Angus Graeme Forbes, PhD

https://angusforbes.com
agforbes@purdue.edu

EDUCATION

2014 PhD in Media Arts and Technology, University of California, Santa Barbara.
MS in Computer Science, University of California, Santa Barbara.

2009 MA in Media Arts and Technology, University of California, Santa Barbara.

1992 BA in British and American Literature, New College of Florida.

1990 AA in Liberal Arts, Bard College at Simon's Rock.

APPOINTMENTS

Current Associate Professor (with tenure), Computer Graphics Department, Purdue University.

Visiting Associate Professor, Computational Media Department, University of California, Santa Cruz.

2017–2022 Associate Professor (with tenure), Computational Media Department, University of California, Santa Cruz.

Director, UCSC Creative Coding Lab, University of California, Santa Cruz.

Core Faculty, UCSC Center for Computational Experience.

Affiliate Faculty, UCSC Digital Arts and New Media (DANM).

2014–2017 Assistant Professor, Department of Computer Science, University of Illinois at Chicago.

Affiliate Faculty, School of Art and Art History, University of Illinois at Chicago.

Director, Creative Coding Research Group within the Electronic Visualization Laboratory, University of Illinois at Chicago.

2012–2014 Assistant Professor, School of Information: Science, Technology, and Arts, University of Arizona.

RESEARCH GRANTS

Pending Ocean Vision AI: Scaling Up Visual Observations of Life in the Ocean Using Artificial Intelligence, 2022-2024. *NSF Convergence Accelerator (Phase II)*. PIs: K. Katija; Co-PIs: K. C. Bell, A. G. Forbes, H. Ruhl, B. Woodward. Total Budget: $5,000,000.

Active CosmoVis: A Unified Framework for Exploring Hydrodynamic Simulation Datasets to Analyze Intergalactic and Circumgalactic Media, 2020-2022. *Space Telescope Science Institute (STScI): Hubble Space Telescope—Archival Research (HST-AR) Theory Proposal*. PIs: J. N. Burchett, A. G. Forbes, C. Hummels, V. Khaire, B. Oppenheimer, J. X. Prochaska, K. Rubin. Total budget: $167,000.

Designing Innovative Curriculum for the Next Generation of Games Creators and Graphics Researchers, 2019-2022. *Epic MegaGrants*. PI: A. G. Forbes. Total budget: $100,000.

Previous

Ocean Vision AI: Scaling Up Visual Observations of Life in the Ocean Using Artificial Intelligence, 2021-2022. *NSF Convergence Accelerator (Phase I)*. PIs: K. Katija (MBARI), A. G. Forbes (UC Santa Cruz). Total Budget: $750,000.

Polyphorm + PolyPhy: An Open Source Software Platform for Learning and Visualizing Connectivity Patterns in Complex Datasets, 2021-2022. *UCSC Center for Research in Open Source Software (CROSS) Incubator Program*. PIs: A. G. Forbes, O. Elek. Total budget: $75,000

A Mixed-Methods Study on the Design of AI and Data Science-Based Strategies to Inform Public Health, 2020-2022. *International Development Research Centre (IRDC) Global South AI and Data Innovation Program*. PIs: C. Gonzalez-Uribe, J. M. Cordovez, A. Burbano; Co-PI: A. G. Forbes. Total budget: $1,000,000.

Global Classrooms Awardee for Virtual Exchange/Collaborative Online International Learning (VE/COIL), 2021-2022. *UCSC Global Engagement*. PI: A. G. Forbes. Total budget: $4,000.

The Applied Artificial Intelligence Initiative, 2020-2021. *UCSC Research Seed Funding for Center-Scale Research Initiatives (SF-CS)*. PI: J. X. Prochaska; Co-PIs: C. Beaulieu, A. Brasoveanu, K. Bundy, J. Davis, A. G. Forbes, D. Friedman, P. Garaud, M. Gomez, D. Haussler, A. Leauthaud, A. Pang, S. Profumo, B. Robertson, D. Williams, D. Venturi. Total budget: $60,000.

Information Visualization and Digital Fabrication with Applications to Creative Industries, 2020-2021. *100,000 Strong in the Americas: The Nexo Global Innovation Competition for Creative and Cultural Industries, sponsored by Colciencias and the U.S. Department of State*. PIs: A. Burbano, H. Barragán (Universidad de los Andes), A. G. Forbes (UC Santa Cruz), A. Buchanan, E. García (Purdue University). Total Budget: $85,000.

Time-Series Visualization and Machine Learning for Electronics Manufacturing and Network Visibility, 2019-2020. *Keysight Technologies, Inc.: Applications and Core Technology University Research (ACT-UR)*. PI: A. G. Forbes. Total budget: $40,000.

Interactive Visualization Techniques for the Analysis of Causal Traces, 2019. *Harvard Medical School Collaboration Grant*. PI: A. G. Forbes. Total Budget: $10,000.

Exploring Collaborative Analysis and Computational Narrative with Gaze-Enabled Virtual Reality, 2018-2019. *UC Santa Cruz Faculty Research Grant*. PI: A. G. Forbes. Total budget: $4,000.

Immersive Data Analytics, 2018-2019. *Microsoft Mixed Reality Academic Seeding Program*. PI: A. G. Forbes. Total budget: $5,000.

Machine Learning for Global Illumination, 2018-2019. *NVIDIA GPU Grant*. PI: A. G. Forbes. Total budget: $2,000.

Reading and Assembling Contextual and Holistic Big Mechanisms, 2014-2018. *DARPA Big Mechanism*. PI: M. Surdeanu; Co-PIs: K. Barnard, C. Morrison, A. G. Forbes, R. Gutenkunst, G. Yao. Total Budget: $3,600,000.

Enhancing Nurse Effectiveness via Augmented Communication Tools (ACTs), 2014-2018. *NIH National Institute of Biomedical Imaging and Bioengineering R01* (part of the NSF/NIH Smart and Connected Health Program). PI: J. Carrington; Co-PIs: A. G. Forbes, M. Surdeanu. Total Budget: $750,000.

Development of Continuum: A Virtualized Attentive Environment for Amplified Collaboration, 2016-2018. *NSF Major Research Instrumentation (MRI) Program*. PI: A. Johnson; Co-PIs: G.-E. Marai, A. G. Forbes, R. Kenyon, M. Brown. Total budget: $550,000.

Interactive Visual Analytics for Electronic Measurements, 2016-2017. *Keysight Technologies, Inc.: Applications and Core Technology University Research (ACT-UR).* PI: A. G. Forbes. Total Budget: $45,000.

Ambisonic Sound System for 3D Audio Rendering and Interactive Virtual Soundscapes, 2016-2017. *UIC College of Engineering Advancement Office's Annual Fund.* PI: A. G. Forbes; Co-PI: A. Çamcı. Total budget: $15,000.

Making the West Side: Community Conversations on Neighborhood Change, 2016-2017. *NEH The Common Good: Humanities in The Public Square.* PI: J. Scott; Key Personnel: A. G. Forbes. Total Budget: $200,000.

Visualizing the Structure and Function of Biological Pathways to Accelerate Discovery in Cancer Research, 2015-2016. *UIC College of Engineering Seed Funding Award.* PI: A. G. Forbes. Total Budget: $35,000.

iAnimal: Cyberinfrastructure Enabling Animal Breeding, Genetics, and Genomics, 2013-2016. *USDA Agriculture and Food Research Initiative.* PI: E. Lyons; Co-PIs: F. McCarthy, A. G. Forbes, J. Koltes. Total Budget: $500,000.

PUBLICATIONS

Journal Articles

In press [J36] M. C. Wilde, O. Elek, J. N. Burchett, S. Tuttle, J. Werk, J. X. Prochaska, D. Nagai, and A. G. Forbes. SDSS DR17: The cosmic slime value added catalog. *The Astrophysical Journal Supplement Series*, 2022.

[J35] C. González-Uribea, N. Yañez, A. Onshuus Niño, N. Velasco Rodríguez, J. M. Cordovez, M. Santos-Vega, N. Niño-Machado, A. Burbano, A. G. Forbes, C. A. Amaya Guio, S. Turner, D. Higuera-Mendieta, and S. Martínez-Cabezas. A mixed-methods study on the design of artificial intelligence and data science-based strategies to inform public health responses to COVID-19 in different local health ecosystems: A study protocol for COLEV. *F1000Research*, 2022.

2022 [J34] M. M. Thomas, G. Liktor, C. Peters, S. Kim, K. Vaidyanathan, and A. G. Forbes. Temporally stable real-time joint neural denoising and supersampling. *Proceedings of the ACM on Computer Graphics and Interactive Techniques (PACMCGIT)*, 5(3):21–1–22, 2022.

[J33] D. Abramov, J. N. Burchett, O. Elek, C. Hummels, J. X. Prochaska, and A. G. Forbes. CosmoVis: An interactive visual analysis tool for exploring hydrodynamic cosmological simulations. *IEEE Transactions on Visualization and Computer Graphics*, 28(8):2909–2925, 2022.

[J32] O. Elek, J. N. Burchett, J. X. Prochaska, and A. G. Forbes. Monte Carlo Physarum Machine: Characteristics of pattern formation in continuous stochastic transport networks. *Artificial Life*, 28(1):22–57, 2022.

2021 [J31] F. Lan, M. Young, L. Anderson, A. Ynnerman, A. Bock, M. A. Borkin, A. G. Forbes, J. Kollmeier, and B. Wang. Visualization in astrophysics: Developing new methods, discovering our Universe, and educating the Earth. *Computer Graphics Forum*, 40(3):635–663, 2021.

[J30] O. Elek, J. N. Burchett, J. X. Prochaska, and A. G. Forbes. Polyphorm: Structural analysis of cosmological datasets via interactive Physarum polycephalum visualization. *IEEE Transactions on Visualization and Computer Graphics*, 27(2):806–816, 2021.

2020 [J29] M. M. Thomas, K. Vaidyanathan, G. Liktor, and A. G. Forbes. A reduced-precision network for image reconstruction. *ACM Transactions on Graphics*, 39(6):231–1–12, 2020.

[J28] B. Hansen, J. N. Burchett, and A. G. Forbes. Quasar spectroscopy sound: Analyzing intergalactic and circumgalactic media via data sonification. *Journal of the Audio Engineering Society*, 68(11):865–875, 2020.

