Yue Zhang - Curriculum Vitae

Title: Associate Professor
Research: Visualization and Computer Graphics
Languages: English and Chinese (fluent)
French (beginning)

3117 Kelley Engineering
Oregon State University
Corvallis, Oregon 97330
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Work experience

2019-present — **Associate Professor** — *Corvallis, Oregon, USA*
School of Electrical Engineering and Computer Science
Oregon State University

2017-2019 — **Associate Professor (Senior Research)** — *Corvallis, Oregon, USA*
School of Civil and Construction Engineering
School of Electrical Engineering and Computer Science
Oregon State University

2014-2016 — **Assistant Professor (Senior Research)** — *Corvallis, Oregon, USA*
School of Electrical Engineering and Computer Science
Oregon State University

2012-2013 — **Research Scientist** — *Dresden, Germany*
Institute of Structual Analysis
Technical University of Dresden

1997-2011 — **Tire Processing and Performance Modeling Engineer** — *Greenville, South Carolina, USA*
Michelin North America Research Company

Education

1997 — **PhD** — *Raleigh, North Carolina*
North Carolina State University
Department of Mathematics
Dissertation: A Mathematical Formulation of Vibrations of a Composite Curved Beam Structure: Aluminum Core Material with Viscoelastic Layers, Constraining Layers and Piezoceramic Patches

1992 — **B.S. Degree** — *Knoxville, Tennessee*
University of Tennessee at Knoxville
Department of Physics

1992 — **B.S. Degree** — *Knoxville, Tennessee*
University of Tennessee at Knoxville
Department of Mathematics

Publications

IEEE VIS 2024	**Structure-Aware Simplification for Hypergraph Visualization** P. Oliver, E. Zhang and Y. Zhang. IEEE Transactions on Visualization and Computer Graphics, 2025, (IEEE VIS 2024), pp. 667-676
IEEE TopoInViS 2024	**Asymptotic Topology of 3D Linear Symmetric Tensor Fields** X. Lin, Y. Zhang and E. Zhang. IEEE Topological Data Analysis and Visualization Workshop, 2024, pp. 55-64
IEEE VIS 2023	**Interactive Design and Optics-Based Visualization of Arbitrary Non-Euclidean Kaleidoscopic Orbifolds** J. Zheng, E. Zhang and Y. Zhang. IEEE Transactions on Visualization and Computer Graphics, 2024, (IEEE VIS 2023) pp. 1292-1301
IEEE VIS 2023	**Global Topology of 3D Symmetric Tensor Fields** S.H. Hung, Y. Zhang and E. Zhang. IEEE Transactions on Visualization and Computer Graphics, 2024, (IEEE VIS 2023), pp. 1282-1291
IEEE VIS 2023	**Scalable Hypergraph Visualization** P. Oliver, E. Zhang and Y. Zhang. IEEE Transactions on Visualization and Computer Graphics, 2024, (IEEE VIS 2023), pp. 595-605
Scientific Reports 2022	**Remote Triggering of High Magnitude Earthquakes along Plate Boundaries** R.T. O'Malley, A. Choudhury and Y. Zhang. Scientific Reports, Vol 1138, 2022
ROSAP 2022	**Rumble Strip Design Analysis To Contribute to Low Exterior Noise Using Finite Element Modeling** J. Zheng, and Y. Zhang, National Transportation Library's Repository and Open Science Access Portal. FHWA-OR-RD-22-14. (This report was reviewed by the project team at Oregon Department of Transportation, and the team included experienced research analysts and road noise experts)
IEEE VIS Best Paper Award 2021	**Feature Curves and Surfaces of 3D Asymmetric Tensor Fields** S.H. Hung, Y. Zhang, H. Yeh and E. Zhang. IEEE Transactions on Visualization and Computer Graphics, Vol 28(1), 2022, (IEEE VIS 2021), pp. 33-42
IEEE VIS 2021	**Automatic Polygon Layout for Primal-Dual Visualization of Hypergraphs** B. Qu, E. Zhang, and Y. Zhang. IEEE Transactions on Visualization and Computer Graphics, Vol 28(1), 2022, (IEEE VIS 2021), pp. 633-642
IC3DV 2021	**PolyNet: Polynomial Neural Network for 3D Shape Recognition with PolyShape Representation** M. Yavartanoo, S.H. Hung, R. Neshatavar, Y. Zhang, K.M. Lee. 2021 International Conference on 3D Vision (3DV), pp. 1014-1023
Frontiers 2021	**A Dynamic Stress-Scape Framework to Evaluate Potential Effects of Multiple Environmental Stressors on Gulf of Alaska Juvenile Pacific Cod** J. Blaisdell, H. L. Thalmann, W. Klajbor, Y. Zhang, J. A. Miller, B. Laurel, and M. T. Kavanaugh. Frontiers in Marine Science, 2021, Vol 8, pp. 497 – 512, Article 656088
SIGGRAPH ASIA 2020	**Real-Time Rendering of Decorative Sound Textures for Soundscapes** J. Zheng, S.H. Hung, K. Hiebel, and Y. Zhang. SIGGRAPH ASIA 2020, 2020, Article 271
IEEE VIS 2020	**Multi-Scale Topological Analysis of Asymmetric Tensor Fields on Surfaces** F. Khan, L. Roy, E. Zhang, B. Qu, S.H. Hung, H. Yeh, R.S. Laramee, and Y. Zhang. IEEE Transactions on Visualization and Computer Graphics, 26(1), 2020, pp. 270-279
IEEE VIS 2019	**Robust and Fast Extraction of 3D Symmetric Tensor Field Topology** L. Roy, P. Kumar, Y. Zhang, and E. Zhang. IEEE Transactions on Visualization and Computer Graphics, 25(1), 2019, pp. 1102-1111
IEEE VIS 2018	**Interactive Design and Visualization of Branched Covering Spaces** L. Roy, P. Kumar, S. Golbabaei, Y. Zhang, and E. Zhang. IEEE Transactions on Visualization and Computer Graphics, 24(1), 2018, pp. 843-852

