John Wenskovitch

Scientist | Researcher | Educator

Artificial Intelligence & Data Analytics Division
Foundational Data Science Group
Visual Analytics Team
Pacific Northwest National Laboratory (PNNL)
+1 724-594-3375
johnwenskovitch@gmail.com

Work Overview and Research Interests

My research interest centers upon the question "How can **machine learning** support **human-centered workflows** for knowledge discovery?" At the intersection of **machine learning**, **visual analytics**, and **human-computer interaction**, I design **human-in-the-loop** prototype systems and interfaces that enable users to interact with, evaluate, and **trust** mathematical and computational models. My contributions to research projects include **applied data science**, investigations into **human-machine teaming**, and the use of **AI** models to support **exploratory visual analysis**. I am also a strong proponent of **interdisciplinary work**, and my previous research projects have been in collaboration with astronomers, computational biologists, engineers, nurses, and statisticians, among others. I have also applied AI and visualization to **electronic and new media** art projects.

Education

2019
2011
Ph.D. in Computer Science, Virginia Polytechnic Institute and State University, Advisor: Dr. Chris North, (at Virginia Tech 2016-2019, at the University of Pittsburgh 2011-2014 advised by Dr. G. Elisabeta Marai)
Dimension Reduction and Clustering for Interactive Visual Analytics

2011
2009
M.S. in Computer Science, University of Pittsburgh, Advisor: Dr. Jingtao Wang
Exploring the Use of Rotational Input and Gyroscopes in Smartphones

2009
2005
B.S. in Software Engineering (Mathematics Minor and Multimedia Application Domain), Gannon University, Advisor: Dr. Mei-Huei Tang
Rosetta Fist: An Interactive Sign Language Tutoring Tool using the Nintendo WiiMote

Technical Skills

Languages: Python, Java, Javascript, HTML/CSS, SQL, C
Data Science Tools: scikit-learn, pandas, NumPy, PyTorch, TensorFlow, XGBoost
Visualization Tools: D3.js, Plotly, Processing/p5.js, Bokeh, matplotlib/seaborn, Tableau
Skills: Exploratory data analysis, visual analytics, supervised and unsupervised learning, deep learning, ensemble methods, model evaluation, hypothesis testing, A/B testing, statistical analysis, applied machine learning, quantitative research, qualitative research

Current Positions
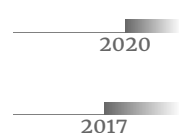
2020
Senior Data Scientist, Foundational Data Science Group, Artificial Intelligence & Data Analytics Division, Pacific Northwest National Laboratory

2017
Adjunct Professor, Department of Computer Science, Virginia Tech
- (Visiting Assistant Professor, 2019-2020)
- (Graduate Teaching Instructor of Record, 2017-2019)

Previous Positions

Academia
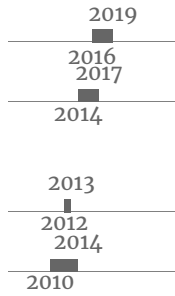
2019
Graduate Research Assistant, Department of Computer Science, Virginia Tech

2016 2017
Visiting Assistant Professor, Department of Computer Science, Allegheny College
- (Adjunct Professor, 2016–2017)
- (Visiting Assistant Professor, 2014–2016)

2013
Adjunct Professor, Department of Mathematics, Chatham University

2012 2014
Teaching Assistant and Graduate Student Researcher, Department of Computer Science, University of Pittsburgh

2010

Industry
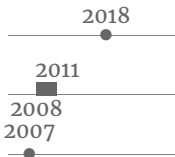
2018
Intern, Enterprise AI Group, Research Department, FX Palo Alto Laboratory (FXPAL)

2011
Software Engineer Intern, PRS Pharmacy Services

2008
2007
Information Systems Intern, The Children's Institute of Pittsburgh

Publications

Journal, Conference, and Symposium Publications

2024
John Wenskovitch, Corey Fallon, Kate Miller, and Aritra Dasgupta. "Characterizing Interaction Uncertainty in Human-Machine Teams," in *2024 IEEE 4th International Conference on Human-Machine Systems (ICHMS)*. 2024, pp. 1–6. DOI: `10.1109/ICHMS59971.2024.10555605`.

2024
John Wenskovitch, Michelle Dowling, and Chris North. "Towards Addressing Ambiguous Interactions and Inferring User Intent with Dimension Reduction and Clustering Combinations in Visual Analytics," *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 14(1) (Mar. 2024). DOI: `10.1145/3588565`.

2023
John Wenskovitch and Amruta Jaodand. "Human Factors for Machine Learning in Astronomy," in *Human Factors and Simulation. AHFE (2023) International Conference*. Vol. 83. AHFE Open Access, AHFE International, USA. 2023. DOI: `10.54941/ahfe1003580`.

2023
Alexander Anderson, Brett Jefferson, Slaven Kincic, **John Wenskovitch**, Corey Fallon, Jessica Baweja, and Yousu Chen. "Human-Centric Contingency Analysis Metrics for Evaluating Operator Performance and Trust," *IEEE Access*, 11 (2023), pp. 109689–109707. DOI: `10.1109/ACCESS.2023.3322133`.

2023
Joseph Schreiber, **John Wenskovitch**, Janice Belt, Amy O'Donnell, and Debra Wolf. "Clinical Outcomes of an Intensity Program for Children with Movement Challenges," *Pediatric Physical Therapy* (2023). DOI: `10.1097/PEP.0000000000001014`. Journal Impact Factor: 1.452.

