# Miriah Meyer

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October 2020

## Education

**Ph.D. in Computer Science**, 2008
University of Utah
Thesis: *Dynamic Particle Systems for Adaptive Sampling of Implicit Surfaces*
Advisor: Ross Whitaker

**B.S. in Astronomy & Astrophysics** with Honors, 1999
Pennsylvania State University
Minors: Physics, Women's Studies

## Professional Appointments

**Associate Professor**, 2017 – present
**Assistant Professor**, 2011 – 2017
School of Computing
Scientific Computing and Imaging (SCI) Institute
University of Utah

**Visiting Professor**, 2018 – 2019
University of Vienna

**Visiting Scientist**, 2010 – 2011
Broad Institute of MIT and Harvard

**Postdoctoral Research Fellow**, 2008 – 2011
Harvard University
Supervisors: Hanspeter Pfister and Tamara Munzner

## Awards

**Distinguished Alumni Award**, University of Utah, 2017
**Outstanding Teaching Award**, School of Computing, University of Utah, 2015
**Best Paper Award**, ACM AVI Conference, 2014
**PopTech Science Fellow**, 2013
**TED Fellow**, 2013
**Microsoft Research Faculty Fellowship**, 2012
**MIT Technology Review TR35: The Top 35 Innovators Under 35**, 2011
**NSF/CRA Computing Innovation Fellowship**, 2009
**AAAS Mass Media Fellowship**, 2006

## Publications[1]

**Book**

D. Fisher and M. Meyer. *Making Data Visual: A Practical Guide to Using Visualization for Insight*, O'Reilly Media, 2018.

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[1] underlined names indicate student authors

## Journal Publications

J. Rogers, A. Patton, L. Harmon, A. Lex, M. Meyer. *Insights From Experiments With Rigor in an EvoBio Design Study*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), *to appear*.

C. Sigulinsky, J. Anderson, E. Kerzner, C. Rapp, R. Pfeiffer, T. Rodman, D. Emrich, K. Rapp, N. Nelson, J. Lauritzen, M. Meyer, R. Marc, B. Jones. *Network Architecture of Gap Junctional Coupling among Parallel Processing Channels in the Mammalian Retina*, Journal of Neuroscience, 40(23):4483-4511, 2020.

C. Mullen, S. Grineski, T. Collins, W. Xing, R. Whitaker, T. Sayahi, T. Becnel, P. Goffin, P. Gaillardon, M. Meyer, K. Kelly. *Patterns of distributive environmental inequity under different PM2.5 air pollution scenarios for Salt Lake County public schools*, Environmental Research, vol 186, 2020.

K. Matković, D. Gračanin, M. Beham, R. Splechtna, M. Meyer, E. Ginina. *Integrated Analysis and Hypothesis Testing for Complex Spatio-Temporal Data*, Transactions on Computational Science XXXVII, Lecture Notes in Computer Science, vol 12230:39-56, 2020.

D. Kouřil, T. Isenberg, B. Kozlikova, M. Meyer, E. Gröller, I. Viola. *HyperLabels—Browsing of Dense and Hierarchical Molecular 3D Models*, IEEE Transactions on Visualization and Computer Graphics, doi: 10.1109/TVCG.2020.2975583, 2020.

M. Meyer, J. Dykes. *Criteria for Rigor in Visualization Design Study*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 26(1):87-97, 2020.

C. Norbe, M. Meyer, M. Streit, A. Lex. *The State of the Art in Visualizing Multivariate Networks*, Computer Graphics Forum (Proceedings of EuroVis), 38(3):807-832, 2019.

P. S. Quinan, L. Padilla, S. Creem-Regehr, M. Meyer. *Examining Implicit Discretization in Spectral Schemes*, Computer Graphics Forum (Proceedings of EuroVis), 38(3):363-374, 2019.

N. McCurdy, J. Gerdes, M. Meyer. *A Framework for Externalizing Implicit Error Using Visualization*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 25(1):925-935, 2019.

E. Kerzner, S. Goodwin, J. Dykes, S. Jones, M. Meyer. *A Framework for Creative Visualization-Opportunities Workshops*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 25(1):748-758, 2019.

J. Moore, P. Goffin, M. Meyer, P. Lundrigan, N. Patwari, K. Sward, J. Wiese. *Managing In-home Environments through Sensing, Annotating, and Visualizing Air Quality Data*, Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (Proceedings of UbiComp 2018), 2(3), 2018.

