Miriah Meyer

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November 2024

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

Professor, 2021 – present
Department of Science & Technology
Linköping University

Associate Professor, 2017 – 2021
Assistant Professor, 2011 – 2017
School of Computing
Scientific Computing & Imaging (SCI) Institute
University of Utah

Visiting Professor, 2018 – 2019
Faculty of Computer Science
University of Vienna

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

Postdoctoral Research Fellow, 2008 – 2011
School of Engineering & Applied Sciences
Harvard University
Supervisors: Hanspeter Pfister and Tamara Munzner

Awards

Best Paper Award, IEEE VIS, 2024
Test of Time Award, IEEE VIS, 2022
Distinguished Alumni Award, University of Utah, 2017
Outstanding Teaching Award, School of Computing, University of Utah, 2015
PopTech Science Fellow, 2013
TED Fellow, 2013
Microsoft Research Faculty Fellowship, 2012
MIT Technology Review TR35: The Top 35 Innovators Under 35, 2011
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

Refereed Conference and Journal Publications

<u>D. Akbaba</u>, L. Klein, M. Meyer. *Entanglements for Visualization: Changing Research Outcomes through Feminist Theory*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of VIS 2024), to appear. **Best Paper Award**.

<u>C. Walchshofer</u>, <u>V. Dhanoa</u>, M. Streit, M. Meyer. *Transitioning to a Commercial Dashboarding System: Socio-technical Observations and Opportunities*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of VIS 2022), 2023.

<u>D. Akbaba</u>, D. Lange, M. Correll, A. Lex, M. Meyer. *Troubling Collaboration: Matters of Care for Visualization Design Study*, ACM SIGCHI Conference on Human Factors in Computing Systems (Proceedings of CHI 2023), 2023.

<u>H. Lin</u>, <u>D. Akbaba</u>, M. Meyer, A. Lex. *Data Hunches: Incorporating Personal Knowledge into Visualizations*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of VIS 2022), 29(1):504-514, 2022.

<u>J. Moore</u>, P. Goffin, J. Wiese, M. Meyer. *Exploring the Personal Informatics Analysis Gap: 'There's a Lot of Bacon'*, IEEE Transactions on Visualization and Computer Graphics (Proceedings of VIS 2021), 28(1):96-106, 2022.

<u>J. Moore</u>, P. Goffin, J. Wiese, M. Meyer. *An Interview Method for Engaging Personal Data*, ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (Proceedings of UbiComp 2022), 5(4):1-28, 2021.

<u>K. Gadhave</u>, <u>J. Görtler</u>, <u>Z. Cutler</u>, C. Nobre, O. Deussen, M. Meyer, J. Phillips, A. Lex. *Predicting Intent Behind Selections in Scatterplot Visualizations*, Information Visualization, 20(4):207-228, 2021.

<u>J. Rogers</u>, 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), 27(2):1106-1116, 2021.

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.

<u>D. Kouřil</u>, 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.

<u>C. Norbe</u>, 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.

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

<u>N. McCurdy</u>, 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.

<u>E. Kerzner</u>, 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.

A. Bigelow, C. Nobre, 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.

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*, ACM 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*, Journal of Neuro-oncology, 139(3):643-649, 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*, Supportive Care in Cancer, 26(12)4199-4206, 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.

A. Bigelow, 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.**

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, 10-year Test of Time Award.**

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%*

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 Conservered 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.

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.

Refereed Workshop and Short Papers

L. Besançon, B. Nosek, T. Haven, M. Meyer, C. Dunne, M. Ghoniem. *Merits and Limits of Preregistration for Visualization Research*, in Proceedings of the IEEE Evaluation and Beyond – Methodological Approaches for Visualization (BELIV), IEEE VIS 2024.

D. Akbaba, M. Meyer. *"Two Heads are Better than One": Pair-Interviews for Visualization*, in Proceedings of the IEEE VIS Conference (short papers), 2023.

L. Ambrosini, M. Meyer. *Data Bricks Space Mission: Teaching Kids about Data with Physicalization*, in Proceedings of Vis for Social Good Workshop, IEEE VIS 2022.