IJVNV 2018	**A Survey on Road Noise Prediction for Milled Shoulder Rumble Strip Designs** P. Kalathas, D. Hurwitz, D. Parrish, K. Glover and Y. Zhang. International Journal of Vehicle Noise and Vibration, 14(3), 2018, pp. 251-269
SIGGRAPH ASIA TB 2017	**Interactive Multi-Style Pen-and-Ink Stylization of Images** B. Qu, Y. Zhang, and E. Zhang. SIGGRAPH ASIA 2017 Technical Briefs, 2017, Article 2
SIGGRAPH ASIA Symposium on Vis 2017	**Interactive Design and Visualization of N-ary Relationship** B. Qu, P. Kumar, E. Zhang, P. Jaiswal, L. Cooper, J. Elser, Y. Zhang. SIGGRAPH ASIA Symposium on Visualization 2017, Article 15
TopoInVis 2017	**Maximum Number of Transition Points in 3D Linear Symmetry Tensor Fields** Y. Zhang, L. Roy, R. Sharma, and E. Zhang. Topology-Based Methods in Visualization Conference Proceeding 2017
IEEE VIS 2016	**Feature Surfaces in Symmetric Tensor Fields Based on Eigenvalue Manifold** J. Palacios, H. Yeh, W. Wang, Y. Zhang, R.S. Laramee, R. Sharma, T. Schultz, and E. Zhang. IEEE Transactions on Visualization and Computer Graphics, 22(3), 2016, pp. 1248-1260
CSCI 2016	**Registration Guided Simulation of Prostate Movement for Radiation Therapy** Y. Shen, N. Das, Y. Zhang, and W. Laub. The 2016 International Conference on Computational Science and Computational Intelligence, Dec 2016
SIGGRAPH ASIA TB 2016	**Horizon Measures: A Novel View-Independent Shape Descriptor** E. Zhang, V. Jadye, C. Escher, P. Wonka, Y. Zhang, and X. Gao. SIGGRAPH ASIA Technical Briefs, 2016, Article 20
Proc. of ASME 2016	**Topology Optimization of Hyperelastic Continua** T. Pham, C. Hoyle, Y. Zhang and T. Nguyen. Proceedings of the ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, ASME
IJIDem 2016	**Energy harvesting from a five-story building and investigation of frequency effect on output power** I. Aminzahed, Y. Zhang, and M. Jabbari, International Journal on Interactive Design and Manufacturing 2016, pp. 1—8
IEMDC 2015	**Numerical Modeling of 3D Printed Electric Machines** J. Waterman, A. Clucas, T. Costa, Y. Zhang, and J. Zhang. IEEE International Electric Machines and Drives Conference (IEMDC) 2015, pp. 1286-1291
NAFEMS 2015	**Modeling of Tire Rolling on Roads in Wintry Weather with Material Point Method** A. Clucas, P. Sannecy, E. Zhang, and Y. Zhang. National Agency for Finite Element Methods and Standards (NAFEMS) World Congress 2015
TopoInVis 2015	**Maximum Number of Degenerate Curves in 3D Linear Tensor Fields** Y. Zhang, Yu-J. Tzeng and E. Zhang. Topology-Based Methods in Visualization Conference Proceeding 2015
IDETC - CIE 2001	**Modeling Hysteretic Stress-Strain Relationships with Graphical User Interface** Y. Zhang. 2001 Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Pittsburgh, PA, Sep 9 - 12, 2001
Stochastic Analysis,... 1998	**Estimation of Probability Distributions for Individual Parameters Using Aggregate Population Data** H.T. Banks, B.G. Fitzpatrick, L.K. Potter, and Y. Zhang. Stochastic Analysis, Control, Optimization, and Applications: a Volume in Honor of W.H. Fleming, Birkhäuser, Boston, 1998
DSandA 1998	**Mathematical Model and Analysis of a Laminated Curved Beam with Shear** H.T. Banks, N.G. Medhin, and Y. Zhang. Dynamic Systems and Applications, vol. 7, 1998, pp. 291 - 318
IJMSS 1997	**Computational Methods for a Curved Beam with Piezoceramic Patches** H.T. Banks and Y. Zhang. Journal of Intelligent Material Systems and Structures, vol. 8(3), Mar. 1997, pp. 260 – 278