M. Reblin, D. Ketcher, P. Forsyth, E. Mendivil, L. Kane, J. Pok, M. Meyer, Y. Wu, J. Agutter. *Outcomes of an Electronic Social Network Intervention with Neuro-oncology Patient Family Caregivers*, Support Care Cancer, 2018.

M. Reblin, D. Ketcher, P. Forsyth, E. Mendivil, L. Kane, J. Pok, M. Meyer, Y. Wu, J. Agutter. *Feasibility of Implementing an Electronic Social Support and Resource Visualization Tool For Caregivers in a Neuro-oncology Clinic*, Journal of Neuro-Oncology, 2018.

E. Kerzner, A. Lex, C. Sigulinsky, T. Urness, B. Jones, R. Marc, M. Meyer. *Graffinity: Visualizing Connectivity in Large Graphs*, Computer Graphics Forum (Proceedings of EuroVis), 36(3):251-260, 2017.

S. McKenna, N. Henry Riche, B. Lee, J. Boy, M. Meyer. *Visual Narrative Flow: Exploring Factors Shaping Data Visualization Story Reading Experiences*, Computer Graphics Forum (Proceedings of EuroVis), 36(3):377-387, 2017.

L. Padilla, P. S. Quinan, M. Meyer, S. Creem-Regehr. *Evaluating the Impact of Binning 2D Scalar Fields*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 23(1):431-440, 2017.

M. Reblin, Y. Wu, J. Pok, L. Kane, H. Colman, A. Cohen, E. Mendivil, E. Warner, M. Meyer, J. Agutter. *Development of the Electronic Social Network Assessment Program Using the Center for eHealth and Wellbeing Research Roadmap*, JMIR Human Factors, 4(3):e23, 2017.

A. Bigelow, S. Drucker, D. Fisher, M. Meyer. *Iterating Between Tools to Create and Edit Visualizations*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 23(1):481-490, 2017.

S. Lauritzen, C. Sigulinsky, J. Anderson, M. Kalloniatis, N. Nelson, D. Emrich, C. Rapp, N. McCarthy, E. Kerzner, M. Meyer, B. Jones, R. Marc. *Rod-cone crossover connectome of mammalian bipolar cells*, Journal of Comparative Neurology, 2016.

S. McKenna, D. Staheli, C. Fulcher, M. Meyer. *BubbleNet: A Cyber Security Dashboard for Visualizing Patterns*, Computer Graphics Forum (Proceedings of EuroVis), 35(3):281-290, 2016.

N. McCurdy, J. Lein, K. Coles, M. Meyer. *Poemage: Visualizing the Sonic Topology of a Poem*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 22(1):439-448, 2016.

P. S. Quinan, M. Meyer. *Visually Comparing Weather Features in Forecasts*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 22(1):389-398, 2016.

S. McKenna, M. Meyer, S. Gerber. *s-CorrPlot: An Interactive Scatterplot for Exploring Correlation*, Journal of Computational and Graphical Statistics, 2015.

E. Kerzner, L. Butler, C. Hansen, M. Meyer. *A Shot at Visual Vulnerability Analysis*, Computer Graphics Forum (Proceedings of EuroVis), 34(3):391-400, 2015.

M. Meyer, M. Sedlmair, P. S. Quinan, T. Munzner. *The Nested Blocks and Guidelines Model*, Journal of Information Visualization, 14(3):234-249, 2015.

S. McKenna, D. Mazur, J. Agutter, M. Meyer. *Design Activity Framework for Visualization Design*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 20(12):2191-2200, 2014.

G. McInerny, M. Chen, R. Freeman, D. Gavaghan, M. Meyer, F. Rowland, D. Spiegelhalter, M. Steganer, G. Tessarolo, J. Hortal. *Information Visualization for Science & Policy: Engaging Users & Avoiding Bias*, Trends in Ecology & Evolution, 29(3):148-157, 2014.

R. Kirby, M. Meyer. *Visualization Collaborations: Reflections on What Works and Why*, IEEE Computer Graphics and Applications, 33(6):82-88, 2013.

A. Abdul-Rahman, J. Lein, K. Coles, E. Maguire, M. Meyer, M. Wynne, C. Johnson, A. Trefethen, M. Chen. *Rule-based Visual Mappings – with a Case Study on Poetry Visualization*, Computer Graphics Forum (Proceedings of EuroVis), 32(3), 2013.