H. Liu, M. Riggi, J. Rogers, M. Meyer, J. Iwasa. *A New Tool for Annotating Scientific Animations and Supporting Scientific Dialogue*, PLoS Biology, 20(8):e3001731, 2022.

D. Akbaba, J. Wilburn, M. Meyer. *Manifesto for Putting 'Chartjunk' in the Trash 2021!*, in Proceedings of the alt.VIS Workshop, IEEE VIS 2021.

C. Knoll, 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.

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

P. Lundrigan, K. Min, N. Patwari, S. Kumar, K. Kelly, J. Moore, 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.

S. McKenna, 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.

N. McCurdy, 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.

S. McKenna, 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.

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

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

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.

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

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.

Articles

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

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

Abstracts

M. Dagkouli-Kryiakoglou, E. Johnson, M. Meyer. *The Butterfly at the End of the University*, in Proceedings of the Information+ Conference, 2023.

D. Akbaba, L. Klein, M. Meyer. *Reflections on applying feminist theory to visualization research*, in Proceedings of the Information+ Conference, 2021.

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.

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

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

Current

VR *Traceability for Transparent and Scrutinizable Visualization Research*, Miriah Meyer (PI), 2025-2028. 5M SEK (5M SEK).

VR *Neighborhood and school segregation across educational careers: patterns, processes, and implications for educational inequality*, Ben Jarvis (PI) *et al*, M. Meyer (co-PI), 2024-2029. 17,8M SEK (4M SEK).

Vinnova *Future Human-centered Autonomous Regional Cargo Airports*, Mikael Smedberg (Coordinator) *et al*, M. Meyer (WP leader), 2022-2025. 12,5M SEK (2,9M SEK).

WASP *Recruited Professor*, 2021-2025. 21M SEK.

Completed

NSF *Reproducible Visual Analysis of Multivariate Networks with MultiNet*, M. Meyer (PI) *et al*, NSF (CISE-OAC), 2019-2023. $2,025,000 ($498,000).

NSF *A layered framework of sensors, models, land-use information and citizens for understanding air quality in urban environments*, M. Meyer (PI) *et al*, NSF (CISE-CNS), 2016-2021. $775,000 ($196,000).

NSF *Building a visual consensus model of the SARS-CoV-2 life cycle*, J. Iwasa (PI), M. Meyer (co-PI), NSF (BIO-MCB), 2020-2021. $175,000 ($85,000).

University of Utah *Capturing and Communicating Diverse Biomedical Hypotheses Through Visualization*, M. Meyer (PI), J. Iwasa, J. Shepherd, 2020-2021. $30,000 ($15,000).

NIH *PRISMS: Informatics Federation Architecture Center*, K. Sward (PI) *et al*, M. Meyer (Project Lead), NIH (NIBIB), 2015-2020. $5,530,000 ($546,000).

NSF *CAREER: Design Decision Patterns for Visualizing Multivariate Graphs*, M. Meyer (PI), NSF Computer Graphics and Visualization (CISE-IIS), 2014-2019. $500,000 ($500,000).

Utah Ignite *Smart Air*, M. Meyer (PI), *et al*, 2018-2019. $20,000 ($20,000).

University of Utah *SongHelix: An online reference work that makes the discovery of related Art Song possible in a revolutionary new way*, S. Keeton (PI), M. Meyer (senior personel), 2017-2018. $15,000 ($10,000).

DARPA *The Visualization Design Environment*, J. Baumes (PI) *et al*, M. Meyer (co-PI), DARPA XDATA, 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), 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), 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), 2012-2016. $1,280,000 ($324,000).

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

ARO *Applying GPU Computing*, E. Brunvand (PI), M. Meyer (co-PI), 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), 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), 2013. $150,000 ($15,000).

