WEI YAN, PH.D.

Mattia Flabiano III AIA/Page Southerland Design Professor, Department of Architecture
Presidential Impact Fellow, Texas A&M University

EDUCATION

Tianjin University, China	Architecture	B. Engineering	1992
Tianjin University, China	Architectural Science and Technology	M. Engineering	1996
ETH Zurich, Switzerland	Computer-Aided Architectural Design	Post-grad. Cert.	1999
University of California, Berkeley	Computer Science	M. Science	2004
University of California, Berkeley	Architecture	Ph.D.	2005

APPOINTMENTS

9.2016 – present	Professor	Department of Architecture, Texas A&M University
9.2011 – 8.2016	Associate Professor	Department of Architecture, Texas A&M University
8.2012 – 12.2012	Guest Scientist	Lawrence Berkeley National Laboratory
8.2012 – 12.2012	Visiting Professor	Stanford University
2005 – 8.2011	Assistant Professor	Department of Architecture, Texas A&M University
2004	Graduate Student Researcher	Computer Science Division, U. California, Berkeley
2001 - 2002	Graduate Student Researcher	Department of Architecture, U. California, Berkeley
2000	Student Research Assistant	Lawrence Berkeley National Laboratory
1999	Graduate Student Researcher	Department of Architecture, U. California, Berkeley

SELECTED PUBLICATIONS

1. Yan, W. (2021) Augmented reality instructions for construction toys enabled by accurate model registration and realistic object/hand occlusions. Virtual Reality (2021).
2. Mohammadgholibeyki, N., Nazari, F., Venkatraj, V., Koliou*, M., Yan, W., Dixit, M., and Sideris, P. (2021). A decision-making framework for life-cycle energy and seismic loss assessment of buildings, Structure and Infrastructure Engineering, DOI: 10.1080/15732479.2021.1983613.
3. Yousif, S., & Yan, W. (2021). Application and evaluation of a K-Medoids-based shape clustering method for an articulated design space. J. of Computational Design and Engineering, 8(3), 935-948.
4. Jeong, W., Yan, W., & Lee, C. J. (2020). Thermal Performance Visualization Using Object-Oriented Physical and Building Information Modeling. Applied Sciences, 10(17), 5888.
5. Venkatraj, V., Dixit, M., Yan, W., & Lavy, S. (2020). Evaluating the Impact of Operating Energy Reduction Measures on Embodied Energy. Energy and Buildings, 110340.
6. Yousefi, F., Gholipour, Y., Saboohi, Y., & Yan, W. (2019). Interaction of glazing parameters, climatic condition and interior shadings: performing energy and cost analysis in a residential building in Iran. Energy Efficiency, 1-18.
7. Dixit, M.K., Singh, S., Lavy, S., Yan, W., Pariafsai, F., and Ostadalimakhmalbaf, M., (2019). "Floor Finish Selection in the Design of Healthcare Facilities: A Survey of Facility Managers.", Facilities , https://doi.org/10.1108/F-04-2018-0047
8. Dixit, M.K., Singh, S., Lavy, S., and Yan, W., (2019) "Floor finish selection in health-care facilities: a systematic literature review", Facilities, https://doi.org/10.1108/F-03-2018-0042
9. Farias, F., Kota, S., Jeong, W., Kim, J., Bermudez Alcocer, J., Haberl, J., Clayton, M., and Yan, W., Development of a Reference Building Information Model (BIM) for Thermal Model Compliance Testing (RP-1468) Part-II: Test Cases and Analysis, The American Society of Heating, Refrigerating, And Air Conditioning Engineers (ASHRAE) Transactions, Volume 125, Part 1. 2019.
10. Yeon, J., Kang, J. and Yan, W., 2018. Spall damage repair using 3D printing technology. Automation in Construction, 89, pp.266-274.

11. Talele, S., Traylor, C., Arpan, L., Curley, C., Chen, C., Day, J., Feiock R., Hadzikadic, M., Ingman, S., Karaguzel, O., Lam, K., Menassa, C., Pevnitskaya, S., Spiegelhalter, T., Tolone, W., Yan, W., Yeatts, D., Zhu Y., and Tao, Y., Energy Modeling and Data Structure Framework for Sustainable Human-Building Ecosystems (SHBE) - A Review, Frontiers in Energy, Volume 12, Issue 2, pp 314-332. Springer, ISSN 729399831. 2018.