[J27] S. Simha, J. N. Burchett, J. X. Prochaska, J. Chittidi, O. Elek, N. Tejos, R. Jorgenson, K. W. Bannister, S. Bhandari, C. K. Day, A. T. Deller, A. G. Forbes, J.-P. Macquart, S. D. Ryder, and R. M. Shannon. Disentangling the Cosmic Web towards FRB 190608. *The Astrophysical Journal Letters*, 900(2):L134, 2020.

[J26] A. Meshi and A. G. Forbes. Stepping inside the Classification Cube: An intimate interaction with an AI system. *Leonardo*, 53(4):387–393, 2020.

[J25] R. Grillotti, A. DiLallo, and A. G. Forbes. Resonant Waves: Immersed in geometry. *Leonardo*, 53(4):401–407, 2020.

[J24] J. N. Burchett, O. Elek, N. Tejos, J. X. Prochaska, T. M. Tripp, R. Bordoloi, and A. G. Forbes. Revealing the dark threads of the Cosmic Web. *The Astrophysical Journal Letters*, 891(2):L35, 2020.

[J23] A. G. Forbes. Creative AI: From expressive mimicry to critical inquiry. *Artnodes*, 26:1–10, 2020.

2019

[J22] J. N. Burchett, D. Abramov, J. Otto, C. Artanegara, J. X. Prochaska, and A. G. Forbes. IGM-Vis: Analyzing intergalactic and circumgalactic medium absorption using quasar sightlines in a Cosmic Web context. *Computer Graphics Forum*, 38(3):491–504, 2019.

2018

[J21] P. Boutillier, M. Maasha, X. Li, H. F. Medina-Abarca, J. Krivine, J. Feret, I. Cristescu, A. G. Forbes, and W. Fontana. The Kappa platform for rule-based modeling. *Bioinformatics*, 34(13):i583–i592, 2018.

[J20] J. J. G. Keiriz, L. Zhan, O. Ajilore, A. D. Leow, and A. G. Forbes. NeuroCave: A web-based immersive visualization platform for exploring connectome datasets. *Network Neuroscience*, 2(3):344–361, 2018.

[J19] S. D. Conrin, L. Zhan, Z. D. Morrissey, M. Xing, A. G. Forbes, S. Langenecker, P. Maki, M. R. Milad, O. Ajilore, and A. D. Leow. From default mode network to the basal configuration: Sex differences in the resting-state brain connectivity as a function of age and their clinical correlates. *Frontiers in Psychiatry*, 9(365):1–11, 2018.

[J18] M. Xing, J. GadElkarim, O. Ajilore, O. Wolfson, A. G. Forbes, K. L. Phan, H. Klumpp, and A. D. Leow. Thought chart: Tracking thought with manifold learning during emotion regulation. *Brain Informatics*, 5(7):1–9, 2018.

[J17] A. G. Forbes, A. Burks, K. Lee, X. Li, P. Boutillier, J. Krivine, and W. Fontana. Dynamic influence networks for rule-based models. *IEEE Transactions on Visualization and Computer Graphics*, 24(1):184–194, 2018.

[J16] L. Zhan, L. M. Jenkins, A. Zhang, G. Conte, A. G. Forbes, D. Harvey, K. Angkustsiri, N. J. Goodrich-Hunsaker, C. Durdle, A. Lee, C. Schumann, O. Carmichael, K. Kalish, A. D. Leow, and T. J. Simon. Baseline connectome modular abnormalities in the childhood phase of a longitudinal study on individuals with chromosome 22q11.2 deletion syndrome. *Human Brain Mapping*, 39(1):232–248, 2018.

2017

[J15] E. Garcia Bravo, A. Burbano, V. Byrd, and A. G. Forbes. The Interactive Image: A media archaeology approach. *Leonardo*, 50(4):368–375, 2017.

[J14] G. Legrady and A. G. Forbes. Data in context: Conceptualizing site-specific visualization projects. *Leonardo*, 50(2):200–204, 2017.

[J13] R. Etemadpour and A. G. Forbes. Density-based motion. *Information Visualization*, 16(1):3–20, 2017.

[J12] P. Murray, F. McGee, and A. G. Forbes. A taxonomy of visualization tasks for the analysis of biological pathway data. *BMC Bioinformatics*, 18(2):21–1–13, 2017.

2016 [J11] B. Balogh, A. Çamcı, P. Murray, and A. G. Forbes. Spectral landscapes: Visualizing electromagnetic interactions. *IEEE Computer Graphics and Applications*, 36(5):7–11, 2016.

[J10] T. Dang, N. Pendar, and A. G. Forbes. TimeArcs: Visualizing fluctuations in dynamic networks. *Computer Graphics Forum*, 35(3):61–69, 2016.

[J9] C. Ma, A. G. Forbes, D. A. Llano, T. Berger-Wolf, and R. V. Kenyon. SwordPlots: Exploring neuron behavior within dynamic communities of brain networks. *Journal of Imaging Science and Technology*, 60(1):10405–1–13, 2016. (Charles E. Ives Journal Award for Outstanding Contribution.)

2015 [J8] A. Q. Ye, O. A. Ajilore, G. Conte, J. GadElkarim, G. Thomas-Ramos, L. Zhan, S. Yang, A. Kumar, R. Magin, A. G. Forbes, and A. D. Leow. The intrinsic geometry of the human brain connectome. *Brain Informatics*, 2(4):197–210, 2015.

[J7] A. G. Forbes, A. Burbano, P. Murray, and G. Legrady. Imagining Macondo: Interacting with García Márquez' literary landscape. *IEEE Computer Graphics and Applications*, 35(5):12–19, 2015.

[J6] A. G. Forbes. Articulating media arts activities in art-science contexts. *Leonardo*, 48(4):330–337, 2015.

[J5] T. Dang, P. Murray, and A. G. Forbes. PathwayMatrix: Visualizing binary relationships between proteins in biological pathways. *BMC Proceedings*, 9(6):S3, 2015.

[J4] T. Dang, P. Murray, J. Aurisano, and A. G. Forbes. ReactionFlow: An interactive visualization tool for causality analysis in biological pathways. *BMC Proceedings*, 9(6):S6, 2015.

[J3] F. Paduano and A. G. Forbes. Extended LineSets: A visualization technique for the interactive inspection of biological pathways. *BMC Proceedings*, 9(6):S4, 2015.

2011 [J2] B. Alper, T. Höllerer, J. Kuchera-Morin, and A. G. Forbes. Stereoscopic highlighting: 2D graph visualization on stereo displays. *IEEE Transactions on Visualization and Computer Graphics*, 17(12):2325–2333, 2011.

2010 [J1] A. G. Forbes, T. Höllerer, and G. Legrady. Behaviorism: A framework for dynamic data visualization. *IEEE Transactions on Visualization and Computer Graphics*, 16(6):1164–1171, 2010.

Book Chapters

In press [B8] A. G. Forbes. Augmented seeing and sensing. In C. Fernandes, V. Evola, and C. Ribeiro, editors, *Dance Data, Cognition and Multimodal Communication*, chapter 8. Routledge, 2022.

2019 [B7] A. Çamcı, C. Çakmak, and A. G. Forbes. Applying game mechanics to networked music HCI systems. In S. Holland, T. Mudd, K. Wilkie-McKenna, A. McPherson, and M. Wanderlay, editors, *New Directions in Music and Human-Computer Interaction*. Volume 20 of Springer Series on Cultural Computing, chapter 14, pages 223–241. Springer, 2019.

2017 [B6] A. G. Forbes. Pedagogical experiments in creative coding. In M. Filimowicz and V. Tzankova, editors, *Teaching Computational Creativity*, chapter 12, pages 273–291. Cambridge University Press, 2017.

2016 [B5] M. Xing, O. Ajilore, O. Wolfson, C. Abbott, A. MacNamara, R. Tadayonnejad, A. G. Forbes, K. L. Phan, H. Klumpp, and A. Leow. Thought chart: Tracking dynamic EEG brain connectivity with unsupervised manifold learning. In G. Ascoli, M. Hawrylycz, H.

Ali, D. Khazanchi, and Y. Shi, editors, *Brain Informatics and Health*. Volume 9919 of Lecture Notes in Artificial Intelligence, chapter 15, pages 149–157. Springer, 2016. (Best Paper Award.)

2015 [B4] R. Etemadpour, L. Linsen, J. G. Paiva, C. Crick, and A. G. Forbes. Choosing visualization techniques for multidimensional data projection tasks: A guideline with examples. In S. Battiato, J. Pettré, R. Laramee, P. Richard, A. Kerren, F. Imai, and J. Braz, editors, *Computer Vision, Imaging and Computer Graphics – Theory and Applications*. Volume 598 of Communications in Computer and Information Science, chapter 9, pages 166–186. Springer, 2016.

[B3] G. Conte, A. Ye, A. G. Forbes, O. Ajilore, and A. Leow. BRAINtrinsic: A virtual reality-compatible tool for exploring intrinsic topologies of the human brain connectome. In Y. Guo, K. Friston, A. Faisal, S. Hill, and H. Peng, editors, *Brain Informatics and Health*. Volume 9250 of Lecture Notes in Artificial Intelligence, chapter 7, pages 67–76. Springer, 2015.

[B2] M. Pinter, A. G. Forbes, D. Bazo, and G. Legrady. Generation of engineering research directions through artistic process. In E. Ayiter, O. Yazicigil, and A. L. Brooks, editors, *Proceedings of the Fourth International Conference on Arts and Technology*. Volume 145 of Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, chapter 4, pages 28–35. Springer, 2015.

2014 [B1] A. G. Forbes. Interactive cellular automata systems for creative projects. In P. Rosin, A. Adamatzky, and X. Sun, editors, *Cellular Automata in Image Processing and Geometry*. Volume 10 of Emergence, Complexity and Computation, chapter 13, pages 253–272. Springer, 2014.

Conference & Workshop Papers

In press [W21] H. Zhou and A. G. Forbes. Data feel: Exploring visual effects in video games to support sensemaking tasks. In *Proceedings of the 7th IEEE VIS Workshop on Visualization for Digital Humanities (VIS4DH)*, Oklahoma City, OK, 2022.

[C61] O. Elek, W. Mossman, and A. G. Forbes. Shifting Strands. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, Oklahoma City, OK, 2022.