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

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

KEYNOTES AND DISTINGUISHED LECTURES

Troubling Visualization
SimTech Conference Keynote, University of Stuttgart, October 2023

A Data Visualization Perspective
Tracing Urban Data Workshop Keynote, University of Vienna, July 2022

A Tool Is Not Enough: Research Contributions Through Design Study
EuroVA Keynote, June 2021

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

Troubling Visualization
University of Bergen, September 2024
University of Zürich, June 2023
INRIA, February 2023

Research Through Visualization Design
ETH, June 2023
Purdue University, February 2022

St. Pölten University of Applied Sciences, December 2021
Simon Fraser University, November 2021
FH Potsdam, November 2021
DataViz Meetup, June 2021
National Institute of Statistics and Geography of Mexico (INEGI), June 2021
University of Washington, January 2021
Simon Fraser University, January 2021
Ohio State University, September 2020
NASA JPL, February 2020
University of Colorado, Boulder, October 2019
University of Utah, August 2019
St. Pölten University of Applied Sciences, April 2019
University of Stuttgart, February 2019
Johannes Kepler University Linz, January 2019
Linköping University, November 2018

Visualization Design as a Critical Lens on Data
KTH, April 2022
Umeå University, March 2022

Human-Centered Visual Analysis
WASP Winter Conference, January 2022

Impact Through Visualization
S-H-O-W Conference, April 2021
rstudio::conf, January 2020

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

Designing Effective Visualizations
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

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

Merits and Limits of User Study Preregistration, IEEE VIS 2022, with Brian Nosek
and Tamarinde Haven.

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

Linköping University
Visualization + Society Reading Group. S22, F22, S23, F23, S24, F24

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 Postdocs
Myrto Dagkouli-Kyriakoglou

Current PhD
Derya Akbaba
Caterina Blomgren

Graduated
Jen Rogers, Ph.D., *"Traceability in Design-Oriented Visualization Research"*, 2022
Jimmy Moore, Ph.D., *"The Personal Informatics Analysis Gap"*, 2021
Sam Quinan, Ph.D., *"A Mixed-Methods Exploration of Color Encodings for 2D Scalar Fields"*, 2019
Nina McCurdy, Ph.D., *"Action Design Research for Applied Visualization Design"*, 2019
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
Sean McKenna, Ph.D., *"The Design Activity Framework: Investigating the Vis Design Process"*, 2017

Camilla Svensson, M.Des., *"Vis Workshops of Personal Data for Social Organizations"*, 2024
Claudia Torelli, M.Des., *"Assesment of Personal Data Workshops for Social Organizations"*, 2024
Derya Akbaba, M.S., *"Reflections on Applying Critical Data Visualization in Practice"*, 2022
Lorenzo Ambrosini, M.Des., *"Data Bricks Space Mission: Teaching Kids about Data"*, 2022
Linda Gorman, M.S., *"Visualizing Text from Online Health Communities"*, 2020
Joshua Dawson, M.S., *"Visualizing the UTA Transit System"*, 2015

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

Previous Postdocs
Charles Berret, 2022-2024
Pascal Goffin, 2016-2019

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

Professional Service

Executive Committee
IEEE VIS Steering Committee, *co-chair*, 2022 – present
IEEE Computer Society Technical & Conference Activities Board, *member-at-large*, 2021 – 2022
IEEE Visualization and Graphics Technical Committee, *vice-chair*, 2017 – 2022
IEEE VIS Executive Committee, *member*, 2017 – 2020

Editorial Board
IEEE Transactions on Visualization and Computer Graphics, *associate editor*, 2020 – 2024
IEEE Computer Graphics and Applications, *guest editor*, 2017, 2024
IEEE Computer Graphics and Applications, *associate editor*, 2018 – 2022
IEEE Computer Graphics and Applications, *guest editor*, 2017

Expert Panel
National Institute of Statistical Sciences, 2021

Organizing Committee
ACM CHI, *Papers subcommittee co-chair*, 2023, 2024
Information+, *Presentations co-chair*, 2023
BELIV, *co-organizer*, 2018, 2020, 2022
IEEE VIS, *Papers co-chair*, 2019, 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
IEEE VIS, 2022
ACM SIGCHI, 2016, 2018, 2022
Information+, 2016, 2018, 2021
Eurographics/IEEE Symposium on Visualization (EuroVis), 2010 – 2013, 2015, 2019
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
Wallenberg AI, Autonomous Systems and Software Program (WASP), 2022
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

Media Coverage

"Episode #199: Miriah Meyer", PolicyViz Podcast, June 2021.

"Highlights from IEEE VIS'20 with Miriah Meyer & Danielle Szafir", DataStori.es, Nov 2020.

"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.