IJAEandM 1997	**Damage Detection as Inverse Problems for Distributed Parameter Systems: Computational Approaches** H.T. Banks, R.C. Smith, and Y. Zhang. International Journal of Applied Electromagnetism and Mechanics. vol. 8, 1997, pp. 61 – 76
IEEE Conf. DandC 1997	**Stress-Strain Laws for Carbon Black and Silicon Filled Elastomers** H.T. Banks, L.K. Potter, and Y. Zhang. In Proceedings of 1997 IEEE Conference on Decision and Control, vol. 4, San Diego, CA, Dec., 1997, pp. 3727 – 3732
IEEE Conf. DandC 1997	**Mathematical Model for a Laminated Curved Beam** H.T. Banks, N.G. Medhin, and Y. Zhang. In Proceedings of 1997 IEEE Conference on Decision and Control, vol. 4, San Diego, CA, Dec., 1997, pp. 3739 - 3748
Proc. Biomath 1997	**Use of Aggregate Size-Structured Population Data to Estimate Distribution of Growth Rates** H.T. Banks, L.K. Potter, and Y. Zhang. In Proceedings of 8th International Congress on Biomathematics, Panama, Aug., 1997, pp. 3 – 12
DEandA 1996	**Estimation of Distributed Individual Rates from Aggregate Population Data** H.T. Banks, B.G. Fitzpatrick, and Y. Zhang. Differential Equations and Applications to Biology and to Industry. World Science Press, 1996, pp. 13 – 22
NFAandO 1996	**A Mathematical Framework for Curved Active Constrained Layer structures: Well-Posedness and Approximation** H.T. Banks, N.G. Medhin and Y. Zhang. Numerical Functional Analysis & Optimization. vol. 17, 1996, pp. 1 – 22
Annual Michelin Internal Reports 1998–2011	**Topics were on tire fabrication which involves polymeric material molding and vulcanization, and viscoelastic material deformation, and on tire performance analysis which involves rolling contact.** I was the sole author on these yearly reports due to job assignment. My reports contained classified information owned by Michelin only.

Service

Conference/Workshop Organization	Co-Chair of IEEE TopoInVis 2026 Co-paper Chair of IEEE TopoInVis 2024 and 2025 Co-organizer of Big Data Visualization Workshop of International Conference on Biological Ontology 2018 August 7-10, 2018, Corvallis, Oregon, USA Co-organizer of Novel Approaches to Visualizing Big Data Sets Workshop of International Conference on Biological Ontology 2016 August 1-4, 2016, Corvallis, Oregon, USA
Program Committee	IEEE VIS Paper Committee 2022, 2023, 2024 PacificVis Paper Committee 2021, 2022, 2023, 2024, 2025, 2026 IEEE VIS Short Paper Committee 2025, 2026 EuroVis Short Paper Committee, 2018, 2022, 2023 TopoInVis Paper Committee 2022, 2023 International Conference on Information Visualization Theory and Applications, 2018-present International Confernce on Geometry Modeling and Processing, 2018

Review Panels

NSF	National Science Foundation
NSERC	Natural Science and Engineering Research of Canada, Discovery Research Grant

Journals	IEEE TVCG ACM TOG Journal of Graphical Models Computers and Graphics Computer Graphics Forum Pacific VIS 2025 Journal Track IVAPP Journal Track
Conferences	IEEE VIS SIGGRAPH SIGGRAPH ASIA Eurographics EuroVis Pacific Graphics Pacific Visualization IVAPP Conference Track

Invention Records

Patent	US20120067484A1, Sacrificial Layer to Prevent Flashing filed by Michelin R&D
Michelin	Michelin R&D internal invention records: IR-zhang-2009-02, Textile Curing Bladder IR-zhang-2009-01, Outer Tire Coating to Improve Molding
Oregon State U.	OSU-18-39P, Provisional patent application 62/681,208, 2018, Topology-driven, Multi-scale Tensor Field Visualization OSU-17-42P, Provisional patent application 62/552,243, 2017, Sawtooth-shaped Low Noise Rumble Strip Device OSU-16-20, 2016, Piezoelectric Vibration Energy Harvester (from bike vibration)