2022 [C60] H. Zhou, K. Gonzalez, N. Altice, N. Wardrip-Fruin, and A. G. Forbes. On the maintenance of meaning: A Deleuzian view on proceduralism. In *Proceedings of the 14th Digital Games Research Association Conference (DiGRA)*, Kraków, Poland, 2022.

[C59] A. Chaudhary, J. Saroha, K. Monteiro, A. G. Forbes, and A. Parnami. "Are you still watching?": Exploring unintended user behaviors and dark patterns on video streaming platforms. In *Proceedings of the ACM SIGCHI Designing Interactive Systems Conference (DIS)*, pages 776–791, Online, 2022.

[P23] F. Hasan, J. Burchett, D. Abramov, O. Elek, A. G. Forbes, and C. Hummels. Unveiling Gaseous Galactic Ecosystems with CosmoVis. In volume 54 of *American Astronomical Society Meeting Abstracts*, page 318.07, 2022.

2021 [C58] J. Kendall-Bar, N. Kendall-Bar, A. G. Forbes, G. McDonald, P. J. Ponganis, C. Williams, M. Horning, A. Hindle, H. Klinck, R. S. Beltran, A. S. Friedlaender, D. Wiley, D. P. Costa, and T. M. Williams. Visualizing life in the deep: A creative pipeline for data-driven animations to facilitate marine mammal research, outreach, and conservation. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, pages 1–10, New Orleans, LA, 2021.

[C57] I. Mori, O. Elek, J. N. Burchett, and A. G. Forbes. Physarum telum. In *Proceedings of the International Conference on Artificial Life (ALIFE)*, pages 1–4, Prague, Czech Republic, 2021. (Best Arts Submission Award.)

[C56] A. Meshi and A. G. Forbes. Don't Worry, Be Happy: Resisting an AI emotion recognition system with a smile. In *Proceedings of the 10th International Conference on Digital*

and Interactive Arts (ARTECH), pages 78–1–4, Aveiro, Portugal, 2021.

2020

[C55] O. Elek, J. N. Burchett, J. X. Prochaska, and A. G. Forbes. Monte Carlo Physarum Machine: An agent-based model for reconstructing complex 3D transport networks. In *Proceedings of the International Conference on Artificial Life (ALIFE)*, pages 263–265, Montreal, Canada, 2020.

[W20] J. N. Burchett, D. Abramov, O. Elek, and A. G. Forbes. Volumetric reconstruction for interactive analysis of the Cosmic Web. In *Proceedings of the IEEE VIS Workshop on Visualization in Astrophysics (VisAstro)*, Salt Lake City, UT, 2020. (Data Challenge Award.)

[W19] H. Zhou, O. Elek, P. Anand, and A. G. Forbes. Bio-inspired structure identification in language embeddings. In *Proceedings of the 5th IEEE VIS Workshop on Visualization for Digital Humanities (VIS4DH)*, pages 7–13, Salt Lake City, UT, 2020.

[W18] J. Otto and A. G. Forbes. Entering the design space of digital portraiture: A case study in avatar creation tools. In *Proceedings of the ICCC Casual Creators Workshop*, Coimbra, Portugal, 2020.

[C54] J. Otto and A. G. Forbes. Procedural montage: A design trace of reflection and refraction. In *Proceedings of the 20th Electronic Literature Organization (ELO) Conference and Media Arts Festival*, pages 12–1–14, 2020.

[C53] M. Fowler, J. Davis, and A. G. Forbes. Capturing large-scale artifacts via Reflectance Transformation Imaging with a drone. In *Proceedings of the 24th Museums and the Web Conference (MW)*, Los Angeles, CA, 2020.

2019

[C52] R. Xu, M. M. Thomas, A. Leow, O. Ajilore, and A. G. Forbes. TempoCave: Visualizing dynamic connectome datasets to support cognitive behavioral therapy. In *Proceedings of the IEEE Visualization Conference (VIS)*, pages 186–190, Vancouver, Canada, 2019.

[C51] D. Abramov, J. Otto, M. Dubey, C. Artanegara, P. Boutillier, W. Fontana, and A. G. Forbes. RuleVis: Constructing patterns and rules for rule-based models. In *Proceedings of the IEEE Visualization Conference (VIS)*, pages 191–195, Vancouver, Canada, 2019.

[C50] M. Dubey, J. Otto, and A. G. Forbes. Data Brushes: Interactive style transfer for data art. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, pages 3–1–9, Vancouver, Canada, 2019.

[C49] M. Dubey, A. P. Ortiz, R. Agrawal, and A. G. Forbes. Predicting biker density at bike share station intersections in San Francisco. In *Proceedings of the 9th IEEE Global Humanitarian Technology Conference (GHTC)*, Seattle, WA, 2019.

[C48] S. Frost, B. Tor, R. Agrawal, and A. G. Forbes. CompostNet: An image classifier for meal waste. In *Proceedings of the 9th IEEE Global Humanitarian Technology Conference (GHTC)*, Seattle, WA, 2019.

[P22] C. Artanegara and A. G. Forbes. RasVis: Redesigning pathways to support analyses of experimental data. In *IEEE VIS BioVis Workshop Poster Session*, Vancouver, Canada, 2019. (Best Poster Award.)

[C47] B. Hansen, L. B. Baltaxe-Admony, S. Kurniawan, and A. G. Forbes. Exploring sonic parameter mapping for network data structures. In *Proceedings of the 25th International Conference on Auditory Display (ICAD)*, pages 55–1–8, Newcastle-upon-Tyne, United Kingdom, 2019.

[C46] J. Otto, A. G. Forbes, and J. Verschelde. Solving polynomial systems with phcpy. In *Proceedings of the 18th Scientific Computing with Python Conference (SciPy)*, pages 58–64, Austin, TX, 2019.

[P21] M. Dubey, J. Otto, and A. G. Forbes. Interactive canvas style transfer. Presented at *UCSC Socially Responsible Data Science Day Poster Session*, Santa Cruz, CA, 2019.

[P20] R. Xu, M. M. Thomas, O. Elek, O. Ajilore, A. Leow, and A. G. Forbes. TempoCave: An immersive interactive 3D visualization platform for exploring time series connectome datasets. Presented at *UCSC Socially Responsible Data Science Day Poster Session*, Santa Cruz, CA, 2019.

[P19] S. Frost, M. M. Thomas, and A. G. Forbes. Art I don't like. Presented at *UCSC Socially Responsible Data Science Day Poster Session*, Santa Cruz, CA, 2019.

[P18] D. Abramov, J. N. Burchett, J. Otto, C. Artanegara, J. X. Prochaska, and A. G. Forbes. IGM-Vis: Analyzing intergalactic and circumgalactic medium absorption using quasar sightlines in a Cosmic Web context. Presented at *UCSC Socially Responsible Data Science Day Poster Session*, Santa Cruz, CA, 2019.

[C45] S. Frost, M. M. Thomas, and A. G. Forbes. Art I don't like: An anti-recommender system for visual art. In *Proceedings of the 23rd Museums and the Web Conference (MW)*, Boston, MA, 2019.

[P17] M. Cavallo and A. G. Forbes. CAVE-AR: A VR authoring system to interactively design, simulate, and debug multi-user AR experiences. In *Proceedings of the IEEE Conference on Virtual Reality and 3D User Interfaces (VR) Poster Session*, Osaka, Japan, 2019.

[C44] A. Alsaiari, R. Rustagi, A. Alhakamy, M. M. Thomas, and A. G. Forbes. Image denoising using a generative adversarial network. In *Proceedings of the IEEE 2nd International Conference on Information and Computer Technologies (ICICT)*, pages 126–132, Kahului, HI, 2019. (Best Paper Award.)

2018

[C43] Z. Morrissey, L. Zhan, H. Lee, J. J. G. Keiriz, A. G. Forbes, O. Ajilore, A. Leow, and M. Chung. Phase-angle spatial embedding (PhASE): A kernel method for studying the topology of the human functional connectome. In *Proceedings of the 21st International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pages 367–374, Granada, Spain, 2018.

[C42] A. G. Forbes, K. Lee, G. Hahn-Powell, M. A. Valenzuela-Escárcega, and M. Surdeanu. Text Annotation Graphs: Annotating complex natural language phenomena. In *Proceedings of the 11th International Conference on Language Resources and Evaluation (LREC)*, pages 1047–1052, Miyazaki, Japan, 2018.

[P16] Z. Morrissey, L. Zhan, J. Keiriz, A. G. Forbes, M. Chung, O. Ajilore, and A. Leow. Phase angle spatial embedding (PhASE) for studying the intrinsic geometry of functional connectomes. *Organization for Human Brain Mapping*, 2018. (Presented at the OHBM 2018 Annual Meeting *Poster Session* in Singapore, Poster #2475).

2017

[C41] A. Çamcı, K. Lee, C. J. Roberts, and A. G. Forbes. INVISO: A cross-platform user interface for creating virtual sonic environments. In *Proceedings of the 30th ACM Symposium on User Interface Software and Technology (UIST)*, pages 507–518, Quebec City, Canada, 2017.

[W17] T. Dang, P. Murray, R. Etemadpour, and A. G. Forbes. A user study of techniques for visualizing structure and connectivity in hierarchical datasets. In *Proceedings of the 3rd ISWC Workshop on Visualization and User Interfaces for Ontologies and Linked Data (VOILA)*, pages 45–59, Vienna, Austria, 2017. Vol. 1947, CEUR Workshop Proceedings.

[W16] J. Keiriz, O. Ajilore, A. D. Leow, and A. G. Forbes. Immersive analytics for clinical neuroscience. In *Proceedings of the IEEE VIS Workshop on Immersive Analytics*, pages 1454–1–5, Phoenix, Arizona, 2017.

[C40] Ç. Erdem, A. Çamcı, and A. G. Forbes. Biostomp: A biocontrol system for embodied performance using mechanomyography. In *Proceedings of the 17th International Conference on New Interfaces for Musical Expression (NIME)*, pages 65–70, Copenhagen, Denmark, 2017.

[C39] T. Dang and A. G. Forbes. CactusTree: A tree drawing approach for hierarchical edge bundling. In *Proceedings of the 10th IEEE Pacific Visualization Symposium (PacificVis)*, pages 210–214, Seoul, Korea, 2017.

[C38] T. Dang, P. Murray, and A. G. Forbes. BioLinker: Bottom-up exploration of protein interaction networks. In *Proceedings of the 10th IEEE Pacific Visualization Symposium (PacificVis)*, pages 265–269, Seoul, Korea, 2017.