M. Sedlmair, M. Meyer, T. Munzner. *Design Study Methodology: Reflections from the Trenches and the Stacks*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 18(12):2431-2440, 2012. **Best Paper Honorable Mention**.

C. Fowlkes, K. Eckenrode, M. Bragdon, M. Meyer, Z. Wunderlich, L. Simirenko, C. Luengo, S. Keranen, C. Henriquez, D. Knowles, M. Biggin, M. Eisen, A. DePace. *A Conserved Developmental Patterning Network Produces Quantitatively Different Output in Multiple Species of Drosophila*, PLoS Genetics, 7(10), 2011.

M. Meyer, T. Munzner, A. DePace, H. Pfister. *MulteeSum: A Tool for Comparative Spatial and Temporal Gene Expression Data*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 16(6):908–917, 2010.

M. Meyer, B. Wong, T. Munzner, M. Styczynski, H. Pfister. *Pathline: A Tool for Comparative Functional Genomics*, Computer Graphics Forum (Proceedings of EuroVis), 29(3):1043–1052, 2010.

M. Grabherr, P. Russell, M. Meyer, E. Mauceli, J. Alfoldi, F. DiPalma, K. Lindblad-Toh. *Genome-wide synteny through highly sensitive sequence alignment: Satsuma*, Bioinformatics, 26(9):1145–1151, 2010.

M. Meyer, T. Munzner, H. Pfister. *MizBee: A Multiscale Synteny Browser*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis), 15(6):897–904, 2009. **Best Paper Honorable Mention**.

M. Meyer, R. Whitaker, R. M. Kirby, C. Ledergerber, H. Pfister. *Particle-based Sampling and Meshing of Surfaces in Multimaterial Volumes*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of Vis), 14(6):1539–1546, 2008.

C. Ledergerber, G. Guennebaud, M. Meyer, M. Bacher, H. Pfister. *Volume MLS Ray Casting*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of Vis), 14(6):1372–1379, 2008.

A. Sanderson, M. Meyer, R. Kirby, C. Johnson. *A Framework for Exploring Numerical Solutions of Advection-Reaction-Diffusion Equations using a GPU based approach*, Computing and Visualization in Science, 12(4):155–170, 2008.

M. Meyer, R. M. Kirby, R. Whitaker. *Topology, Accuracy, and Quality of Isosurface Meshes Using Dynamic Particles*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of Vis), 13(6):1704–1711, 2007.

M. Meyer, B. Nelson, R. Kirby, R. Whitaker. *Particle Systems for Efficient and Accurate High-Order Finite Element Visualization*, IEEE Transactions on Visualization and Computer Graphics, 13(5):1015–1026, 2007.

## Refereed Conference and Workshop Publications

<u>C. Knoll</u>, A. Çetin, T. Möller, M. Meyer. *Extending Recommendations for Creative Visualization-Opportunities Workshops*, in Proceedings of the IEEE Evaluation and Beyond – Methodological Approaches for Visualization (BELIV), IEEE VIS 2020.

A. Bigelow, <u>C. Nobre</u>, M. Meyer, A. Lex. *Origraph: Interactive Network Wrangling*, in Proceedings of the IEEE VAST Conference, IEEE VIS 2019.

K. Matkovic, D. Gracanin, M. Beham, R. Splechtna, M. Meyer, E. Ginina. *Visual Analysis of Bird Moving Patterns*, in Proceedings of the Computer Graphics International Conference, 2019.

P. Lundrigan, <u>K. Min</u>, N. Patwari, S. Kumar, K. Kelly, <u>J. Moore</u>, M. Meyer, S. Collingwood, F. Nkowy, B. Stone, K. Sward. *EpiFi: An in-Home IoT Architecture for Epidemiological Deployments*, IEEE Conference on Local Computer Networks Workshops (LCN Workshops), 2018.

<u>S. McKenna</u>, A. Lex, M. Meyer. *Worksheets for Guiding Novices through the Visualization Design Process*, in Proceedings of the IEEE Workshop on Pedagogy of Data Visualizations (PDV), IEEE VIS 2017.

<u>N. McCurdy</u>, J. Dykes, M. Meyer. *Action Design Research and Visualization Design*, in Proceedings of the ACM Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV), IEEE VIS 2016.

<u>S. McKenna</u>, D. Staheli, M. Meyer. *Unlocking User-Centered Design Methods for Building Cyber Security Visualizations*, Proceedings of the IEEE Symposium on Visualization for Cyber Security (VizSec), 2015.