2022
John Wenskovitch, Brett Jefferson, Alexander Anderson, Jessica Baweja, Danielle Ciesielski, and Corey Fallon. "A Methodology for Evaluating Operator Usage of Machine Learning Recommendations for Power Grid Contingency Analysis," *Frontiers in Big Data*, 5 (2022). DOI: `10.3389/fdata.2022.897295`.

2022
John Wenskovitch, Alexander A. Anderson, Slaven Kincic, Corey Fallon, Danielle Ciesielski, Jessica Baweja, Molly C. Mersinger, and Brett Jefferson. "Operator Insights and Usability Evaluation of Machine Learning Assistance for Power Grid Contingency Analysis," in *Human Factors in Energy: Oil, Gas, Nuclear, and Electric Power. AHFE (2022) International Conference*. Vol. 54. AHFE Open Access, AHFE International, USA. 2022. DOI: `10.54941/ahfe1002219`.

2022
Jesse Harden, Elizabeth Christman, Nurit Kirshenbaum, **John Wenskovitch**, Jason Leigh, and Chris North. "Exploring Organization of Computational Notebook Cells in 2D Space," in *2022 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*. 2022, pp. 1–6. DOI: `10.1109/VL/HCC53370.2022.9833128`.

2021 · **John Wenskovitch** and Chris North. "An Examination of Grouping and Spatial Organization Tasks for High-Dimensional Data Exploration," *IEEE Transactions on Visualization and Computer Graphics*, 27(2) (Feb. 2021), pp. 1742–1752. DOI: 10.1109/TVCG.2020.3028890.

2021 · Ming Wang, **John Wenskovitch**, Leanna House, Nicholas Polys, and Chris North. "Bridging Cognitive Gaps Between User and Model in Interactive Dimension Reduction," *Visual Informatics* (2021). DOI: 10.1016/j.visinf.2021.03.002.

2021 · Kimberly A. Olszewski, Debra M. Wolf, and **John Wenskovitch**. "Exploring Occupational Health Professionals Understanding and Needs in Regard to Total Worker Health (TWH)," *Workplace Health & Safety*, 69(7) (2021). PMID: 34034578, pp. 296–305. DOI: 10.1177/2165079921993110.

2020 · **John Wenskovitch** and Chris North. "Interactive Artificial Intelligence: Designing for the 'Two Black Boxes' Problem," *Computer*, 53(8) (2020), pp. 29–39. DOI: 10.1109/MC.2020.2996416.

2020 · **John Wenskovitch**, Michelle Zhou, Christopher Collins, Remco Chang, Michelle Dowling, Alex Endert, and Kai Xu. "Putting the 'I' in Interaction: Interactive Interfaces Personalized to Individuals," *IEEE Computer Graphics and Applications*, 40(3) (May 2020), pp. 73–82. DOI: 10.1109/MCG.2020.2982465.

2020 · Kai Xu, Alvitta Ottley, Conny Walchshofer, Marc Streit, Remco Chang, and **John Wenskovitch**. "Survey on the Analysis of User Interactions and Visualization Provenance," The Eurographics Association and John Wiley & Sons Ltd., 2020. DOI: 10.1111/cgf.14035.

2020 · **John Wenskovitch**, Michelle Dowling, and Chris North. "With Respect to What: Simultaneous Interaction with Dimension Reduction and Clustering Projections," in *Proceedings of the 25th International Conference on Intelligent User Interfaces*. IUI'20. Cagliari, Italy: Association for Computing Machinery, 2020, pp. 177–188. DOI: 10.1145/3377325.3377516.

2019 · **John Wenskovitch** and Chris North. "Pollux: Interactive Cluster-First Projections of High-Dimensional Data," in *2019 IEEE Visualization in Data Science (VDS)*. Oct. 2019, pp. 38–47. DOI: 10.1109/VDS48975.2019.8973381.

2019 · **John Wenskovitch**, Jian Zhao, Scott Carter, Matthew Cooper, and Chris North. "Albireo: An Interactive Tool for Visually Summarizing Computational Notebook Structure," in *2019 IEEE Visualization in Data Science (VDS)*. Oct. 2019, pp. 1–10. DOI: 10.1109/VDS48975.2019.8973385.

2019 · Christian Bors, **John Wenskovitch**, Michelle Dowling, Simon Attfield, Leilani Battle, Alex Endert, Olga Kulyk, and Robert S. Laramee. "A Provenance Task Abstraction Framework," *IEEE Computer Graphics and Applications*, 39(6) (Nov. 2019), pp. 46–60. DOI: 10.1109/MCG.2019.2945720.

2019 · Moeti M. Masiane, Anne Driscoll, Wu-chun Feng, **John Wenskovitch**, and Chris North. "Towards Insight-Driven Sampling for Big Data Visualization," *Behaviour & Information Technology*, 39(7) (2019), pp. 788–807. DOI: 10.1080/0144929X.2019.1616223.

2019 · Michelle Dowling, Nathan Wycoff, Brian Mayer, **John Wenskovitch**, Scotland Leman, Leanna House, Nicholas Polys, Chris North, and Peter Hauck. "Interactive Visual Analytics for Sensemaking with Big Text," *Big Data Research*, 16 (July 2019), pp. 49–58. DOI: https://doi.org/10.1016/j.bdr.2019.04.003.

2019 · Michelle Dowling, **John Wenskovitch**, J.T. Fry, Scotland Leman, Leanna House, and Chris North. "SIRIUS: Dual, Symmetric, Interactive Dimension Reductions," *IEEE Transactions on Visualization and Computer Graphics*, 25(1) (Jan. 2019), pp. 172–182. DOI: 10.1109/TVCG.2018.2865047.