[C37] T. Marrinan, L. Renambot, J. Leigh, A. G. Forbes, S. Jones, and A. Johnson. Mixed presence collaboration using scalable visualizations in heterogeneous display spaces. In *Proceedings of the 20th ACM Conference on Computer-Supported Cooperative Work & Social Computing (CSCW)*, pages 2236–2245, Portland, Oregon, 2017.

[C36] A. Purgato, M. Santambrogio, T. Berger-Wolf, and A. G. Forbes. Interactive visualization for brain spatio-temporal networks. In *Proceedings of the IEEE International Conference on Biomedical and Health Informatics (BHI)*, pages 21–24, Orlando, Florida, 2017.

2016

[C35] T. Marrinan, L. Renambot, J. Leigh, A. G. Forbes, S. Jones, and A. Johnson. Synchronized mixed presence data-conferencing using large-scale shared displays. In *Proceedings of the 11th ACM International Conference on Interactive Surfaces and Spaces (ISS)*, pages 355–360, Niagara Falls, Canada, 2016.

[C34] F. Paduano, R. Etemadpour, and A. G. Forbes. BranchingSets: Interactively visualizing categories on node-link diagrams. In *Proceedings of the 9th International Symposium on Visual Information Communication and Interaction (VINCI)*, pages 9–16, Dallas, Texas, 2016.

[C33] M. Cavallo, G. A. Rhodes, and A. G. Forbes. Riverwalk: Incorporating historical photographs in public outdoor augmented reality experiences. In *Proceedings of the 15th IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, pages 160–165, Merida, Mexico, 2016.

[C32] A. Çamcı, P. Murray, and A. G. Forbes. A web-based system for designing interactive virtual soundscapes. In *Proceedings of the 42nd International Computer Music Conference (ICMC)*, pages 579–584, Utrecht, Netherlands, 2016.

[C31] C. Çakmak, A. Çamcı, and A. G. Forbes. Networked virtual environments as collaborative music spaces. In *Proceedings of the 16th International Conference on New Interfaces for Musical Expression (NIME)*, pages 106–111, Brisbane, Australia, 2016.

[C30] G. Özdemir, A. Çamcı, and A. G. Forbes. PORTAL: An audiovisual laser performance system. In *Proceedings of the 16th International Conference on New Interfaces for Musical Expression (NIME)*, pages 338–343, Brisbane, Australia, 2016.

[W15] T. Dang, H. Cui, and A. G. Forbes. MultiLayerMatrix: Visualizing large taxonomic datasets. In *Proceedings of the 7th EuroVis Workshop on Visual Analytics (EuroVA)*, pages 55–59, Groningen, Netherlands, 2016.

[P15] M. Chukhman, G. Conte, A. Leow, O. Ajilore, and A. G. Forbes. Leap Motion gesture controls in BRAINtrinsic: Interactive immersive VR connectome exploration. *Organization for Human Brain Mapping*, 2016. (Presented at the OHBM 2016 Annual Meeting *Poster Session* in Geneva, Switzerland, Poster #4041).

[W14] C. Çakmak, A. Çamcı, and A. G. Forbes. Using game mechanics to facilitate networked musical collaboration. In *Proceedings of CHI 2016 Workshop on Music and HCI (MusicHCI)*, pages 6–1–4, San Jose, California, 2016.

[W13] G. E. Marai, A. G. Forbes, and A. Johnson. Interdisciplinary immersive analytics at the Electronic Visualization Laboratory: Lessons learned and upcoming challenges. In *Proceedings of the IEEE VR Workshop on Immersive Analytics*, Greenville, South Carolina, 2016.

[W12] A. Çamcı and A. G. Forbes. Node Kara: An audiovisual mixed reality installation. In *Proceedings of the IEEE VR Workshop on Mixed Reality Art (MRA)*, pages 1–4, Greenville, South Carolina, 2016.

[W11] M. Cavallo and A. G. Forbes. DigitalQuest: A mixed reality approach to scavenger hunts. In *Proceedings of the IEEE VR Workshop on Mixed Reality Art (MRA)*, pages 11–15, Greenville, South Carolina, 2016.

[P14] A. Çamcı, P. Murray, and A. G. Forbes. Designing and controlling virtual sonic environments using a browser-based 3DUI. in *Proceedings of IEEE Symposium on 3D User Interfaces (3DUI) Poster Session*, pages 235–236, Greenville, South Carolina, 2016.

[C29] G. Conte, A. Ye, K. Almryde, O. Ajilore, A. Leow, and A. G. Forbes. Intrinsic geometry visualization for the interactive analysis of brain connectivity patterns. In *Proceedings of IS&T Electronic Imaging, Visualization and Data Analysis (VDA)*, pages 481–1–8, San Francisco, California, 2016.

2015

[P13] O. Ajilore, G. Conte, A. Ye, A. G. Forbes, and A. Leow. Exploring intrinsic topologies of the human connectome. *Neuropsychopharmacology*, 40(S272–S442):T75, 2015. (Presented at the 54th Annual Meeting of the American College of Neuropsychopharmacology *Poster Session II*).

[C28] M. De Marchi, J. Eriksson, and A. G. Forbes. TransitTrace: Route planning using ambient displays. In *Proceedings of the ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL)*, pages 67–1–4, Seattle, Washington, 2015.

[W10] S. Yin, M. Li, N. Tilahun, A. G. Forbes, and A. Johnson. Understanding transportation accessibility of metropolitan Chicago through interactive visualization. In *Proceedings of the ACM SIGSPATIAL International Workshop on Smart Cities and Urban Analytics (UrbanGIS)*, pages 77–84, Seattle, Washington, 2015.

[C27] K. Almryde and A. G. Forbes. Halos in a dark sky: Interactively exploring the structure of dark matter halo merger trees. In *Proceedings of IEEE Scientific Visualization, SciVis Contest, "Visualize the Universe"*, pages 73–77, Chicago, Illinois, 2015. (Best Submission Award, 2nd Place.)

[W9] A. Chetta, J. M. Carrington, and A. G. Forbes. Augmenting EHR interfaces for enhanced nurse communication and decision making. In *Proceedings of the IEEE VIS Workshop on Visual Analytics in Healthcare (VAHC)*, Chicago, Illinois, 2015, pp. 4-1–6.

[W8] T. Dang, N. Franz, B. Ludäscher, and A. G. Forbes. ProvenanceMatrix: A visualization tool for multi-taxonomy alignments. In *Proceedings of the 1st ISWC Workshop on Visualization and User Interfaces for Ontologies and Linked Data (VOILA)*, pages 13–24, Bethlehem, Pennsylvania, 2015. Vol. 1456, CEUR Workshop Proceedings.

[P12] O. Ajilore, G. Conte, A. Ye, A. G. Forbes, and A. Leow. A virtual reality-compatible tool for exploring intrinsic topologies of the human brain connectome. In *Neuroscience 2015, Poster #95.11/BB86*, Chicago, Illinois, 2015.

[C26] R. Etemadpour, P. Murray, M. Bomhoff, E. Lyons, and A. G. Forbes. Designing and evaluating scientific workflows for Big Data interactions. In *Proceedings of IEEE International Symposium on Big Data and Visual Analytics (BDVA)*, pages 25–32, Hobart, Australia, 2015.

[C25] A. G. Forbes. Turbulent World: An artwork indicating the impact of climate change. In *Proceedings of the International Symposium on Electronic Art (ISEA)*, pages 189–1–4, Vancouver, Canada, 2015.

[P11] M. Chukhman, G. Conte, A. Leow, O. Ajilore, and A. G. Forbes. Immersive brain connectome imaging. In *SIGGRAPH "Appy Hour" Proceedings*, Los Angeles, California, 2015.

[C24] A. G. Forbes and J. Villegas. Video granular synthesis. In *Proceedings of the ACM/Eurographics International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAe)*, pages 195–201, Istanbul, Turkey, 2015.

[C23] C. Ma, R. V. Kenyon, A. G. Forbes, T. Berger-Wolf, B. J. Slater, and D. A. Llano. Visualizing dynamic brain networks using an animated dual-representation. In *Proceedings of the Eurographics Conference on Visualization (EuroVis)*, pages 73–77, Cagliari, Italy, 2015.

[P10] S. Subramaniam, J. Koltes, J. Reecy, A. G. Forbes, F. McCarthy, and E. Lyons. Management and visualization of iAnimal quantitative data using iPlant and EPIC-CoGe. In *Proceedings of Plant and Animal Genome XXIII (PAG)*, San Diego, California, 2015.

[C22] R. Etemadpour, L. Linsen, C. Crick, and A. G. Forbes. A user-centric taxonomy for multidimensional data projection tasks. In *Proceedings of the International Conference on Information Visualization Theory and Applications (IVAPP)*, pages 51–62, Berlin, Germany, 2015.

[C21] J. Villegas, R. Etemadpour, and A. G. Forbes. Evaluating the perception of different matching strategies for time-coherent animations. In *Human Vision and Electronic Imaging XX (HVEI)*, pages 939412–1–13, San Francisco, California. Vol. 9394 of Proceedings of SPIE-IS&T Electronic Imaging, 2015.

[C20] R. Etemadpour and A. G. Forbes. Enhancing multidimensional data projection using density-based motion. In *Visualization and Data Analysis 2015 (VDA)*, pages 93970L–1–15, San Francisco, California. Vol. 9397 of Proceedings of SPIE-IS&T Electronic Imaging, 2015.

2014

[W7] P. Murray and A. G. Forbes. Interactively exploring geotemporal relationships in demographic data via stretch projections. In *Proceedings of the ACM SIGSPATIAL International Workshop on Interacting with Maps (MapInteract)*, pages 29–35, Dallas, Texas, 2014.

[C19] J. Villegas and A. G. Forbes. Analysis/synthesis approaches for creatively processing video signals. In *Proceedings of the ACM International Conference on Multimedia (MM)*, pages 37–46, Orlando, Florida, 2014.

[C18] R. Etemadpour, P. Murray, and A. G. Forbes. Evaluating density-based motion for Big Data visual analytics. In *Proceedings of the IEEE Conference on Big Data*, pages 451–460, Washington, DC, 2014.

[P9] P. Murray and A. G. Forbes. StretchPlot: Interactive visualization of multi-dimensional trajectory data. In *Proceedings of IEEE Conference on Visual Analytics Science and Technology (VAST) Poster Session*, pages 261–262, Paris, France, 2014.