<u>N. McCurdy</u>, V. Srikumar, M. Meyer. *RhymeDesign: A Tool for Analyzing Sonic Devices in Poetry*, Workshop on Computational Linguistics for Literature, NAACL HLT, 2015.

<u>A. Bigelow</u>, S. Drucker, D. Fisher, M. Meyer. *Reflections on How Designers Design With Data*, Proceedings of the ACM International Conference on Advanced Visual Interfaces (AVI), 2014. *acceptance rate: 28%.* **Best Paper Award.**

M. Meyer, M. Sedlmair, T. Munzner. *The Four-Level Nested Model Revisited: Blocks and Guidelines*, in Proceedings of the ACM Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV), IEEE VIS 2012.

A. Duchowski, M. Price, M. Meyer, P. Orero. *Aggregate Gaze Visualization with Real-time Heatmaps*, in Proceedings of the ACM Symposium on Eye Tracking Research & Applications (ETRA), 2012. *acceptance rate: 31%*

R. Whitaker, R. M. Kirby, J. Sinstra, M. Meyer. *Multimaterial Meshing of MRI Head Data for Bioelectric Field Simulations*, in Proceedings of the 17th International Meshing Roundtable, 2008.

J. Cates, M. Meyer, T. Fletcher, R. Whitaker. *Entropy-Based Particle Systems for Shape Correspondence*, in Proceedings of the Workshop on Mathematical Foundations of Computational Anatomy, MICCAI 2006, pp. 90–99.

M. Meyer, P. Georgel, R. Whitaker. *Robust Particle Systems for Curvature Dependent Sampling of Implicit Functions*, in Proceedings of the International Conference on Shape Modeling and Applications, 2005, pp. 124–133.

**Articles, Short Papers, and Abstracts**

N. McCurdy, M. Meyer. *Galstamps: Analyzing real and simulated galaxy observations*, in Proceedings of the IEEE VIS Conference (short papers), 2019.

M. Meyer, J. Dykes. *Reflection on Reflection in Applied Visualization Research*, IEEE Computer Graphics and Applications, 38(6):9-16, 2018.

P. Goffin, A. Hopkins, W. Willett, M. Meyer. *Challenges in Urban Air Quality Data Visualization*, Proceedings of the Workshop on Urban Data Visualization (CityVis), IEEE VIS, 2018.

P. S. Quinan, L. Padilla, S. Creem-Regehr, M. Meyer. *Towards Ecological Validity in Evaluating Uncertainty*, Proceedings of the Workshop on Visualization for Decision Making Under Uncertainty, IEEE VIS, 2015.

M. Meyer. *Designing Visualization for Biological Data*, Arts, Humanities, and Complex Networks Symposium keynote, in Leonardo Transactions, MIT Press, 46(3), 2013.

A. Bigelow, M. Meyer, N. Camp. *compreheNGSive: A Tool for Exploring Next-Gen Sequencing Variants*, Symposium on Biological Data Visualization, IEEE VisWeek 2012.

M. Meyer. *Contributions, Methods, and Unique Characteristics of Design Studies*, Workshop on the Role of Theory in Information Visualization, IEEE VisWeek 2010.

A. DePace, C. Fowlkes, C. Luengo, S. Kernen, C. Henriquez, L. Simirenko, K. Eckenrode, M. Meyer, D. Knowles, M. Biggin, J. Malik, M. Eisen. *Comparison of gene expression at cellular resolution in Drosophila reveals distinct transcriptional niches between species*, Drosophila Research Conference 2009.

**Book Chapters**

H. Jaenicke and M. Meyer. *From Genomes to Cells: Visualization in Biology*, Chapter 22 in Scientific Visualization, Springer London, 2014.

## FUNDING

**DARPA** *The Visualization Design Environment*, J. Baumes (PI) *et al*, M. Meyer (co-PI), DARPA XDATA, August 2012-2017. $3,038,000 ($550,000).

**NIH** *Predictive Modeling of Bioelectric Activity on Mammalian Multilayered Neuronal Structures in Presence of Supraphysiological Electric Fields*, G. Lazzi (PI) *et al*, M. Meyer (co-PI), NIH (NIGMS), August 2012-2016. $3,982,000 ($285,000).

**NIH** *Refining and Testing the Electronic Social Network Assessment Program*, M. Reblin (PI) *et al*, M. Meyer (co-PI), NIH (NCI), September 2015-2016. $250,000 ($19,000).