12. Yousefi, F., Gholipour, Y., and Yan, W., A Study of the Impact of Occupant Behaviors on Energy Performance of Building Envelopes Using Occupants' Data, Energy and Buildings, Elsevier, Volume 148, pp. 182 - 198, 2017.

13. Kota, S., Farias, F., Jeong, W., Kim, J., Bermudez Alcocer, J., Clayton, M., Yan, W., and Haberl, J. Development of a Reference Building Information Model (BIM) for Thermal Model Compliance Testing (RP-1468) Part-I: Guidelines for Generating Thermal Model Input Files. OR-16-020 (RP-1468). The American Society of Heating, Refrigerating, And Air Conditioning Engineers (ASHRAE) Transactions, Vol. 122 Part 1. 2016.

14. Ingley, S., Rahmani Asl, M., Wu, C., Cui, R., Gadelhak, M., Li., W., Zhang, J., Simpson, J., Hash, C., Butkowski, T., Veen, T., Johnson, J., Yan, W., and Rosenthal, G., anyFish 2.0: An Open-Source Software Platform to Generate and Share Animated Fish Models to Study Behaviour. SoftwareX, Elsevier. Volumes 3-4, December 2015, pp. 13-21. http://dx.doi.org/10.1016/j.softx.2015.10.001

15. Rahmani Asl, M., Zarrinmehr, S., Bergin, M., and Yan, W., BPOpt: A Framework for BIM-based Performance Optimization, Energy and Buildings, Elsevier, 2015, vol. 108, pp. 401-412. http://dx.doi.org/10.1016/j.enbuild.2015.09.011

16. Su, Z. and Yan, W. (2015). A Fast Genetic Algorithm for Solving Architectural Design Optimization Problems. Artificial Intelligence for Engineering Design, Analysis and Manufacturing (AIEDAM) (2015), vol. 29, issue 04, pp. 457-469, Cambridge University Press. http://journals.cambridge.org/repo_A99jKeN8TvpQgs

17. Su, Z. and Yan, W. (2015). Creating and Improving a Closed Loop: Design Optimization and Knowledge Discovery in Architecture, International Journal of Architectural Computing. Volume 13, No. 2. pp. 123-142. Multi Science Publishing.

18. Jeong, W., Kim, J., Clayton, M., Haberl, J., and Yan, W. (2015). A Framework to Integrate Object-Oriented Physical Modelling with Building Information Modelling for Building Thermal Simulation, Journal of Building Performance Simulation, Taylor & Francis. DOI: 10.1080/19401493.2014.993709

19. Kim, J., Jeong, W., Clayton, M., Haberl, J., and Yan, W. (2015). Developing a Physical BIM Library for Building Thermal Energy Simulation, Automation in Construction, Elsevier. Volume 50, February 2015, pp. 16-28. DOI: http://dx.doi.org/10.1016/j.autcon.2014.10.011

20. Kota, S., Haberl, J. S., Clayton, M. J., & Yan, W. (2014). Building Information Modeling (BIM)-Based Daylighting Simulation and Analysis. Energy and Buildings, Elsevier. Volume 81, October 2014, pp. 391-403. DOI: http://dx.doi.org/10.1016/j.enbuild.2014.06.043

21. Jeong, W., Kim, J., Clayton, M., Haberl, J., and Yan, W. (2014). Translating Building Information Modeling to Building Energy Modeling Using Model View Definition, The Scientific World Journal, vol. 2014, Article ID 638276, 21 pages, 2014. doi:10.1155/2014/638276.

22. Veen, T., Ingley, S., Cui, R., Rahmani Asl, M., Simpson, J., Zhang, J., Li, W., Hash, C., Johnson, J., Yan, W., Rosenthal, G. "anyFish: Open-source Software to Generate Animated Fish Models for Behavioural Studies". Journal of Evolutionary Ecology Research, 2013.