[C17] G. Legrady and A. G. Forbes. Staging data visualization installations in site-specific situations. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, pages 85–90, Paris, France, 2014.

[C16] A. G. Forbes and F. Chevalier. Art+Interpretation. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, pages 43–45, Paris, France, 2014.

[C15] C. Jette, K. Thomas, J. Villegas, and A. G. Forbes. Translation as technique: Collaboratively creating an electro-acoustic composition for saxophone and live video projection. In *Joint Proceedings of the 40th International Computer Music Conference (ICMC) and the 11th Sound and Music Computing Conference (SMC)*, pages 463–468, Athens, Greece, 2014.

[C14] S. Savage, A. G. Forbes, C. Toxtli, G. McKenzie, S. Desai, and T. Höllerer. Visualizing targeted audiences. In C. Rossitto, L. Ciolfi, D. Martin, and B. Conein, editors, *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP)*, pages 17–34. Springer International Publishing, 2014.

[P8] S. M. Desai and A. G. Forbes. An interactive 3D rendering of Joan Miro's *Blue I*. in *ACM/Eurographics International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAe) Poster Session*, Vancouver, Canada, 2014.

[P7] S. M. Desai, L. Rodriguez, S. Savage, N. E. Chavez, and A. G. Forbes. Crowdsourcing volunteer tasks. In *Celebration of Women in Computing in Southern California (CWIC-SoCal) Poster Session*, Carlsbad, California, 2014.

[P6] J. M. Carrington, M. Surdeanu, and A. G. Forbes. Augmented communication tools to enhance nurse decision-making. In *College of Nursing Research Intensive Summer Experience (RISE) Poster Session*, Tucson, Arizona, 2014.

[C13] A. G. Forbes and J. Villegas. Creative applications of microvideos. In *Proceedings of the the Sixth International Conferences on Advances in Multimedia (MMEDIA)*, pages 108–111, Nice, France, 2014.

[C12] A. G. Forbes, J. Villegas, K. Almryde, and E. Plante. A stereoscopic system for viewing the temporal evolution of brain activity clusters in response to linguistic stimuli. In A. J. Woods, N. S. Holliman, and G. E. Favalora, editors, *Stereoscopic Displays and Applications XXV*, pages 90110I–1–7, San Francisco, California. Vol. 9011 of Proceedings of SPIE-IS&T Electronic Imaging, 2014.

[W6] J. Villegas and A. G. Forbes. Interactive non-photorealistic video synthesis for artistic user experience on mobile devices. In *Proceedings of the International Workshop on Video Processing and Quality Metrics for Consumer Electronics (VPQM)*, pages 16–1–7, Chandler, Arizona, 2014. (Best Paper Award.)

[C11] A. G. Forbes, C. Jette, and A. Predoehl. Analyzing intrinsic motion textures created from naturalistic video captures. In *Proceedings of the International Conference on Information Visualization Theory and Applications (IVAPP)*, pages 107–113, Lisbon, Portugal, 2014.

2013

[C10] A. G. Forbes and L. Thorson. Art+Experiment. In *Proceedings of the IEEE VIS Arts Program (VISAP)*, Atlanta, Georgia, 2013.

[W5] A. G. Forbes, M. Surdeanu, P. Jansen, and J. Carrington. Transmitting narrative: An interactive shift-summarization tool for improving nurse communication. In *IEEE Workshop on Interactive Visual Text Analytics (TextVis)*, Atlanta, Georgia, 2013.

[P5] A. G. Forbes, T. Fast, and T. Höllerer. The Natural Materials Browser: Using a tablet interface for exploring volumetric materials science datasets. In *Proceedings of IEEE Scientific Visualization Conference (SciVis) Poster Session*, Atlanta, Georgia, 2013.

[C9] A. G. Forbes. Media arts roles in art-science collaborations. In *Proceedings of the Renew Digital Arts Festival*, pages 276–282, Copenhagen, Denmark, 2013.

[C8] J. Villegas and A. G. Forbes. Double-meaning: Interactive animations with simultaneous global and local narrative. In *Proceedings of the Re-new Digital Arts Festival*, pages 300–304, Copenhagen, Denmark, 2013.

[C7] A. G. Forbes, T. Höllerer, and G. Legrady. Generative fluid profiles for interactive media arts projects. In *Proceedings of the ACM/Eurographics International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAe)*, pages 37–43, Anaheim, California, 2013.

[P4] J. Villegas and A. G. Forbes. Real-time ambiguous animations. In *ACM/Eurographics International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAe) Poster Session*, Anaheim, California, 2013.

[C6] C. Roberts, A. G. Forbes, and T. Höllerer. Enabling multimodal mobile interfaces for musical performance. In *Proceedings of the 13th International Conference on New Interfaces for Musical Expression (NIME)*, pages 102–105, Daejeon, Korea, 2013.

[W4] S. Savage, A. G. Forbes, and T. Höllerer. Utilizing crowdsourced databases for social media question asking. In *ACM CSCW Workshop on Social Media Question Asking*, San Antonio, Texas, 2013.

2012 [W3] A. G. Forbes, S. Savage, and T. Höllerer. Visualizing and verifying directed social queries. In *IEEE Workshop on Interactive Visual Text Analytics (TextVis)*, Seattle, Washington, 2012.

[C5] A. Burbano, D. Bazo, S. DiCicco, and A. G. Forbes. The New Dunites. In *Proceedings of the ACM International Conference on Multimedia (MM)*, pages 1501–1502, Nara, Japan, 2012.

[P3] S. Savage, A. G. Forbes, R. Savage, T. Höllerer, and N. E. Chavez. Directed social queries with transparent user models. In *Adjunct Proceedings of the ACM symposium on User Interface Software and Technology (UIST)*, pages 59–60, Cambridge, Massachusetts, 2012.

[C4] A. G. Forbes, T. Höllerer, and G. Legrady. Expressive energy: The Fluid Automata project. In *Proceedings of the International Symposium on Electronic Art (ISEA)*, pages 65–70, Albuquerque, New Mexico, 2012.

[C3] A. G. Forbes and K. Odai. Iterative synaesthetic composing with multimedia signals. In *Proceedings of the International Computer Music Conference (ICMC)*, pages 573–578, Ljubjiana, Slovenia, 2012.

[P2] A. G. Forbes, B. Alper, T. Höllerer, and G. Legrady. Interactive folksonomic analytics with the Tag River visualization. In *IEEE Workshop on Interactive Visual Text Analytics (TextVis) Poster Session*, Providence, Rhode Island, 2011.

[C2] A. G. Forbes and G. Legrady. Cell Tango: An evolving interactive archive of cellphone photography. In *Proceedings of the International Symposium on Electronic Art (ISEA)*, Istanbul, Turkey, 2011.

2009 [W2] A. G. Forbes. Coil maps. In *Proceedings of the Workshop on Media Arts, Science, and Technology (MAST): The Future of Interactive Media*, Santa Barbara, California, 2009.

[W1] J. Ventura, A. G. Forbes, B. Adams, S. Joshi, K. Grossner, M. Bulger, T. Höllerer, and B. Manjunath. IssueBrowser: Knowledge acquisition via multimedia data. In *Proceedings of the Workshop on Media Arts, Science, and Technology (MAST): The Future of Interactive Media*, Santa Barbara, California, 2009.

2008 [P1] A. G. Forbes and S. T. Gries. Corpus Browser: An intuitive and interactive corpus tool. In *International Computer Archive for Modern and Medieval English (ICAME) Demo Session*, Ascona, Switzerland, 2008.

2007 [C1] A. G. Forbes and G. Janée. Visually browsing georeferenced digital libraries. In *Proceedings of USGS Geoinformatics*, pages 69–70, San Diego, California, 2007.

Edited Collections, Editorials, & Exhibition Catalogs

2021 [E19] A. G. Forbes, editor. *Proceedings of the ACM SIGGRAPH Art Gallery.* ACM, 2021.

2020 [E18] S. DiVerdi and C. Kaplan and A. G. Forbes and C. E. Catalano, editors. Special Section on the 8th ACM/EG Expressive Symposium (Expressive 2019). *Computers & Graphics*, 82:A3–A4, 2020.

[E17] A. G. Forbes, Y. Chung Han, E. Garcia Bravo, and J. Boy, editors. Special Section: Highlights from the IEEE VIS 2016 and 2017 Arts Program (VISAP'16 & '17). *Leonardo*, 53(1):5–24, 2020.

2019 [E16] S. DiVerdi and C. Kaplan and A. G. Forbes, editors. *Proceedings of the 8th ACM/EG Expressive Symposium.* Eurographics, 2019.

2018 [E15] A. G. Forbes. Introducing the SIGGRAPH 2018 Art Papers. *Leonardo*, 51(4):334–335, 2018.

[E14] A. G. Forbes, editor. Special Section: Highlights from the IEEE VIS 2015 Arts Program (VISAP'15). *Leonardo*, 51(1):70–82, 2018.

2017 [E13] A. G. Forbes, J. Boy, and F. Chevalier, editors. *Proceedings of the IEEE VIS Arts Program (Selected Papers, VISAP'16 and '17)*. IEEE, 2017.

[E12] A. G. Forbes, J. Boy, E. Garcia Bravo, Y. Chung Han, editors. *Sustain & Decay, the IEEE VIS 2017 Arts Program Exhibition Catalog*. IEEE, 2017. ISBN: 978-1-5323-5479-3.

[E11] A. G. Forbes and F. Chevalier, editors. Special Section: Highlights from the IEEE VIS 2014 Arts Program (VISAP'14), Part 3. *Leonardo*, 50(5):506–514, 2017.

[E10] A. G. Forbes and F. Chevalier, editors. Special Section: Highlights from the IEEE VIS 2014 Arts Program (VISAP'14), Part 2. *Leonardo*, 50(2):199–210, 2017.

[E9] A. G. Forbes and F. Chevalier, editors. Special Section: Highlights from the IEEE VIS 2014 Arts Program (VISAP'14), Part 1. *Leonardo*, 50(1):89–96, 2017.

2016 [E8] A. G. Forbes, editor. Special Section: Highlights from the IEEE VIS 2013 Arts Program (VISAP'13), Part 3. *Leonardo*, 49(5):451–455, 2016.

[E7] A. G. Forbes and L. Bartram, editors. *Proceedings of the 5th ACM/EG Expressive Workshop on Computational Aesthetics in Graphics, Visualization and Imaging (CAe)*. Eurographics, 2016.