**NSF** *Modeling, Display, and Understanding Uncertainty in Simulations for Policy Decision Making*, R. Whitaker (PI) *et al*, M. Meyer (co-PI), NSF Computer Graphics and Visualization (CISE-IIS), September 2012-2016. $1,280,000 ($324,000).

**NEH** *Poemage Prototype*, M. Meyer (PI), K. Coles (co-PI), May 2015-2016. $60,000 ($30,000).

**ARO** *Applying GPU Computing*, E. Brunvand (PI), M. Meyer (co-PI), August 2013-2014. $115,000 ($75,000).

**University of Utah** *The Eye of the Storm: Visualizing Poetry in Space and Time*, K. Coles (PI), M. Meyer (co-PI), August 2013-2014. $28,000 ($14,000).

**DoD** *SACURE: Situational Awareness for Cyber-secURity Evaluation and training*, R. Pokorny (PI) *et al*, M. Meyer (co-PI), June 2013. $150,000 ($15,000).

**State of Utah** *Using Cloud-based Computing as a Channel for Genetics Visualization Software*, M. Meyer (PI), August 2012-2013. $40,000 ($40,000).

**Microsoft Research Faculty Fellowship Award** July 2012. $200,000 ($200,000).


## KEYNOTES AND DISTINGUISHED LECTURES

**Things That Poems Taught Me About Visualization**
Austrian Academy of Sciences Digital Humanities Lecture Series, January 2019
IEEE VIS Workshop on Visualization for the Digital Humanities Keynote, October 2018

**Designing Effective Visualizations**
NetSci Conference Keynote, May 2018
Computer Science Department Distinguished Lecture Series, Colorado State University, April 2018

**Just A Tool, Or A Science? The Role Of Visualization In Discovery**
BioVis Keynote, July 2017

**Designing Visualizations**
International Workshop on Bio-Design Automation Keynote, August 2015
Show and Tell Speaker Series, University of Chicago, May 2015
Strata Conference Keynote, October 2014
Rocky Mountain CUWiP Conference Keynote, January 2014
Design Research Conference Keynote, IIT Institute of Design, October 2012
Arts | Humanities | Complex Networks Keynote – a Leonardo symposium at NetSci, June 2012

**Visualizing Data: Why an (Interactive) Picture is Worth a Thousand Numbers**
Park City Institute Lecture Series, August 2013
CI-WATER Symposium Keynote, May 2013
Women's History Month Keynote, Westminster College, March 2013
Gould Distinguished Lecture Series at the University of Utah, September 2012

# INVITED TALKS

**Research Through Visualization Design Study**
Ohio State University, September 2020 (virtual)
University of Utah, August 2019
NASA JPL, February 2020
University of Colorado, Boulder, October 2019
St. Pölten University of Applied Sciences, April 2019
University of Stuttgart, February 2019
Johannes Kepler University Linz, January 2019
Linköping University, November 2018

**Designing Effective Visualizations**
rstudio::conf, January, 2020
TU Wien, September 2018
VRVis, September 2018
University of Vienna, September 2018
Goldman Sachs, June 2018
SLC R Users Group, June 2018
OpenVis Conference, May 2018
Velocity Conference, October 2017
City, University of London, October 2017

**Data Vis Primer**
Data Science Summer School, University of Zürich, June 2019
Data Science Summer School, University of Vienna, September 2018
National Academies of Science, Engineering, and Medicine, February 2018

**Air Quality and U: Empowering Citizens Through Science**
Tech Talk Series, Salt Lake City, November 2017, *with Kerry Kelly*
Park City March for Science, April 2017
Air Quality: Science for Solutions Conference, March 2017

**Rigorously Designing Effective Visualizations**
Gordon Research Conference, August 2017

**Designing Visualizations**
Women in Data Science, February 2017
Domo, August 2016
Goldman Sachs, July 2016
Computational Modeling in Biology Network, September 2015
Salt Lake City Data Science Meet-up, August 2015
University of Oregon, April 2015
SIAM Conference on Computational Science and Engineering, March 2015
AAAS Annual Meeting, January 2015
LucidCharts, January 2015
Brigham Young University, December 2013
Utah State University, November 2013
Institute for Systems Biology, September 2013
Allen Institute for Brain Science, September 2013
Harvard, April 2013
KAUST, December 2012
University of Michigan, November 2012
Stanford, October 2012
Brigham Young University, September 2011

**Going Beyond the Numbers**
Utah Digital Government Summit, June 2016

**Why Vis Is(n't) HCI**
UBC HCI Seminar, February 2016

**Exploratory Visualization for Pattern Discovery**, *with Ross Whitaker and Chris Johnson*
FIRe Conference, September 2015

