller; 2012) Visual analysis tool for fisheries simulation data, including sensitivity analysis, global trade-offs analysis, and staged uncertainty. Open source.

S17. **DimStiller.** (with **Stephen Ingram**; 2010) Visualization system for dimensional analysis and reduction, providing guidance for middle-ground users. Open source.

S16. **MulteeSum** (with **Miriah Meyer**; 2010) Exploration tool that supports the comparison of multiple gene expression data sets defined both spatially and temporally. Open source.

S15. **Pathline**. (with **Miriah Meyer**; 2010) Tool that visualizes temporal gene expression data over multiple molecular pathways and across multiple species. Open source.

S14. **Mizbee.** (with **Miriah Meyer**; 2009) Browser that enables anlysis of comparative genomics data through visualization across multiple scales. Open source.

S13. **Glimmer.** (with **Stephen Ingram**; 2008) GPU and CPU versions of fast and robust multilevel multidimensional scaling algorithm. Open source.

S12. **GrouseFlocks, Grouse.** (with **Daniel Archambault**; 2008) Multilevel graph hierarchy exploration tools, built on the Tulip framework. Open source.

S11. **SPF.** (with **Daniel Archambault**; 2008) Smashing Peacocks Further quasi-tree graph layout, built on Tulip and TopoLayout. Open source.

S10. **TopoLayout.** (with **Daniel Archambault**; 2008) Feature-based multilevel graph layout, built on the Tulip framework by David Auber. Open source.

S9. **Cerebral.** (with **Aaron Barsky**; 2008) Cytoscape plugin for compartmentalized network layout, for instance using subcellular localization annotations, and comparing quantitative data from multiple experiments. Open source.

S8. **SequenceJuxtaposer.** (with **James Slack**, **Kristian Hildebrand**; 2005) Visualization software for browsing and comparing gene sequences. Open source.

S7. **TreeJuxtaposer.** (with **James Slack**, **Kristian Hildebrand**, Francois Guimbretiere, Li Zhang, Yunhung Zhou; 2003) Visualization software for browsing and comparing large trees, especially phylogenetic or taxonomic trees. InfoVis 2004 contest overall winner. Open source.

S6. **HypViewer.** (1997) The 3D hyperbolic module used in Site Manager below, in library form. Source released for free noncommerical use.

S5. **Site Manager.** (with Alan Braverman and Greg Ferguson; 1997) Free software from Silicon Graphics for webmasters and content creators, with a 3D hyperbolic view of the link structure of the target web site using layout from InfoVis97 paper and guaranteed frame rate drawing algorithm from Graph Drawing 98 paper. Binary release bundled with Irix 6.5.

S4. **Caidants.** (with Eric Hoffman; 1996) The CAIDA toolset for network drawing, used to create a series of short videos including Planet Multicast and autogenerated web pages. Open source.

S3. **WebOOGL.** (1994) Proof of concept implementation of integrating 3D graphics with the web. Runner-up proposal for VRML 1.0 standard, the vote was won by SGI's Inventor-based proposal. Open source.

S2. **Triangle Tiling.** (with Charlie Gunn, Stuart Levy, and Olaf Holt; 1994.) Museum exhibit on display at the Science Museum of Minnesota for several years, allowed visitors to explore the connections between symmetry groups, tiling, duality, the Platonic and Archimedean solids, and non-Euclidean geometry through interactive 3D graphics. Open source.

S1. **Geomview.** (with Stuart Levy and Mark Phillips; 1992) 3D interactive visualization package with over one thousand registered users at its peak, includes support for non-Euclidean and higher-dimensional geometry. Open source.