2018 · **John Wenskovitch**, Lauren Bradel, Michelle Dowling, Leanna House, and Chris North. "The Effect of Semantic Interaction on Foraging in Text Analysis," in *2018 IEEE Conference on Visual Analytics Science and Technology (VAST)*. Oct. 2018, pp. 13–24. DOI: 10.1109/VAST.2018.8802424.

2018 · Jessica Zeitz Self, Michelle Dowling, **John Wenskovitch**, Ian Crandell, Ming Wang, Leanna House, Scotland Leman, and Chris North. "Observation-Level and Parametric Interaction for High-Dimensional Data Analysis," *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 8(2) (June 2018), 15:1–15:36. DOI: 10.1145/3158230.

2018 · Xin Chen, Jessica Zeitz Self, Leanna House, **John Wenskovitch**, Maoyuan Sun, Nathan Wycoff, Jane Robertson Evia, Scotland Leman, and Chris North. "Be the Data: Embodied Visual Analytics," *IEEE Transactions on Learning Technologies*, 11(1) (Jan. 2018), pp. 81–95. DOI: 10.1109/TLT.2017.2757481.

2018 **John Wenskovitch**, Ian Crandell, Naren Ramakrishnan, Leanna House, Scotland Leman, and Chris North. "Towards a Systematic Combination of Dimension Reduction and Clustering in Visual Analytics," *IEEE Transactions on Visualization and Computer Graphics*, 24(1) (Jan. 2018), pp. 131–141. DOI: `10.1109/TVCG.2017.2745258`.

2016 **John Wenskovitch**, James C. Lombardi, and Roger W. M. Hatfull. "FluxE: Exploring Flux in Astrophysical Simulations," in *SIGGRAPH ASIA 2016 Symposium on Visualization*. SA '16. Macau: ACM, 2016, 15:1–15:8. DOI: `10.1145/3002151.3002154`.

2016 Debra M. Wolf, **John Wenskovitch**, and Bonnie B. Anton. "Nurses' Use of the Internet and Social Media: Does Age, Years of Experience and Educational Level Make a Difference?" *Journal of Nursing Education and Practice*, 6(2) (2016), pp. 68–75. DOI: `https://doi.org/10.5430/jnep.v6n2p68`.

2014 **John Wenskovitch**, Leonard A. Harris, Jose-Juan Tapia, James R. Faeder, and G. Elisabeta Marai. "MOSBIE: A Tool for Comparison and Analysis of Rule-Based Biochemical Models," *BMC Bioinformatics*, 15(1) (2014), pp. 316–331. DOI: `10.1186/1471-2105-15-316`.

2014 Timothy Luciani, **John Wenskovitch**, Koonwah Chen, David Koes, Timothy Travers, and G. Elisabeta Marai. "FixingTIM: Interactive Exploration of Sequence and Structural Data to Identify Functional Mutations in Protein Families," *BMC Proceedings*, 8(2) (2014), S3. DOI: `10.1186/1753-6561-8-S2-S3`.

2014 Chad Rittle, Yolanda C. Lang, and **John Wenskovitch**. "Tdap: The Need to Educate and Immunize," *Workplace Health & Safety*, 62(11) (2014), pp. 468–475.

2014 Debra M. Wolf, Bonnie B. Anton, and **John Wenskovitch**. "Promoting Health and Safety Virtually: Key Recommendations for Occupational Health Nurses," *Workplace Health & Safety*, 62(7) (2014), pp. 302–306.

2014 Debra M. Wolf, Bonnie B. Anton, and **John Wenskovitch**. "Using Nurse Survey Data to Empower Patients," *Journal of Healthcare Information Management*, 28(1) (2014), pp. 58–65.

2013 **John Wenskovitch**, Tim Luciani, Koonwah Chen, and G. Elisabeta Marai. "Fixing TIM: Identifying Functional Mutations in Protein Families through the Interactive Exploration of Sequence and Structural Data," in *BioVis 2013 Data Contest*. BioVis '13. Atlanta, GA, 2013. **[Vis Experts' Pick for Best Contest Submission]**.

Peer-Reviewed Workshop Publications

2024 Jesse Harden, April Yi Wang, Rebecca Faust, Katherine E. Isaacs, Nurit Kirshenbaum, **John Wenskovitch**, Jian Zhao, and Chris North. "Human-Notebook Interactions: The CHI of Computational Notebooks," in *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. CHI EA '24. Honolulu, HI, USA: Association for Computing Machinery, 2024. DOI: `10.1145/3613905.3636318`.

2021 **John Wenskovitch**, Corey Fallon, Kate Miller, and Aritra Dasgupta. "Beyond Visual Analytics: Human-Machine Teaming for AI-Driven Sensemaking," in *Proceedings of the IEEE VIS Workshop on Trust and Expertise in Visual Analytics (TREX)*. TREX'21. 2021, pp. 40–44. DOI: `10.1109/TREX53765.2021.00012`.

2020 Sorour E. Amiri, Bijaya Adhikari, **John Wenskovitch**, Alexander Rodriguez, Michelle Dowling, Chris North, and B. Aditya Prakash. "NetReAct: Interactive Learning for Network Summarization," in *Proceedings of the NeurIPS 2020 Workshop on Human And Model in the Loop Evaluation and Training Strategies (HAMLETS)*. NeurIPS'20. 2020.

2020 **John Wenskovitch** and Chris North. "The Two Black Box Problem: Human-Machine Co-Learning," in *Proceedings of the ACM CHI Workshop Artificial Intelligence for HCI: A Modern Approach*. CHI'20. Honolulu, HI, 2020.