**What Designers and Data Scientists Can Learn from Each Other**, *with Danyel Fisher*
Strata Conference, February 2015

**Seeing Data**
PopTech, October 2013

**Science Visualization**
TED, February 2013

**Information Overload: Conquering the Crush of Almost Infinite Data**
The Leonardo Museum of Utah, August 2012

**Interfacing with Scientists**
MSR Cambridge, April 2012

**Visualization + Biology**
Biomedical Informatics, University of Utah, April 2012
Human Genetics Interest Group, University of Utah, November 2011

**Visualization for Biological Data**
EmTech Conference, October 2011

**Visualizing Biological Data**
WPI, April 2011
University of Utah, April 2011
UC Santa Barbara, April 2011
University of Washington, March 2011
SocialSphere, March 2011
Duke University, March 2011
University of Chicago, March 2011

Johns Hopkins University, March 2011
MIT, March 2011
Desire2Learn, March 2011
University of Edinburgh, February 2011
Vanderbilt University, February 2011
University of Miami, February 2011
Agilent Labs, February 2011
Battelle Center for Mathematical Medicine, January 2011

**Information Visualization for Scientific Discovery**
Harvard Graduate School of Design, March 2011
TEDx Waterloo, March 2011

**Pathline: A Tool for Exploring Biological Data in the Context of Molecular Networks**
Connecting the Dots Network Visualization Symposium, October 2010

**Developing Visualizations for Biological Data**
Clemson, October 2010
Jackson Labs, August 2010
IBM, June 2010

**Visual Representation of Science for Communication and Research**, *with Bang Wong*
MIT, July 2010
European Bioinformatics Institute, June 2010

**Developing Visualizations: From Algorithms to Design Studies**
Brown University, February 2010
Kitware, January 2010

**Developing Visualizations with Biologists**
Harvard Graduate School of Design, December 2009
Institute of Systems Biology, July 2009
UMass Lowell, June 2009

**Visualization and Interaction: Enabling Efficient Data Exploration**
Harvard Medical School, April 2009

**New Advances in Raycasting and Meshing**
Massachusetts General Hospital, November 2008

**Particle Systems for Efficient and Accurate High-Order Finite Element Visualization**
International Conference On Spectral and High Order Methods (ICOSAHOM07), June 2007
University of Utah, March 2007

**Dynamic Particles for Adaptively Sampling Surfaces**
University of Bonn, May 2007
University of Kaiserslautern, May 2007
Harvard University, April 2007

## Panels

**Reflection on Reflection in Design Studies**, IEEE VIS 2017, co-organized with Jason Dykes.

**Inspiring the Next Generation of Computer Scientists**, Microsoft Research Faculty Summit 2012, with Magdalena Balazinska, Emma Brunskill, and Wei Wang.

**Challenges in Visualizing Biological Data**, IEEE VisWeek 2010, with Inna Dubchak , Nils Gehlenborg, Carsten Görg, Matthew Hibbs, Cydney Nielsen, Chris North, and Seán O'Donoghue.

**The Computing Innovation Fellows (CIFellows) Program**, CRA Chairs Conference 2010, with Peter Lee, Andrew McPherson, and Antonina Mitrofanova.

**New Faculty Members and Postdoctoral Fellows Spill the Beans**, IEEE VisWeek 2009, with Jeff Heer, Alark Joshi, and Gordon Kindlmann. **Best Panel Award**.

## Tutorials

**Making Data Visual**, Strata 2018, with Danyel Fisher.

**Visualization of Large-Scale Biological Data**, BioIT-World Conference 2011, with Nils Gehlenborg.

## Teaching

**University of Utah**
Programming For All (COMP 1010). F19, F20
Research Paradigms for Human-Centered Computing (CS 7960). S20
Introduction to Algorithms and Data Structures (CS 2420). S15, S16, F16, S18
Human-Computer Interaction (CS 6540). F17
Visualization (CS 5630/6630). F12, F13, F14
Design Studies (CS 7690), S13
Information Visualization (CS 6964), S12