[E6] A. G. Forbes. Data seams: Curating coversations at the intersections of art and visualization. *Leonardo*, 49(2):106, 2016.

[E5] A. G. Forbes, editor. Special Section: Highlights from the IEEE VIS 2013 Arts Program (VISAP'13), Part 2. *Leonardo*, 49(2):167–171, 2016.

2015 [E4] A. G. Forbes and D. Tsoupikova, editors; J. H. Fisher, designer. *Data Improvisations, the IEEE VIS 2015 Arts Program Exhibition Catalog*. IEEE, 2015. ISBN: 978-1-5175-6976-1.

[E3] A. G. Forbes, editor. Special Section: Highlights from the IEEE VIS 2013 Arts Program (VISAP'13), Part 1. *Leonardo*, 48(5):465–468, 2015.

2014 [E2] A. G. Forbes and F. Chevalier, editors; L. Thorson, designer. *The IEEE VIS 2014 Arts Program Exhibition Catalog*. IEEE, 2014.

2013 [E1] A. G. Forbes, editor; L. Thorson, designer. *The IEEE VIS 2013 Arts Program Exhibition Catalog*. IEEE, 2013.

Theses

2014 [T3] A. G. Forbes. *Emerging Methodologies for Interdisciplinary Research Practice*. PhD dissertation, Media Arts & Technology Program, University of California, Santa Barbara, 2014. George Legrady, Tobias Höllerer, and JoAnn Kuchera-Morin, advisors.

[T2] A. G. Forbes. *Exploring Motion as a Modality for Visualizing Data*. Master's thesis, Department of Computer Science, University of California, Santa Barbara, 2014. Tobias Höllerer and Matthew Turk, advisors.

2009 [T1] A. G. Forbes. *A Framework for Dynamic Information Visualization*. Master's thesis, Media Arts & Technology Program, University of California, Santa Barbara, 2009. George Legrady, Tobias Höllerer, and JoAnn Kuchera-Morin, advisors.

INVITED TALKS

2022 **Creative Explorations in Visual Computing**, Dept. of Computational Media and Arts, Hong Kong University of Science and Technology, part of the China Society of Image and Graphics (CSIG-VIS) International Lecture Series, Organized by Rebecca Ruige Xu and Wei Zeng.

Research Explorations in Visual Computing: Scientific Data Visualization, Neural Rendering, and Interactive Art, College of Computing, Illinois Tech.

Research Explorations in Visual Computing: Scientific Data Visualization, Neural Rendering, and Interactive Art, Purdue Polytechnic Institute, Purdue University.

2021 **An Artist's Guide to Perception-Bending Narratives**, Moderator for ACM SIGGRAPH NOW Webinar, featuring Erick Oh, organized by Emily Drake.

Creative AI: From Expressive Mimicry to Critical Inquiry, CineGrid International Workshop.

Creative AI: From Expressive Mimicry to Critical Inquiry, Data+AI+Design Lecture Series, San Jose State University, organized by Yoon Chung Han.

Machine Learning for Art and Design Workshop, Dept. of Design, San Jose State University.

Art in the Age of TikTok, Moderator for ACM SIGGRAPH Spotlight Panel Discussion, featuring Sophia Brueckner, Hashmukh Kerai, Sölen Kıratlı, and Hannah Wolfe.

2020 **Visualizing Extragalactic Ecosystems**, IEEE VIS Workshop on Visualization in Astrophysics: Developing New Methods, Discovering Our Universe, Educating the Earth, organized by Juna Kollmeier, Lauren Anderson, and Bei Wang.

Machine Inquiry, Creative Coding Speaker Series, University of Texas at Dallas, organized by Jey Veerasamy.

Contemporary Trends in Data Visualization, Invited Panelist, UCSC Center for Computational Experience, organized by Katherine Isbister.

Experiential Approaches to Art, Data and Virtuality, Moderator for "Listen, Hear, Discern, Reflect" Arts Gallery session, featuring Mez Breeze, Neil Mendoza, Yuichiro Katsumoto, Sanghwa Hong, Sophia Brueckner, Lukasz Pazera, and Victoria Mullovskaya, ACM SIGGRAPH.

Machine Inquiry, Media Arts & Technology Lecture Series, UC Santa Barbara.

Machine Inquiry, Digital Humanities Program, Universidad de los Andes, Bogota, Colombia.

Making Interdisciplinary Research Count, Invited Panelist, Committee on Career Advising's Path to Tenure Workshop, UC Santa Cruz.

2019 **Augmented Seeing and Sensing**, Keynote Speaker, International Conference on Dance Data, Cognition and Multimodal Communication (DDCMC), FCSH-Universidade Nova de Lisboa, Portugal, organized by BlackBox Arts & Cognition.

Computer Science & Dance Data, Invited Panelist, International Conference on Dance Data, Cognition and Multimodal Communication (DDCMC), with João Fiadeiro, Rui Lopes Graça, and Stephan Jürgens, moderated by Carla Fernandes.

AI in the Arts and Design, Invited Panelist, ACM SIGGRAPH 2019, with Memo Akten, Erkki Huhtamo and Max Sims, organized by Ruth West, Victoria Szabo, and Danielle Siembieda.

Visual Analytics of Large Astronomical Surveys, Kavli Summer Program In Astrophysics: Machine Learning in the Era of Large Astronomical Surveys (KSPA 2019), University of California, Santa Cruz.

Designing Effective Interfaces to Visualize and Analyze Complex Data, Monterey Bay Aquarium Research Institute (MBARI), Moss Landing, California.

Visual Music and Exploratory Strategies in Synaesthetic Composition, Dept. of Music, Santa Clara University.

Responsible Data Visualization, UCSC Data Science Day, Invited Panelist, University of California, Santa Cruz, organized by Lise Getoor.

2018 **Data Science, Data Design, Data Art**, Leonardo LASER talk, Santa Cruz, California, organized by John Weber.

Selected Visualization Projects, Chiaravalle Montessori, Evanston, Illinois.

Creative AI and Machine Learning for Graphics and Visualization, Santa Cruz Machine Learning, University of California, Santa Cruz, organized by J. Xavier Prochasaka.

Restructuring IEEE VIS for the Future, Invited Participant, Banff International Research Station, organized by Hanspeter Pfister, Hans Hagen, Tamara Munzner, Daniel Keim, and Stephen North.

Big Mechanism Visualization, UC Santa Cruz Genomics Institute, organized by Jing Zhu and Angela Brooks.

Selected Visualization Projects, Expressive Intelligence Studio, University of California, Santa Cruz.

Visualization of Biological Data: Crossroads, Invited Participant, Schloss Dagstuhl—Leibniz Center for Informatics, Germany, organized by Jan Aerts, Nils Gehlenborg, Georgeta Elisabeta Marai, and Kay Katja Nieselt.

Creative and Critical Data Visualization, Computing and Digital Media Colloquium, DePaul University.

Immersive Interpretation: Exploring Data in Virtual Reality, David Kirk Digital Scholarship Commons, University of California, Santa Cruz, organized by Rachel Deblinger.

2017 **Generative Machine Learning Models for Approximating Global Illumination**, NVIDIA, Santa Clara, California.

Generations: Art+Technology Influencers, SIGGRAPH Spotlight Podcast, Invited Panelist, with Jacquelyn Martino, Ernest Edmonds, Roger Malina, Andres Burbano, and Danielle Siembieda.

Human/Machine Partnership in Causal Reasoning Systems, DARPA, Invited Panelist, with David Gunning, Jonathan Pfautz, James Allen, Tonia Korves, and Ben Gyori, Arlington, Virginia.

Creative and Critical Data Visualization, Human-Computer Interaction Colloquium, University of California, Santa Cruz.

Creative and Critical Data Visualization, Keynote Speaker, VizUM Symposium, University of Miami, organized by Alberto Cairo, Athena Hadjxenofontos, and Mahsa Mirzargar.

Visualization and Computational Media, ACM SIGGRAPH, Leonardo Birds-of-a-Feather, organized by Sheila Pinkel, Los Angeles, California.

Recent BioVis Projects from the Electronic Visualization Laboratory, Great Lakes Bioinformatics Conference, Chicago, Illinois.

Selected Visualization Projects, Chicago Data Visualization Group, organized by Tom Schenk, Chicago, Illinois.

Big Mechanism Visualization, Scientific Computing and Imaging Institute, University of Utah.

Creative and Critical Data Visualization, Natural History Museum of Utah.

Art and Visualization, Keynote Speaker, DIGITFest 2017, Penn State Erie.

Interrogating Complexity, Dept. of Computational Media, University of California, Santa Cruz.

Deep Learning and Generative Design, Dept. of Design, The Ohio State University.

Selected Visualization Projects, Advanced Computing Center for the Arts and Design, The Ohio State University.

2016 **Selected Visualization Projects**, the ATEC/EMAC Research Colloquia Series, University of Texas at Dallas.

Visual Music and Exploratory Strategies in Synaesthetic Composition, School of Music, University of Iowa.

Interrogating Complexity, College of Arts, Media, and Design, Northeastern University.

Big Mechanism Visualization, Bio-IT World Expo and Conference, Cambridge Healthtech Institute, Boston, Massachusetts.

Cross-disciplinary Concepts in Art and Research, Festival on the Hill, Symposium on Music, Science, and Nature, University of North Carolina at Chapel Hill.

Interrogating Complexity, Dept. of Information & Decision Sciences, University of Illinois at Chicago.

Computational Aesthetics Projects, Electronic and Time-Based Art Program, Envision Center, Purdue University.

Creative Shader Programming Workshop, Dept. of Computer Graphics Technology, Purdue University.

Selected Visualization Projects, Chicago Data Visualization Group, Chicago, Illinois.

Immersive Visualization of RF Data, Keysight Technologies, Measurement Analysis Research Group, Santa Clara, California.

2015 **Selected Visualization Projects**, The New York Times Research and Development group (nytlabs.com), New York City, New York.

Visualización: Ciencia y Arte, Dept. of Design Lecture Series ("la Sala"), Universidad de los Andes, Bogota, Colombia.

Three Years Later: A Brief History of The IEEE VIS Arts Program, ACM SIGGRAPH, Leonardo Birds-of-a-Feather, organized by Roger Malina and Pamela Grant-Ryan, Los Angeles, California.