2019 **John Wenskovitch**, Michelle Dowling, Laura Grose, Chris North, Remco Chang, Alex Endert, and David H. Rogers. "Machine Learning from User Interaction for Visualization and Analytics: A Workshop-Generated Research Agenda," in *2019 IEEE Workshop on Machine Learning from User Interaction for Visualization and Analytics (MLUI)*. VIS'19. Vancouver, BC, Canada, 2019, pp. 1–9. DOI: `10.1109/MLUI52769.2019.10075560`.

2019 Yali Bian, **John Wenskovitch**, and Chris North. "DeepVA: Bridging Cognition and Computation through Semantic Interaction and Deep Learning," in *2019 IEEE Workshop on Machine Learning from User Interaction for Visualization and Analytics (MLUI)*. VIS'19. Vancouver, BC, Canada, 2019, pp. 1–10. DOI: 10.1109/MLUI52769.2019.10075565.

2019 **John Wenskovitch** and Chris North. "Machine Learning from Interaction in Multi-Model Visual Analytics," in *Proceedings of the ACM CHI Conference Workshop on Human-Centered Machine Learning Perspectives*. CHI'19. Glasgow, UK, 2019.

2018 Michelle Dowling, **John Wenskovitch**, Peter Hauck, Adam Binford, Nicholas Polys, and Chris North. "A Bidirectional Pipeline for Semantic Interaction," in *2018 IEEE Workshop on Machine Learning from User Interaction for Visualization and Analytics (MLUI)*. VIS'18. Berlin, Germany, 2018, pp. 1–11. DOI: 10.1109/MLUI52768.2018.10075562.

2018 **John Wenskovitch**, Michelle Dowling, and Chris North. "The Cognitive and Computational Benefits and Limitations of Clustering for Sensemaking," in *Proceedings of the ACM CHI Workshop on Sensemaking in a Senseless World*. CHI'18. Montreal, QC, Canada, 2018.

2017 **John Wenskovitch** and Chris North. "Observation-Level Interaction with Clustering and Dimension Reduction Algorithms," in *Proceedings of the 2nd Workshop on Human-In-the-Loop Data Analytics*. HILDA'17. Chicago, IL, USA: ACM, 2017, 14:1–14:6. DOI: 10.1145/3077257.3077259.

Peer-Reviewed Conference Posters and Presentation Abstracts

2025 **John Wenskovitch**. "Insufficient Pixel Count: Using Astronomical Data Scales to Drive Visualization Advances," in *246th Meeting of the American Astronomical Society*. AAS 246. Anchorage, Alaska, 2025. DOI: 10.5281/zenodo.15850954.

2025 Milan Jain, Palak Mattoo, Ji Young Yun, Dustin Arendt, **John Wenskovitch**, and Thiagarajan Ramachandran. "pyMOODS: Enabling Informed Decision Making for Energy-Infrastructure Design at Scale," in *INFORMS Analytics+ Conference 2025*. INFORMS'25. Indianapolis, Indiana, 2025.

2021 Myles Mason, **John Wenskovitch**, D. Sarah Stamps, and Joshua Robert Jones. "Volcanic Activity Detection and Noise Characterization using Machine Learning," in *2021 EarthCube Annual Meeting*. EarthCube'21. Virtual Meeting, 2021.

2021 Kimberly Olszewski, Debra Wolf, and **John Wenskovitch**. "Exploring Occupational Health Nurse's Understanding and Needs in Regard to Total Worker Health (TWH)," in *Expanding Occupational Safety and Health: An International Conference*. Ex4OSH'21. Virtual Meeting, 2021.

2019 **John Wenskovitch** and Byron Rich. "Pulsar to Person (P2P): Data Visualization and Sonification to Experience the Universe," in *2019 European Week of Astronomy and Space Science*. EWASS 2019. Lyon, France, 2019.

2019 Lata Kodali, **John Wenskovitch**, Nathan Wycoff, Leanna House, and Chris North. "Uncertainty in Interactive WMDS Visualizations," in *2019 Symposium on Visualization in Data Science*. VDS 2019. Vancouver, BC, Canada, 2019.
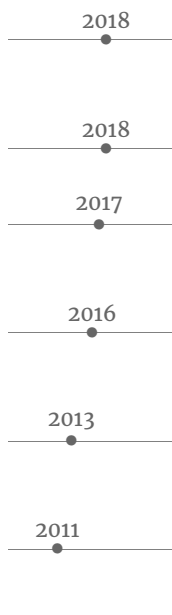
2019 **John Wenskovitch**, Michelle Dowling, and Chris North. "Simultaneous Interaction with Dimension Reduction and Clustering Projections," in *Proceedings of the 24th International Conference on Intelligent User Interfaces: Companion*. IUI '19. Marina del Rey, California: ACM, 2019, pp. 89–90. DOI: 10.1145/3308557.3308718.

2018 **John Wenskovitch**. "Dimension Reduction and Clustering Algorithm Combinations for Exploratory Data Analysis," in *2018 IEEE VIS Doctoral Colloquium Compendium*. Berlin, Germany, 2018.

2018 Byron Rich and **John Wenskovitch**. "Embodied Astronomical Phenomenon: Using Art to Access Astronomy," in *2018 European Week of Astronomy and Space Science*. EWASS 2018. Liverpool, UK, 2018.

2018 **John Wenskovitch** and Chris North. "Visual Analytics and Semantic Interaction to Explore Astronomical Data," in *2018 European Week of Astronomy and Space Science*. EWASS 2018. Liverpool, UK, 2018.

2018 Kimberly Olszewski, **John Wenskovitch**, and Debra Wolf. "Preparing for the Future: Where Are You with Total Worker Health?" in *2018 NSC Congress & Expo*. Houston, TX, 2018.