**Harvard University**
Visualization (CS 171), *co-instructor*. F08, F09

## STUDENTS

### Current PhD
Derya Akbaba
Jimmy Moore *(co-advised with Jason Wiese)*
Jen Rogers *(co-advised with Alex Lex)*

### Graduated
Alex Bigelow, Ph.D., *"Reflection, Models, and Software For Iterative Visualization Design"* , 2019
Ethan Kerzner, Ph.D., *"A Framework For Creative Visualization-Opportunities Workshops"*, 2018
Nina McCurdy, Ph.D., *"Action Design Research for Applied Visualization Design"*, 2019
Sean McKenna, Ph.D., *"The Design Activity Framework: Investigating the Vis Design Process"*, 2017
Sam Quinan, Ph.D., *"A Mixed-Methods Exploration of Color Encodings for 2D Scalar Fields"*, 2019

Joshua Dawson, M.S., *"Visualizing the UTA Transit System"*, 2015
Linda Gorman, M.S., *"Visualizing Text from Online Health Communities"*, 2020

Alex Bigelow, B.S., *"Visualization of Large-Scale Epigenetic Data"*, 2012
Dasha Pruss, B.S., *"Toward Interactive Visualization of Connectome Paths"*, 2016
Dylan Wootton, B.S., *"Improving Air Quality Modeling in Salt Lake City Through Vis and ML"*, 2019

### Undergraduate Interns
Aspen Hopkins, 2017-2018
Zella Urquhart, 2013-2015

## PROFESSIONAL SERVICE

### Executive Committee
IEEE Visualization and Graphics Technical Committee, *vice-chair*, 2017 – present
IEEE VIS Executive Committee, *member*, 2017 – 2020

### Editorial Board
IEEE Transactions on Visualization and Computer Graphics, *associate editor*, 2020 – present
IEEE Computer Graphics and Applications, *associate editor*, 2018 – present
IEEE Computer Graphics and Applications, *guest editor*, 2017

### Organizing Committee
IEEE VIS, *Papers co-chair*, 2019, 2020
BELIV, *co-organizer*, 2018, 2020
National Academies Arab-American Frontiers of Science, Engineering, and Medicine, *co-organizer*, 2018
IEEE VIS, *Posters co-chair*, 2017, 2018
Eurographics/IEEE Symposium on Visualization (EuroVis), *State of the Art Reports co-chair*, 2017
Rocky Mountain Celebration of Women in Computing, *co-organizer*, 2016
IEEE VIS, *VISKids co-chair*, 2015, 2016
IEEE Symposium on Biological Data Visualization (BioVis), *Primer/Tutorial co-chair*, 2015
CRA/CCC CIFellows Workshop, *co-chair*, 2014
IEEE VIS, *VIS in other Venues chair*, 2013
IEEE Symposium on Biological Data Visualization (BioVis), *Publications co-chair*, 2012, 2013
Eurographics/IEEE Symposium on Visualization (EuroVis), *Short Papers co-chair*, 2012
IEEE Symposium on Biological Data Visualization (BioVis), *Abstracts co-chair*, 2011

**Program Committee**
Eurographics/IEEE Symposium on Visualization (EuroVis), 2010 – 2013, 2015, 2019
ACM SIGCHI, 2016, 2018
Information+, 2016, 2018
IEEE Information Visualization Conference (InfoVis), 2011 – 2013, 2015 – 2017
IEEE Symposium on Biological Data Visualization (BioVis), 2011 – 2013, 2016 – 2017
Eurographics Workshop on Visual Computing for Biology and Medicine (VCMB), 2010, 2015 – 2016
ACM BELIV Workshop, 2016
IEEE International Symposium on Big Data Visual Analytics (BDVA), 2015 – 2016
Symposium on Visualization in Data Science (VDS), 2015
Intelligent Systems in Molecular Biology (ISMB), 2012
Discovery Informatics Symposium, 2012

**Grant Review Panel**
National Science Foundation (NSF), 2009, 2011, 2012, 2015, 2017, 2019
German Research Foundation (DFG), 2018
Austrian Science Fund, 2016
Natural Sciences and Engineering Research Council of Canada (NSERC), 2015
National Institutes of Health (NIH), 2010