23. Dixit, M. and Yan, W., BIM-Based BiPV Prototype for the Solar Insolation Calculation, International Journal on the Fundamental Aspects of Technology to Serve the Ageing Society: Gerontechnology 2012; 11(2):162 doi: http://dx.doi.org/10.4017/gt.2012.11.02.539.00.

24. Zhao, H., Zhang, H., Sharpe, P., Hamanaka, B., Yan, W., Jeong, W., "Ice Thermal Storage Systems for Nuclear Power Plant Supplemental Cooling and Peak Power Shifting", Journal of Energy Engineering, ASCE, 2012, 139(1): pp. 41-47.

25. Yan, W., Culp C., and Graf, B. "Integrating BIM and Gaming for Real-Time Interactive Architectural Visualization", Journal of Automation in Construction, Elsevier. Volume 20, Issue 4, 2011, Pages 446-458.
26. Butkowski, T., Yan, W., Gray, A. M., Cui, R., Verzijden, M. N., Rosenthal, G. G., "Automated Interactive Video Playback for Studies of Animal Communication", Journal of Visualized Experiments. 48 (2011). http://www.jove.com/details.stp?id=2374 doi: 10.3791/2374.
27. Yan, W., Behera, A., and Rajan, P., "Recording and Documenting the Chromatic Information of Architectural Heritage", Journal of Cultural Heritage, Elsevier. Vol. 11, Issue 4 (2010) pp. 438-451.
28. Zhao, H., Zhang, H., Szilard, R., and Yan, W., "Use of Ice Thermal Storage Systems to Address LWR Cooling Issues", Transactions of American Nuclear Society, Vol. 100. pp. 103-104. 2009.
29. Yan, W. and Liu, G. "BIMGame: A New Way to Enhance Sustainable Design and Education", in New Architecture, 03/2008, Vol.118, Special Issue in Digital Architecture, pp. 28-31. Chinese translation: Chuanfei Yu. ISSN 1000-3959 CN 42-1155/TU, Huazhong University of Science and Technology, China, 2008.
30. Yan, W. and Kalay, Y.E. "Simulating the Behavior of Users in Built Environments", in Journal of Architectural and Planning Research (JAPR) 21:4, winter 2004. Locke Science Publishing Company, Inc. pp. 371-384.

SELECTED EXTERNAL RESEARCH GRANTS

1. PI, Using Augmented Reality and Artificial Intelligence to Improve Teaching and Learning Spatial Transformations in STEM Disciplines, with Co-PIs: Quek, F., Burte, H., Song, D., Yasskin, P., and Co-I: Liew, J. Research on Emerging Technologies for Teaching and Learning (RETTL), National Science Foundation (NSF), $849,971. Award #2119549. Grant Period: 2021-2024.
2. PI, Sustainable Building Design with Building Performance Simulation. Received research funding as gifts from Perkins and Will, with Fatemeh Shahsavari (GAR), $74,947, Spring 2020- Summer 2021.
3. PI, WP-BIM V2: Web-based Parametric BIM for Online Collaborative Design and Optimization – Second Phase (Version 2). Autodesk Forge Research Grant, Autodesk, Inc. $5,000. Grant Period: 2017-2018.
4. PI, A Web-based Parametric BIM Viewer for Online Collaborative Parametric Design Presentation and Optimization, with Mohammad Rahmani Asl (Consultant). Autodesk Forge Research Grant, Autodesk, Inc. $5,000. Grant Period: 2016. Plus travel funds to Autodesk University 2016: $3,260 by Autodesk, Inc. (Total $8,260)
5. Senior Personnel and Steering Committee Member, RCN-SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (SHBE), with PI: Tao, Y. (University of North Texas), Co-PIs: Zhu, Y., Cartes, D., Tolone, W., and Lam, K.P., and Senior Personnels: Hadzikadic, M., Feiock, R., Thompson, R., Spiegelhalter, T., Menassa, C. and D'Souza, D. National Science Foundation (NSF), $652,846.00. Award#1338851. Grant Period: 2013-2018.
6. PI, Analyzing and Documenting BIM-based Building Performance Analysis Software & Building Performance Analysis and Optimization, with Mohammad Rahmnai Asl (Graduate Researcher). Autodesk, Inc. $114,502. Grant #467061. Grant Period: 2013-2015.
7. PI, Physical Building Information Modeling for Solar Building Design and Simulation, with Clayton, M. (Co-PI) and Haberl, J. (Co-PI). Environmental Sustainability Program, Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET), National Science Foundation (NSF), $300,000. Grant Period: 2010-2015.