2018 Kimberly Olszewski, Debra Wolf, and **John Wenskovitch**. "Exploring Occupational Health Nurse's Understanding and Needs in Regard to Total Worker Health (TWH)," in *2nd International Symposium to Advance Total Worker Health*. Bethesda, MD, 2018.

2018 Kimberly Olszewski, Debra Wolf, and **John Wenskovitch**. "Total Worker Health…. Where are we? Where do we need to be?" in *AAOHN 2018 National Conference*. Reno, NV, 2018.

2017 **John Wenskovitch**, James C. Lombardi Jr., and Roger W.M. Hatfull. "A Computer Science Perspective on the Astronomy Research Software Process," in *2017 European Week of Astronomy and Space Science (EWASS)*. EWASS 2017. Prague, CZ, 2017.

2016 Debra Wolf, Bonnie Anton, and **John Wenskovitch**. "Empowering Patients to Use the WWW Safely to Make Decisions Regarding Their Health," in *18th International Conference on Nursing and Healthcare*. Irving, TX, 2016.

2013 **John Wenskovitch**, Leonard Harris, James Faeder, and G. Elisabeta Marai. "A Journaling System for Rule-Based Biochemical Models," in *IEEE BioVis Poster Abstracts with System Demonstration*. Atlanta, GA, 2013.
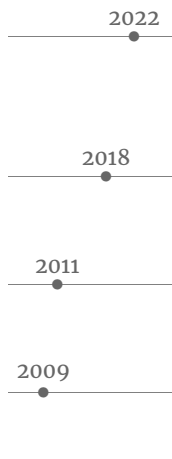
2011 Scott Rothenberger, **John Wenskovitch**, and G. Elisabeta Marai. "Pexel and Heatmap Visual Analysis of Multidimensional Gun/Homicide Data," in *IEEE Visualization VAST Poster Compendium*. Providence, RI, 2011, pp. 297–298. DOI: 10.1109/VAST.2011.6102482.

Patents

2020 **John Wenskovitch**, Jian Zhao, Scott Carter, and Matthew Cooper. "System and Method for a Computational Notebook Interface." U.S. pat. 10768904. Fuji Xerox Co., Ltd., Minato City, Tokyo, Japan. Sept. 8, 2020.

Technical Reports

2022 Alexander Anderson, Slaven Kincic, Brett Jefferson, Blaine Mcgary, Corey Fallon, Danielle Ciesielski, **John Wenskovitch**, and Yousu Chen. "A Real-Time Operations Manual for the IEEE 118 Bus Transmission Model," Technical Report. Pacific Northwest National Laboratory, Sept. 2022. DOI: 10.2172/1922917.
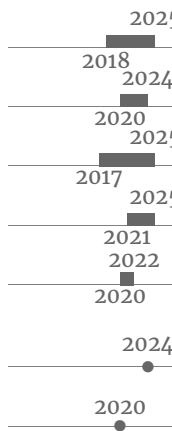
2018 Michelle Dowling, **John Wenskovitch**, Peter Hauck, Adam Binford, Theo Long, Nicholas Polys, and Chris North. "Construction and Usage of the Semantic Interaction Pipeline," Technical Report. Blacksburg, VA: Department of Computer Science, Virginia Tech, 2018.

2011 **John Wenskovitch**. "Exploring the Use of Rotational Input and Gyroscopes in Smartphones," Technical Report. Pittsburgh, PA: Department of Computer Science, University of Pittsburgh **[Master's Project Report]**, 2011.

2009 **John Wenskovitch**, Frank Hiller, and Justin Furiga. "Rosetta Fist: An Interactive Sign Language Tutoring System," Technical Report. Erie, PA: Department of Computer and Information Sciences, Gannon University **[Senior Capstone Project Report]**, 2009.

Courses Taught

Virginia Tech, Instructor

2025
2018 Computer Science 1064, Introduction to Programming in Python

2024
2020 Computer Science 2064, Intermediate Python (initial offerings as CS 2984 and CS 2984E)

2025
2017 Computer Science 2505, Introduction to Computer Organization I

2025
2021 Computer Science 2506, Introduction to Computer Organization II

2022
2020 Computer Science 3654, Introductory Data Analytics and Visualization (also listed as STAT 3654 and CMDA 3654)

2024 Computer Science 4104, Data and Algorithm Analysis

2020 Computer Science 4774, HCI Design Experience (initial offering as CS 4984)

2020   Computer Science 4784, Human-Computer Interaction Capstone

2025   Computer Science 4804, Introduction to Artificial Intelligence

2023   Computer Science 5045, Computation for the Data Sciences I (Graduate Course)

2024   Computer Science 5046, Computation for the Data Sciences II (Graduate Course)

2025   Computer Science 5764, Information Visualization (Graduate Course)
2023

Allegheny College, Instructor

2017
2015   Computer Science 112, Introduction to Computer Science II

2016
2014   Computer Science 210, Principles of Computer Organization

2014   Computer Science 230, Theory of Computation

2016
2015   Computer Science 250, Analysis of Algorithms

2015   Computer Science 382, Visual Computing

Chatham University, Instructor

2013   Math 105, College Algebra

2013   Math 108, Precalculus

2012   Math 110, Elementary Statistics

2012   Math 244, Discrete Mathematics

University of Pittsburgh, Teaching Assistant

2011
2010   Computer Science 0401, Intermediate Programming using Java

2011   Computer Science 0441, Discrete Structures for Computer Science

2012   Computer Science 0447, Computer Organization and Assembly Language

2012   Computer Science 0449, Introduction to Systems Software

2013
2012   Computer Science 1501, Algorithm Implementation

2014   Computer Science 1511, Introduction to the Theory of Computation

2013   Computer Science 1566, Introduction to Computer Graphics

2014   Computer Science 1567, Programming and System Design on a Mobile Robot Platform

2011   Computer Science 2510, Operating Systems (Graduate Course)

2014   Computer Science 2620, Interdisciplinary Modeling and Visualization (Graduate Course)

Professional Service

Workshops and Sessions Organized

2025   **John Wenskovitch** and Amruta Jaodand. "Visualizing Large-Scale Astronomical Data," in 246th *Meeting of the American Astronomical Society*. AAS 246. Anchorage, Alaska, 2025.