Curating and Creating Electronic Works in Arts Contexts, Electronic Literature Organization 2015: The End(s) of Electronic Literature, Invited Panelist, with Sandy Baldwin, Helen J. Burgess, Roderick Coover, Dene Grigar, and Mia Zamora, Bergen, Norway.

Creative Visualizations of Complex Data, Media Arts & Technology Lecture Series, UC Santa Barbara.

Visualizing Taxon Characters and Enabling Taxonomy Alignments, National Center for Supercomputing Applications, University of Illinois.

Causality Analytics, Institute for Genomics and Systems Biology, University of Chicago.

Visualizing Causality in Biological Pathway Networks, Defense Advanced Research Projects Agency, Arlington, Virginia.

Computational Kinetic Art, The International Kinetic Art Exhibit & Symposium, Boynton Beach, Florida.

2014 **Emerging Methodologies for Art-Science Collaboration**, Conference on "Digital Art: An Ever-changing Art Form," Onassis Cultural Centre, Athens, Greece.

Dynamics, Immersion, and Transparency: Current Trends in Interactive Data Visualization, Dept. of Computer Science, University of Illinois at Chicago.

Art as Research, College of Architecture, Design, and the Arts, University of Illinois at Chicago.

Designing a Data Visualization Curriculum, Parsons The New School for Design.

Facilitating Interdisciplinary Research via Multimedia Computing, Dept. of Computer and Information Science, Brooklyn College.

2013 **An Overview of Current Topics and Themes in Visualization**, Interdisciplinary Computational Intelligence Seminar, University of Arizona.

Expanding the Creative Possibilities of Mobile Devices, Mobile Matters Connections Symposium, University of Arizona.

Creative Sensing Everywhere, Mobility 20x20, organized by Beth Weinstein, Tucson, Arizona.

Selected Visualization Projects, Computer Vision Group, University of Arizona.

Fluid Discretization, ISEA Presenter's Evening, Media Arts & Technology Lecture Series, UC Santa Barbara.

Dynamic Visualization: Explorations of Motion and Representation, Dept. of Computer Science, Research Colloquia Series, University of Arizona.

Introducing the Creative Coding Lab, Spring SISTA Showcase, University of Arizona.

2012 **Taxonomy of Visualization Methods**, School of Communication, University of Miami.

The Fluid Automata Project, School of Interactive Games and Media, Rochester Institute of Technology.

Artist Presentation, Santa Barbara Salon, organized by Tam Hunt, Santa Barbara, California.

Intersections Between Art and Visualization, School of Information: Science, Technology, and Arts, University of Arizona.

Selected Visualization Projects, Dept. of Science, Mathematics, and Computing, Bennington College.

Coil Maps & Geographic Data Visualization, Dept. of Computer Science, Ithaca College.

Selected Visualization Projects, School of Informatics and Computing, Indiana University-Purdue University Indianapolis.

2011 **The Future of Information Visualization**, Dept. of Visualization, Texas A&M University.

TEACHING

Purdue University

CGIT 513, Creative Data Visualization, F2022.

University of California, Santa Cruz

CMPM 269, Creative AI, S2022.
CMPM 169, Creative Coding, W2022.
CMPM 204, Computational Media Projects, F2021.
CMPM 201, Computational Media Theory. F2020.
CMPM 35, Data Structures for Interactive Media. F2020.
CMPM 202, Computational Media Research. W2020, W2019.
CMPM 164, Game Engines. F2019.
CMPM 163, Game Graphics & Real-time Rendering. W2018, S2019.
CMPM 268, Immersive Analytics. F2018.
CMPM 290A, Visualizing Complex Systems. F2017.

University of Illinois at Chicago

CS 523, Applied Machine Learning. S2017.
CS 424, Visualization and Visual Analytics 1. F2016.
CS 491/DES 400, Creative Coding 1. S2016.
CS 526, Computer Graphics 2. F2015.
CS 524, Visualization and Visual Analytics 2. S2015.
CS 488, Computer Graphics 1. F2014.

University of Arizona

ISTA 416/516, Human-Computer Interaction, S2014.
ISTA 499, Data Visualization Projects, F2013.
ISTA 352, Images: Past, Present, and Future, F2013.
ISTA 401/501, Multimedia Installations, S2013.

University of California, Santa Barbara

MAT 200C, Research Tactics, S2011.
MAT 594CM, Real-time Graphics, W2011, S2010, S2009.
MAT 201B, Programming with Media Data, F2010.
CS 5JA, Object-Oriented Programming, F2007.

SERVICE

Conference Organization

2021 Art Gallery chair for ACM SIGGRAPH 2021.

Chair of the Data Across Boundaries Workshop at the CROSS Symposium 2021, with co-chair Oskar Elek.

2020 Art Gallery vice chair for ACM SIGGRAPH 2020.

2019 Program chair for the 2019 ACM/EG Expressive Symposium, with co-chairs Craig Kaplan and Stephen DiVerdi.

Session chair for Arts papers at ACM SIGGRAPH 2019.

2018 Arts Papers chair for ACM SIGGRAPH 2018.

2017 General chair for VISAP'17, the IEEE VIS 2017 Arts Program, including a papers track and exhibition track, with co-chair Jeremy Boy.

Arts Papers vice chair for ACM SIGGRAPH 2017.

General chair for the Workshop on Biological Data Visualization at Great Lakes Bioinformatics Conference (GLBIO), with co-chair G.Elisabeta Marai.

Session chair for InfoVis papers at IEEE VIS 2017.

Session chair at the 2017 ACM/EG Expressive Joint Symposium on Computational Aesthetics (CAe), Sketch-Based Interfaces and Modeling (SBIM), and Non-Photorealistic Animation and Rendering (NPAR).

2016 General chair for VISAP'16, the IEEE VIS 2016 Arts Program, including a papers track and exhibition track, with co-chair Fanny Chevalier.

Papers chair for the ACM/EG Computational Aesthetics track of the 2016 Expressive Joint Symposium on Computational Aesthetics (CAe), Sketch-Based Interfaces and Modeling (SBIM), and Non-Photorealistic Animation and Rendering (NPAR), with co-chair Lyn Bartram.

Organizer and Moderator for the "Critical Visualization" panel at IEEE VIS 2016, featuring Marian Dörk, Jessica Hullman, Jessica Westbrook, Adam Trowbridge, and Dietmar Offenhuber.

Session chair at the 2016 International Symposium on Visual Information Communication and Interaction (VINCI).

Session chair at the Visualization and Data Analysis conference (VDA), part of IS&T Electronic Imaging 2016.

2015 General chair for VISAP'15, the IEEE VIS 2015 Arts Program, including a papers track and art exhibition, with co-chairs Fanny Chevalier and Daria Tsoupikova.

Arts Program chair for the 2015 ACM/EG Expressive Joint Symposium on Computational Aesthetics (CAe), Sketch-Based Interfaces and Modeling (SBIM), and Non-Photorealistic Animation and Rendering (NPAR), including a presentation session and art exhibition, with co-chair Anıl Çamcı.

On Organizing Committee for the 2015 ETC Information Visualization of Characters and Taxonomies Workshop (IVCT), with Hong Cui, James Macklin, Robert Morris, and Bertram Ludäscher.

Organizer and Moderator for the "Creative Challenges at the Intersections of Visualization Research and New Media Arts" panel at IEEE VIS 2015, featuring Eduardo Kac, Donna Cox, Dan Sandin, and Jo Wood.

Moderator for "Readings & Screenings" at the 2015 Electronic Literature Organization Conference (ELO), featuring Caitlin Fisher, Tony Viera, Steven Wingate, Penny Florence, Paolo Totaro, and Jason Lewis.

2014 General chair for VISAP'14, the IEEE VIS 2014 Arts Program, including a papers track and art exhibition, with co-chair Fanny Chevalier.

Chair of posters/demos track for the 2014 ACM/EG Expressive Joint Symposium on Computational Aesthetics (CAe), Sketch-Based Interfaces and Modeling (SBIM), and Non-Photorealistic Animation and Rendering (NPAR), co-located with ACM SIGGRAPH 2014.

2013 General chair for VISAP'13, the IEEE VIS 2013 Arts Program, including a papers track and art exhibition, with co-chair Lauren Thorson.

Conference Committees

Program Committee member for IEEE VIS Conference, 2018–2022.

Program Committee member for EG/VGTC Conference on Visualization (EuroVis), 2020–2022.

Steering Committee chair for IEEE VIS Arts Program, 2018–2021.

Associate chair (AC) of the Visualization subcommittee for ACM Conference on Human Factors in Computing Systems (CHI), 2020.

Scientific Committee member for ELRA International Conference on Language Resources and Evaluation (LREC), 2020.

Program Committee member for International Symposium on Electronic Art (ISEA), 2017–2019, 2022.

Program Committee member for IEEE VIS Arts Program, 2013–2021.

Member of the ACM SIGGRAPH Art Advisory Group (AAG), 2019–2022.

Program Committee member for Information+ Conference, 2016, 2018, 2021.

Program Committee member for ACM International Conference on Intelligent User Interfaces (IUI), 2015–2019.

Program Committee member for ACM/EG Expressive Joint Symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non-Photorealistic Animation and Rendering, 2015–2019.

Program Committee member for IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR), 2019, 2020.

Program Committee member for IEEE/ISMB BioVis Conference, 2015–2018.

Program Committee member for IEEE VIS Workshop on Visualization for the Digital Humanities (VIS4DH), 2016–2021.

Program Committee member for the Leipzig Symposium on Visualization in Applications (LEVIA), 2018

Editing

2020–2022 Editorial Board member, International Journal of Creative Computing.

2014–2022 Editorial Advisor, Leonardo Editorial Board.

2014–2020 Editor of multiple special sections of Leonardo, the journal of the International Society for the Arts, Sciences and Technology.

2013–2018 Editor of the Proceedings of the IEEE VIS Arts Program, including the VIS Arts Program exhibition catalog.

2016–2018 Editorial Board member, Video Game Art Reader.