## UNIVERSITY SERVICE

**Presentation for the Biochemistry Department**, 2019

**Digital Humanities Faculty Search Committee**, 2015 – 2016

**Presentation for the CoE ENAC**, 2015

**Rocky Mountain CUWiP Keynote**, 2014

**Imposter Syndrome Panel**, 2014

**Design Major Advisory Board**, 2011 – 2015

**Park City Institute Lecture**, 2013

**CI-WATER Symposium Keynote**, 2013

**Gould Distinguished Lecture**, 2012

**Presentation for the Office of General Counsel**, 2012

## DEPARTMENT SERVICE

**Faculty Mentoring Committee (chair)**, 2020 – present

**Grad Admissions Committee**, 2012 – 2015, 2020 – present

**Computing Minor Committee**, 2019 – present

**Director Hiring Committee**, 2019 – 2020

**Curriculum Committee**, 2019 – 2020

**HCI Hiring Committee Chair**, 2017 – 2018

**Human-Centered Computing Track Director**, 2017 – 2018

**Diversity Committee**, 2014 – 2018

**Gemstone Hiring Committee**, 2016 – 2017

**Biodiversity Hiring Committee**, 2016 – 2017

**Director of Industrial Advisory Board**, 2014 – 2017

**Rocky Mountain Celebration of Women Conference Organizing Committee,** 2015 – 2016

**EAE/SoC Hiring Committee,** 2015 – 2016

**Sisters Rise Up Workshop,** *at Westminster College*, 2016

**On-ramp Committee**, 2015 – 2016

**Ask Us Anything Panel**, 2015

**Visualization Hiring Committee**, 2012 – 2015

**HCI Hiring Committee**, 2013, 2015

**Grad Recruiting Organizer**, 2011 – 2014

**NCWIT Aspirations Award Organizer**, 2013

**Grace Hopper Conference Mentor to attending SoC students**, 2011

## Media Coverage

"The air is cleaner for those living at higher, more expensive elevations", Fox13 SLC, Jan 2020.

"Why scientists need to be better at data visualization", Knowable Magazine, Nov 2019.

"Tracking a lifetime of exposures to better understand disease", Knowable Magazine, Sep 2019.

"ACDH Queries with Miriah Meyer", Austrian Academy of Sciences Queries, Jan 2019.

"Quand la pollution présente chez soi devient visible", Sciences et Avenir, Oct 2018.

"In-home monitoring changes household routines", Green Wire, Oct 2018.

"Seeing how chores impact your home's air quality", Salt Lake Tribune, Oct 2018.

"AQ&U: Empowering Citizens Through Science", KRCL, Nov 2017.

"Team science: Helping scientists make sense of data with new tools", SiliconAngle, Feb 2017.

"Attacking the Big Data Deluge the Smart Way", Government Technology Magazine, Jun 2016.

"Poemage", DataDrivenJournalism.net, Apr 2016.

"Poemage: Data Visualization for Poets with Miriah Meyer & Nina McCurdy", DataStori.es, Feb 2016.

"Designing Exploratory Data Visualization Tools with Miriah Meyer", DataStori.es, Jun 2015.

"On the Art and Science of Visualization", KDNuggets.com, Jan 2015.

"Hadoop World: The executive dashboard is on the way out", NetworkWorld.com, Oct 2014.

"Signals from Strata + Hadoop World New York 2014", O'Reilly Radar, Oct 2014.

"Words of wisdom from big data conference", ITWorldCanada.com, Oct 2014.

"Helping Scientists Interpret their Data with Visualization", KCPW, Dec 2013.

"What is style?", MISC Magazine, Jan 2013.

"Meet the 2013 TED Fellows: Game Changers From Around the Globe", TEDFellows Blog, Nov 2012.

"Data scientist is new hot job for college grads", KSL Radio, Oct 2012.

"U. of Utah scientist tackles Big Data with visualization", Salt Lake Tribune, Sep 2012.

"Dealing with Data", KCPW, Aug 2012.

"If Creativity is Currency, Are You Broke?", DailyTekk.com, Jul 2012.

"U. of U. computer scientist receives Microsoft fellowship", Salt Lake Tribune, Jun 2012.

"The 100 Most Creative People in Business", Fast Company, Jun 2012.

"Pathline: Connecting Designers With Scientists", DataVisualization.ch, Apr 2012.

"Visualising risk: can we do better than heat maps?", NewsInBriefs.net, Apr 2012.

"A fresh approach to data visualization", Broad Institute Blog, Sep 2011.

"Tools from the Pros #1: Miriah Meyer on Processing", FellInLoveWithData.com, Sep 2011.

"U. professor helping scientists see their work in a different way", Deseret News, Aug 2011.

"Miriah Meyer: Extending data visualization to biology", MIT Technology Review, Aug 2011.

"Computer Imaging that Aids Science", Harvard Gazette, Jul 2010.

"New Algorithm, Satsuma, Aligns without Seeding, is Fast, and Parallel", GenomeWeb.com, Nov 2009.