   Supplemental Grant - Research Experiences for Undergraduates (REU), CBET, NSF, $16,000. Grant Period: 2013-2015.
8. Co-PI, Enabling Partnerships to Enable Science ("TOOLS"): anyFish: a User-Friendly Software Package for Creating Realistic Animations for Animal Behavior, with Rosenthal, G. (PI) and Johnson,

J. (Co-PI). Early Concept Grants for Exploratory Research (EAGER) Program, Division of Biological Sciences (BIO), National Science Foundation (NSF), $314,000. Grant Period: 2010-2014.

9. Co-PI, Development of a Reference Building Information Model (BIM) for Thermal Model Compliance Testing, with Clayton, M. (PI) and Haberl, J. (Co-PI). The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), $175,311. Grant Period: 2010-2012.
10. PI on subcontract, Design and Analysis of Ice Thermal Storage Buildings Using Building Information Modeling, $60,000. Subcontract of project: Use of Ice Thermal Storage Systems to Improve LWR Plant Efficiency and Relieve the Cooling Water Requirement, Zhao, H. (PI), Zhang, H. (Co-I), and Yan, W. (Co-I). Idaho National Laboratory (U.S. Department of Energy Lab Directed Research and Development) (LDRD) Grant, $200,000. Grant Period: 2009.
11. PI, High Dynamic Range Imaging for Preserving the Chromaticity Information of Architectural Heritage, NEH Digital Humanities Start-Up Grant, $30,000. National Endowment for the Humanities (NEH). Grant Period: 2007-2009.

SELECTED SERVICE AND TEACHING

1. Member in three departmental Promotion & Tenure Committees: Department of Architecture, Department of Construction Science (member by courtesy), and Department of Visualization (member by courtesy), Fall 2021.
2. Associate Director, the CRS Center, College of Architecture, Texas A&M University
3. Associate Director, Texas A&M Institute for Technology-Infused Learning
4. Grant Reviewer for NSF (Panelist), Research Grant Council, Hong Kong, and Austria Science Fund.
5. Organizer team for six workshops/symposium sponsored by National Science Foundation
6. Reviewers for 30+ journals / conferences frequently in cross-disciplinary fields of computational methods in architecture, engineering, construction, and visualization.
7. Cross-disciplinary teaching and graduate advising in Architecture, Visualization Science, and Computer Science at Texas A&M University, since 2005.
8. New courses' development and instruction: Building Information Modeling in Architecture, Parametric Modeling in Design, and Special Topics in Game Prototypes, Texas A&M University.

SELECTED AWARDS, HONORS, AND RECOGNITIONS

1. Alternate for the SXSW 2020 Innovation Awards in the XR category
2. SGA Open Educator Award, 2019, Student Government Association, Texas A&M University.
3. Mattia Flabiano III AIA/Page Southerland Page Design Professorship, College of Architecture, Texas A&M University, 2018.
4. Presidential Impact Fellow, Texas A&M University, 2017
5. Outstanding Reviewer: Awarded by journal Energy & Buildings (Elsevier, Amsterdam, The Netherlands), December 2016.
6. Outstanding Reviewer: Awarded by journal Automation in Construction (Elsevier, Amsterdam, The Netherlands), November 2014.
7. AIA Latrobe Prize Finalist: Yan, W., Tassinary, L., and Culp, C., "Graph-based Parametric BIM for Creative and Sustainable Building Design and Simulation", 2013 American Institute of Architects
8. Best Paper Prize: Yan, W. and Kalay, Y.E. "Geometric, Cognitive, and Behavioral Modeling of Environmental Users", in Design Computing and Cognition 2006, John Gero (Ed.), Springer, the Second International Conference on Design Computing and Cognition (DCC'06), Eindhoven University of Technology, Netherlands, 10-12 July 2006.