Reviewing

Journal Reviews

IEEE Transactions on Visualization and Computer Graphics (2016–2022)

ACM Transactions on Interactive Intelligent Systems (2017, 2018, 2020)

Information Visualization (2015–2017)

Leonardo (2014–2022)

Proceedings of the ACM on Computer Graphics and Interactive Techniques (2021, 2022)

IEEE Computer Graphics & Applications (2016, 2019)

Artnodes (2020)

Bioinformatics (2017, 2018)

IEEE Transactions on Big Data (2018)

Computers & Graphics (2016, 2019)

SoftwareX (2020)

BMC Bioinformatics (2015)

iScience (2019)

Simulation Modelling Practice and Theory (2016, 2017)

Journal of Urban Technology (2017)

Information Design Journal (2016, 2017, 2019)

Video Game Art Reader (2017, 2018)

Entropy (2017)

Informatics (2017)

Conference Reviews

Visualization

VIS (2021, 2022), InfoVis (2011–2020), SciVis (2014–2018, 2020), VAST (2013–2020), VIS Short Papers (2019, 2021), EuroVis (2015–2022), PacificVis (2014, 2016–2019, 2021), BioVis/ISMB (2015–2018), VDA (2016), VDS (2017), VIS4DH (2016–2022), VISxAI (2020–2022), Information+ (2016, 2018, 2021), LEVIA (2018)

Computer Graphics

SIGGRAPH (2015–2022), SIGGRAPH Asia (2022), Expressive (2014–2017, 2019), Graphics Interface (2013), SUI (2015–2017), MMEDIA (2014, 2015), SIBGRAPI (2016)

Virtual Reality

VR (2016–2021), 3DUI (2016), ISMAR (2016–2020), VRST (2012, 2016–2018), Immersive (2017), AIVR (2019, 2020)

Human-computer Interaction

CHI (2012–2020), UIST (2014–2018, 2020, 2021), CSCW (2016–2018), CHI Play (2015–2018, 2020), alt.chi (2015), ITS/ISS (2015–2019), IUI (2015–2019), MobileHCI (2015, 2017, 2018), DIS (2014, 2016–2018), CogSci (2018), IDC (2015, 2017), TVX (2017), EICS (2014, 2015), ACI (2016), TEI (2019), INTERACT (2019)

Art / Music / Other

VISAP (2013–2022), ISEA (2017–2019, 2022), Creativity & Cognition (2015, 2017), NIME (2015–2022), CHI Arts (2016, 2017), LREC (2020)

Proposal Reviews

Panelist for DOE Advanced Scientific Computing Research (ASCR) Program, 2022.

Panelist for NSF Graduate Research Fellowship Program (GRFP), 2016, 2018, 2021.

Panelist for NSF Cyber-Human Systems (CHS) Program, 2018.

Reviewer for the Canada Foundation for Innovation, 2017.

Reviewer of new research project proposals for Fonds Wetenschappelijk Onderzoek—Vlaanderen, FWO (the Research Foundation—Flanders), 2015.

Reviewer for NSF Geography and Spatial Sciences Program (GSS), 2014.

Other Reviewing

ACM SIGGRAPH Art Gallery Jury, 2020, 2021.

External Evaluator, Qualcomm Institute, University of California, San Diego, 2021.

External Evaluator, School of Art, Herberger Institute for Design and the Arts, Arizona State University, 2020.

Faculty Judge for Silicon Valley Leadership Group's competition on "deep fakes", 2020.

External Evaluator, School of Interactive Arts & Technology, Simon Fraser University, 2019.

ACM CHI Play Special Recognition Award for Outstanding Reviewing, 2020.

ISEA Arts Program Jury, 2018, 2019, 2022.

IEEE VIS Best Posters Jury, 2019.

ACM Recognition of Service Award, 2019.

ACM SIGGRAPH Arts & Design Posters Jury, 2018.

Reviewer for the NCWIT Award for Aspirations in Computing, 2016, 2018, 2019.

Reviewer for Leonardo Abstracts Service (LABS), 2016, 2018.

ACM CHI Special Recognition Award for Outstanding Reviewing, 2018.

ACM SIGGRAPH Art Papers Jury, 2017, 2018, 2021.

ACM CHI Arts Program Jury, 2017.

Departmental

Computational Media Department, University of California, Santa Cruz (2017–2022)

Vice Chair of Computational Media Department, 2021–2022.

Member of the Faculty Senate Committee on Committees (COC), 2021–2022.

Member of the Faculty Equity Advocates (FEA) Workgroup, 2021–2022.

Member of the Graduate Committee for the Computational Media Department, 2017–2019 (with Noah Wardrip-Fruin), 2020–2021 (with Michael Mateas).

Member of the Digital Arts and New Media (DANM) Executive Committee, 2019–2022.

Member of the Faculty Senate Committee on Academic Freedom (CAF), 2020–2021.

Member of Computational Media Department's Opportunity Committee, 2019–2020.

On the BSOE Awards and Scholarship Committee (undergraduate), 2020–2021.

Computational Media representative on the Baskin School of Engineering Council on Diversity, Equity, and Inclusion (BSOE-CDEI), 2018–2020.

On the BSOE Awards Committee (graduate), 2017–2020.

On the Planning Committee for the UCSC Applied Artificial Intelligence Institute, 2018–2020.

Crown College Faculty Fellow, 2018–2022.

CITL/BSOE Fellow at the UCSC Center for Innovations in Teaching and Learning (CITL), 2017–2018.

Department of Computer Science, University of Illinois at Chicago (2014–2017)

Recipient of the 2017 UIC College of Engineering Faculty Research Award.

Led the initiative to create the MS/MFA Joint Program in Computer Science and the Arts.

On the Colloquium and Public Relations Committee, 2014–2017.

Faculty host for Distinguished Lecturer Series: 2016–2017, Sheelagh Carpendale; 2015–2016, Tamara Munzner.

On the CS Advisory Committee, 2014–2016.

School of Information: Science, Technology, and Arts, University of Arizona (2013–2014)

Designed the graduate and undergraduate curriculum for the department's Creative Coding track.

Headed the Visual Identity committee.

On the Planning Committee for the MS in Information degree.

Co-organizer for "Form, Content, and Computation," the 2013 SISTA Media Arts Exhibition.

Advising

Postdoctoral Researchers

UCSC Oskar Elek
Brian Hansen

UIC Johnson Keiriz
Anıl Çamcı
Tuan (Tommy) Dang

UA Javier Villegas
Ronak Etemadpour
Christopher Jette

PhD Students

UCSC David Abramov
Manu Mathew Thomas
Ran Xu
Milad Hakimshafaei
Kyle Gonzalez
Montana Fowler
Jasmine Otto
Jeffrey Weekley
Hongwei (Henry) Zhou

UIC Paul Murray
Kyle Almryde

MS Students

UCSC Stefany Arevalo
Drew Ehrlich

Akash Chaudhary
Bryan Chao
Kapil Gupta
Sarah Frost
Mahika Dubey

UIC Shiwangi Singh
Giorgio Conte
Andrea Purgato
Marco Cavallo
Francesco Paduano
Massimo De Marchi
Alexander Simes

Additional Graduate Advising

2022 Farhanul Hasan, PhD Dissertation committee (NMSU)
Asiiah Song, PhD Advancement committee
Weihao Qiu, PhD Dissertation committee (UCSB)
John Novak, PhD Dissertation committee (UIC)

2021 Jing Xiong, PhD Dissertation committee (ECE Department)
Andrew Port, PhD Dissertation committee (CSE Department)
Eriq Augustine, PhD Dissertation committee (CSE Department)

2020 Brigit Schroeder, PhD Dissertation committee (CSE Department)

2019 Timothy Luciani, PhD Dissertation committee (UIC)
Xiaoxuan (Zooey) Zhang, MS Thesis committee
Richard Grillotti, MFA Thesis committee (DANM Program)
Ishani Chakraborty, PhD Dissertation committee (TIM Department)
Samuel Gabbard, MS Thesis committee (CSE Department)

2018 Samvid Jhaveri, MS Thesis committee
Ahmed Elshaarany, MS Thesis committee (CSE Department)
Chihua Ma, PhD Dissertation committee
Anthony Assi, MFA Thesis committee (DANM Program)
Christopher Ivins, MFA Thesis committee (DANM Program)
Shi Yin, PhD Dissertation committee
David Randolph, PhD Dissertation committee

2017 Fengjiao Wang, PhD Dissertation committee
Bokai Cao, PhD Dissertation committee
Natawut Monaikul, PhD Written critique and presentation chair
Hasan Iqbal, PhD Written critique and presentation committee
Pooja Donekan, MS Project committee
Surbhi Arora, MS Project committee
Shvetha Suvarna, MS Project committee
Kristine Lee, Graduate research assistant
Xing Li, Graduate research assistant
Sai Priya Jyothula, Graduate research assistant

2016 Tiffany Funk, PhD Dissertation committee (Dept. of Art History)
Jordan Torf, PhD Written critique and presentation committee
Yiji Zhang, PhD Written critique and presentation chair
Itika Gupta, PhD Written critique and presentation chair
Kshitij Gautam, PhD Written critique and presentation committee
Tanima Chatterjee, PhD Written critique and presentation committee
Tejus Bharadwaj, Graduate research assistant

Malvika Kumar, Graduate research assistant
Shiwangi Singh, Graduate research assistant
Amanda Coleman, MS Project advisor

2015 Thomas Marrinan, PhD Dissertation committee
Abdullah Alourani, PhD Written critique and presentation committee
Sabita Acharya, PhD Written critique and presentation chair
Alessandro Chetta, Graduate research assistant
Davide Pagano, MS Thesis committee
Amruta Nanavaty, MS Thesis committee

OTHER WORK EXPERIENCE

Researcher, AlloSphere Research Facility, California NanoSystems Institute, UC Santa Barbara. 2012.

Researcher, Four Eyes Lab, Computer Science Department, UC Santa Barbara. 2011.

Lecturer, Media Arts and Technology Program, UC Santa Barbara. 2009–2011.

Researcher, Experimental Visualization Lab, Media Arts and Technology Program, UC Santa Barbara. 2009.

Developer, Center for Nanotechnology in Society, UC Santa Barbara 2009–2010.

Developer, George Legrady Studio, 2008.

NSF IGERT Trainee in Interactive Digital Media, UC Santa Barbara. 2006–2008.

Developer, The Transliteracies Project, English Department, UC Santa Barbara, 2006.

Developer, Alexandria Digital Library / National Geospatial Digital Archive, UC Santa Barbara, 2005–2006.

CEO and Founder, Synaesthetic Software, 2001–2004.

Director of Module Development, Micromuse, 1999–2001.

Developer, Calvin Alexander Networking, 1998–1999.

Developer, Metalab, 1997.