2025 Amruta Jaodand, **John Wenskovitch**, Elisabeth Sola, Jonathan Mackey, Petr Skoda, Rafael Martinez–Galarza, Cecilia Garraffo, and Marc Huertas–Company. "The Changing Macrocosm of Astroinformatics: Big Data, Artificial Intelligence, Statistical Inference, Challenges, and More," in *2025 European Astronomical Society Annual Meeting*. EAS 2025. Cork, Ireland, 2025.

2025 Chris North, Joel Chan, Rebecca Faust, Xuxin Tang, Xuan Wang, **John Wenskovitch**, and Siyi Zhu. "Beyond Chat: Visual Languages for Embodied Human–LLM Interaction in Sensemaking," in *VL/HCC 2025*. Raleigh, North Carolina, 2025.

2024 Jesse Harden, April Wang, Rebecca Faust, Katherine E. Isaacs, Nurit Kirshenbaum, **John Wenskovitch**, Jian Zhao, and Chris North. "Human–Notebook Interactions: The CHI of Computational Notebooks," in *CHI 2024*. Honolulu, Hawai'i, 2024.

2024 Alice Allen, Amruta Jaodand, Peter Teuben, Robert Nemiroff, and **John Wenskovitch**. "Into the Future: Building on 25 Years of Community Organization in Astro Software Development," in *243rd Meeting of the American Astronomical Society*. AAS 243. New Orleans, LA, 2024.

2023 **John Wenskovitch**, Amruta Jaodand, Alice Allen, Michael Zingale, Robert Nemiroff, and Ivan Valtchanov. "Software and Toolkits for the Lifetime of a Survey and Beyond: Computational Workflows from Observations to Legacy Archives," in *2023 European Astronomical Society Annual Meeting*. EAS 2023. Kraków, Poland, 2023.

2023 Kai Xu, Michelle Dowling, **John Wenskovitch**, Yilin Xia, and Jeremy Block. "(Vis + Prov) × Domain: Workshop on Visualization and Provenance Across Domains," in *VIS 2023*. Melbourne, Australia, 2023.

2023 Amruta Jaodand and **John Wenskovitch**. "Astronomy and Cloud Computing," in *241st Meeting of the American Astronomical Society*. AAS 241. Seattle, Washington, 2023.

2022 Amruta Jaodand, **John Wenskovitch**, Marc Huertas–Company, and Maria Argudo Fernandez. "An Unconference on Data Intensive Astronomy: Where Are We and Where Do We Go Next?" in *2022 European Astronomical Society Annual Meeting*. EAS 2022. Valencia, Spain, 2022.

2022 Ilin Lazar, Max Brescia, Nushika Chamba, Garreth Martin, Crescenzo Tortora, Stefano Borgani, Marc Huertas–Company, Amruta Jaodand, Sugata Kaviraj, Simona Mei, Mara Salvato, Regina Sarmiento, Anna Scaife, and **John Wenskovitch**. "Machine Learning: A Giant Leap Towards Space Discovery in the Era of Peta and Exabyte Scale Surveys," in *2022 European Astronomical Society Meeting*. EAS 2022. Valencia, Spain, 2022.

2021 **John Wenskovitch**, Michelle Dowling, Eli T. Brown, Ab Mosca, Conny Walchshofer, Marc Streit, and Kai Xu. "MLUI 2021: Machine Learning from User Interaction for Visualization and Analytics," in *IEEE VIS 2021*. New Orleans, Louisiana (Virtual), 2021.

2021 **John Wenskovitch**, Amruta Jaodand, Tanmoy Laskar, Eliot Ayache, and Martijn Wilhelm. "Machine Learning and Visualisation in the Data–Intensive Era," in *2021 European Astronomical Society Annual Meeting*. EAS 2021. Leiden, The Netherlands (Virtual), 2021.

2021 Kai Xu, Marc Streit, **John Wenskovitch**, and Eli T. Brown. "ProvViz: Workshop on Provenance and Visualization," in *ProvenanceWeek 2021*. Charlotte, North Carolina (Virtual), 2021.

2020 **John Wenskovitch**, Michelle Dowling, Eli T. Brown, Ab Mosca, Kris Cook, Conny Walchshofer, Marc Streit, and Kai Xu. "MLUI 2020: Machine Learning from User Interaction for Visualization and Analytics," in *IEEE VIS 2020*. Salt Lake City, Utah (Virtual), 2020.

2020 Amruta Jaodand, **John Wenskovitch**, and Martijn Wilhelm. "Machine Learning and Visualisation: Bracing for Data Deluge in Astronomy," in *2020 European Astronomical Society Annual Meeting*. EAS 2020. Leiden, The Netherlands (Virtual), 2020.

2020 **John Wenskovitch** and Amruta Jaodand. "Machine Learning and Data Visualization Frontiers for Astronomy," in *235th Meeting of the American Astronomical Society*. AAS 235. Honolulu, Hawai'i, 2020.

2019 **John Wenskovitch**, Michelle Dowling, Chris North, Remco Chang, Alex Endert, David Rogers, Fabian C. Peña, Sriram Yarlagadda, and Eli T. Brown. "MLUI 2019: Machine Learning from User Interaction for Visualization and Analytics," in *IEEE VIS 2019*. Vancouver, British Columbia, Canada, 2019.

2019 — **John Wenskovitch**, Mohammad Akhlaghi, David Valls-Gabaud, Amruta Jaodand, Rachael Ainsworth, Rein Warmels, and Alice Allen. "Python in Astronomy," in *2019 European Week of Astronomy and Space Science*. EWASS 2019. Lyon, France, 2019.

2019 — **John Wenskovitch**, Amruta Jaodand, Rachael Ainsworth, Alice Allen, Mohammad Akhlaghi, and David Valls-Gabaud. "Understanding Data: Visualisation, Machine Learning, and Reproducibility," in *2019 European Week of Astronomy and Space Science*. EWASS 2019. Lyon, France, 2019.

2019 — Stella Offner, Serena Viti, Ralf Klessen, Stefanie Walch, Thorsten Naab, Ullrich Koethe, **John Wenskovitch**, and Amruta Jaodand. "Learning the Milky Way: Artificial Intelligence Applications from Solar System to Galaxy Scale," in *2019 European Week of Astronomy and Space Science*. EWASS 2019. Lyon, France, 2019.

2019 — Amruta Jaodand, **John Wenskovitch**, Rachael Ainsworth, and Alice Allen. "EWASS 2019 Hack Day," in *2019 European Week of Astronomy and Space Science*. EWASS 2019. Lyon, France, 2019.

2018 — **John Wenskovitch**, Michelle Dowling, Chris North, Remco Chang, Alex Endert, and David Rogers. "Machine Learning from User Interaction for Visualization and Analytics," in *IEEE VIS 2018*. Berlin, Germany, 2018.

Conference Organizing Committees
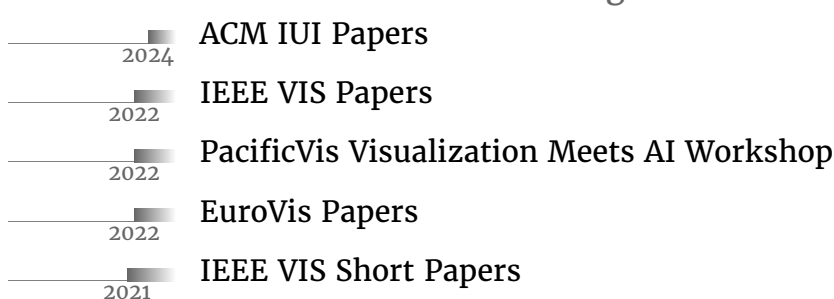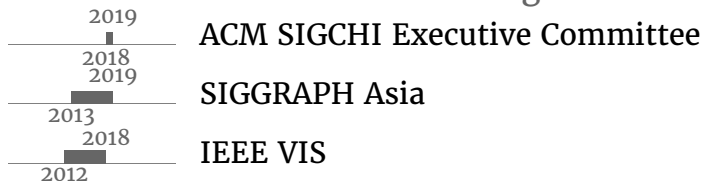
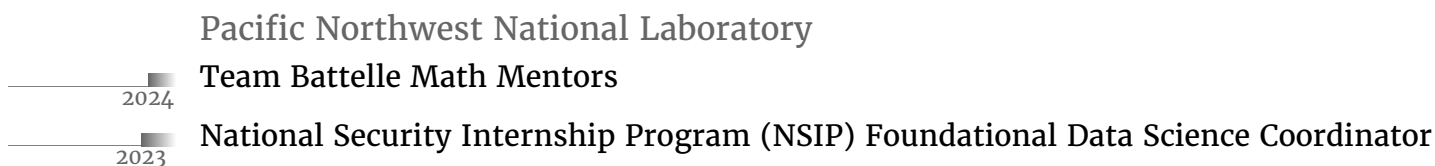**2024** — General Chair, IEEE Symposium on Visualization in Data Science (VDS)

2023 — Chair, ACM IUI Posters & Demos

2023–2022 — Chair, IEEE VIS Technology Committee

2024–2021 — Chair, ACM CHI Web Committee

2020–2019 — Chair, ACM IUI Proceedings Committee

2018–2015 — Chair, IEEE VIS Student Volunteers

2017–2014 — Team Leader, SIGGRAPH Asia Student Volunteers (2014, 2016–2017)
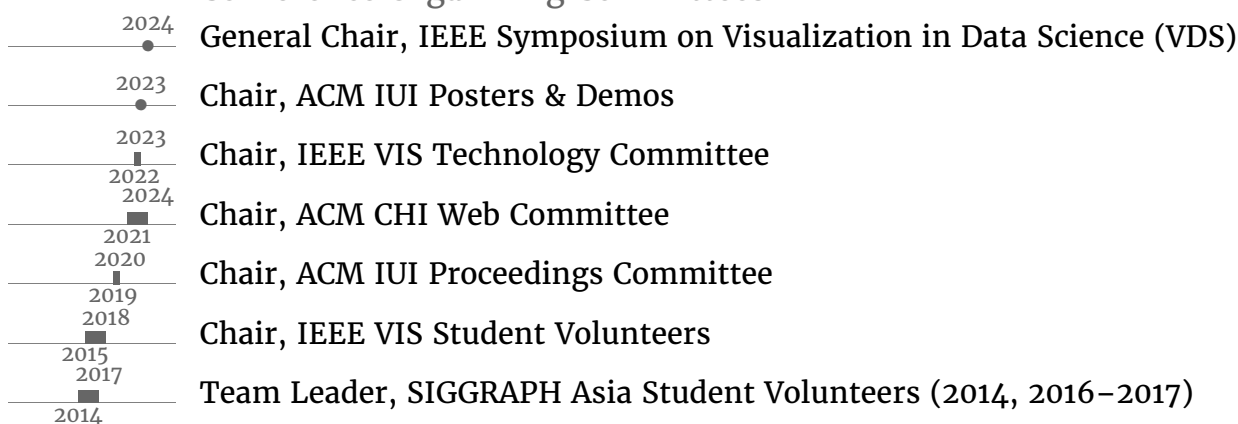
Conference Technical Program Committees

2024 — ACM IUI Papers

2022 — IEEE VIS Papers

2022 — PacificVis Visualization Meets AI Workshop

2022 — EuroVis Papers

2021 — IEEE VIS Short Papers

Student Volunteering

2019–2018 — ACM SIGCHI Executive Committee

2019–2013 — SIGGRAPH Asia

2018–2012 — IEEE VIS

Institutional Service

Pacific Northwest National Laboratory

2024 — Team Battelle Math Mentors

2023 — National Security Internship Program (NSIP) Foundational Data Science Coordinator

Virginia Tech

2019
2017

Department of Computer Science Graduate Council
- Initial contact point for graduate students during reboot, and subsequently Interim President (2017–2018)
- Past President (2018–2019)
- Bylaws Subcommittee (2017–2018)

Allegheny College

2017
2014

Telescope Operator, Newton Observatory

2016
2014

Department of Computer Science Open House Volunteer

2014
2014

ACM-ICPC (International Collegiate Programming Contest) Team Coach

University of Pittsburgh

2014
2012

Department of Computer Science Graduate Student Organization
- President (2012–2013)
- Secretary (2013–2014)

2014
2012

College of Arts & Sciences Graduate Student Organization
- Elizabeth Baranger Teaching Awards Committee Chair (2013–2014)

2014
2012

Graduate & Professional Student Government Representative

Gannon University

2009
2005

Association for Computing Machinery (ACM) Student Chapter
- Chair (2007–2008)
- Vice-Chair (2005–2007)
- Secretary (2008–2009)

2009
2005

Environmental Club
- President (2006–2008)

2009
2005

Honors College
- *Excalibur* Newsletter Co-Editor (2006-2009)
- Student Advisory Board (2007–2009)

2008
2006

Engineering Summer Camp Volunteer

Advising

Supervised Theses (Committee Chair or Member)

2026
Vrushali Koli. "Visualization for Communication," Technical Report. Newark, NJ: New Jersey Institute of Technology, 2026.

2025
Ibrahim A. Tahmid. "Enhancing Immersive Sensemaking with Rich Semantic Interaction," Technical Report. Blacksburg, VA: Virginia Tech, 2025.

2024
Maheep Mahat. "Deciphering Emotional Responses to Music: A Fusion of Psychophysiological Data Analysis and Bi-LSTM Predictive Modeling," Technical Report. Blacksburg, VA: Virginia Tech, 2024.

2017
SJ Guillaume. "Do the Visual Features of Stack Overflow Influence Information Foraging Behavior?" Technical Report CS2017-03, Meadville, PA: Allegheny College, 2017.

2017
Jacob Hanko. "Allegheny College Online Campus Map," Technical Report CS2017-04, Meadville, PA: Allegheny College, 2017.

2017
Lucas Hawk. "Intelligent Monte-Carlo Tree Search for Perfect Information Games," Technical Report CS2017-05, Meadville, PA: Allegheny College, 2017.

2017 Daniel Ocampo. "The Effects and Analysis of Mobile Devices," Technical Report CS2017-07, Meadville, PA: Allegheny College, 2017.

2017 Claire Pickhardt. "Computer Science as Seen by a Newcomer: Using Surveying & Visualization Tools to Glean Understanding," Technical Report CS2017-08, Meadville, PA: Allegheny College, 2017.

2017 Dillan Smith. "The Course Map," Technical Report CS2017-09, Meadville, PA: Allegheny College, 2017.

2017 Herbert Torrance. "Competitive Gaming Player Improvement," Technical Report CS2017-10, Meadville, PA: Allegheny College, 2017.

2016 Katherine Beisler. "Fault or No Fault? A Measure of Human Ability to Detect Layout Faults in Web Pages," Technical Report CS2016-02, Meadville, PA: Allegheny College, 2016.

2016 Francis Craft. "Environment Monitoring with Arduino Uno and Sensors," Technical Report CS2016-04, Meadville, PA: Allegheny College, 2016.

2016 Andreas Landgrebe. "Empirical Study of Tools to Assist Java Programmers in Finding Bugs," Technical Report CS2016-08, Meadville, PA: Allegheny College, 2016.

2016 Alexander Means. "A Virtual Campus Tour," Technical Report CS2016-09, Meadville, PA: Allegheny College, 2016.

2015 Tristan Chaneller. "An Eclipse-Based Integrated and Automated Fault Localization System," Technical Report CS2015-02, Meadville, PA: Allegheny College, 2015.

2015 Michael Ligouri. "Evaluating File System Performance in Windows and Ubuntu with Varied RAM Allocation," Technical Report CS2015-05, Meadville, PA: Allegheny College, 2015.

Additional Resources

LinkedIn: `https://www.linkedin.com/in/johnwenskovitch`
ORCID: `http://www.orcid.org/0000-0002-0573-6442`
Google Scholar: `https://scholar.google.com/citations?user=hFOkXLYAAAAJ`