

Marlon D. Twyman II

University of Southern California

3502 Watt Way, Los Angeles CA 90089

MarlonTw@usc.edu / 213-740-9689 / <https://www.marlontwyman.com>

ACADEMIC EMPLOYMENT

UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)

July 2019-Present Assistant Professor, Annenberg School for Communication and Journalism, Department of Communication

EDUCATION

NORTHWESTERN UNIVERSITY (Evanston, IL)

2019 Ph.D. Technology and Social Behavior (joint program in Dept. of Communication Studies and Dept. of Electrical Engineering and Computer Science)

WRIGHT STATE UNIVERSITY (Dayton, OH)

2012 M.S. Biomedical Engineering

2010 B.S. Biomedical Engineering, *Cum Laude*, University Honors Scholar

RESEARCH INTERESTS

Social networks	Computer-support cooperative work
Team formation/Team assembly	Computational social science
Diversity in groups & teams	Human-computer interaction

GRANTS

2021-2023 National Science Foundation (NSF) Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII)
Principal Investigator, “CRII: HCC: The Creation, Maintenance, and Disruption of Inequality in Online Communities,” Award IIS-2104551: \$174,950

AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS

2019 USC Provost Assistant Professor Fellowship

University of Southern California Office of the Provost

2017 Donald H. and Carolyn E. Ecroyd Fellowship

Northwestern University School of Communication

2016 Best Student Paper – Runner-up

Interdisciplinary Network for Group Research Conference, Helsinki, Finland

2014 Google, Inc. Travel Grant: National Society of Black Engineers (NSBE) Professional Development Conference, Phoenix, AZ

2013 GEM Fellowship (PhD Funding/5 years), The National GEM Consortium, Alexandria, VA

2010 Air Force Research Lab/DAGSI Research Fellowship,

Dayton Area Graduate Studies Institute, Dayton, OH

2009 Senior Scholarship, NASA Ohio Space Grant Consortium

2008 Choose Ohio First Scholarship, University System of Ohio

2007 Wright STEPP Full-Tuition Scholarship, Wright State University (renewed 3 years until 2010)
 2007 NSF Glenn Stokes Research Internship, NSF Ohio Science and Engineering Alliance
 2006 Competitive Honors Scholarship, Honors College, WSU (renewed 4 years until 2010)
 2006 C.J. McLin Student Leadership Development Scholarship, WSU (renewed 4 years until 2010)
 2006 Horizons in Medicine Full-Tuition Scholarship, WSU

PUBLICATIONS & PRESENTATIONS

* Denotes graduate student mentee or advisee

Peer-Reviewed Articles and Conference Proceedings

1. **Twyman, M.**, Newman, D. A., DeChurch, L., & Contractor, N. (2022). Teammate invitation networks: The roles of recommender systems and prior collaboration in team assembly. *Social Networks*, 68, 84–96. <https://doi.org/10.1016/j.socnet.2021.04.008>
2. Young, L. E., Sidnam-Mauch, E., **Twyman, M.**, Wang, L., Xu, J. J., Sargent, M., Valente, T., Ferrara, E., Fulk, J., & Monge, P. (2021). Disrupting the COVID-19 Misinfodemic With Network Interventions: Network Solutions for Network Problems. *American Journal of Public Health*, e1–e6. doi: [10.2105/AJPH.2020.306063](https://doi.org/10.2105/AJPH.2020.306063)
3. Gómez-Zarà, D., Paras, M., **Twyman, M.**, Lane, J.N., DeChurch, L.A., & Contractor, N.S. (2019). Who Would You Like to Work With?: Use of Individual Characteristics and Social Networks in Team Formation Systems. In *CHI Conference on Human Factors in Computing Systems (CHI 2019), May 4-9, 2019, Glasgow, Scotland, UK*. ACM, New York, NY, USA, 15 pages. <https://doi.org/10.1145/3290605.3300889> [acceptance rate: 24%]
4. **Twyman, M.**, Keegan, B. C., & Shaw, A. (2017). Black Lives Matter in Wikipedia: Collective Memory and Collaboration Around Online Social Movements. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing* (pp. 1400–1412). New York, NY, USA: ACM. <https://doi.org/10.1145/2998181.2998232> [acceptance rate: 35%]
5. **Twyman, M.**, Mullenbach, J., Shultz, C., Colgate, J. E., & Piper, A. M. (2015). Designing Wearable Haptic Information Displays for People with Vision Impairments. In *TEI '15: Proceedings of the Ninth International Conference on Tangible, Embedded, and Embodied Interaction* (pp. 341–344). New York, NY, USA: ACM. <https://doi.org/10.1145/2677199.2680578> [acceptance rate: 28%]

Book Chapters

6. **Twyman, M.** & Contractor, N. (2019). Team Assembly. In: Hall K., Vogel A., Croyle R. (eds) *Strategies for Team Science Success*. Springer, Cham

Conference Presentations & Posters

1. **Twyman, M.** (2021, May). Tagging for Attention: Categorization and Status Production in an Online Community. Paper presented at the 71st Annual International Communication Association Conference (ICA 2021), Virtual Conference, May 27-31, 2021.
2. Bass, E., Maric, S., Milosevic, I., Uhl-Bien, M., Groves, K. S., Kim, D., Lord, J., Silvera, G., Clark, J., Feyerherm, A. E., Hollingsworth, J., Owen-Smith, J., **Twyman, M.**, & Vogus, T. J. (2020, August). "Future of Leadership in Healthcare: Enabling Complexity Dynamics Across Levels" Symposium. *Academy of Management Proceedings*, 2020(1), 13598: <https://doi.org/10.5465/AMBPP.2020.13598symposium>
3. Sun, J.* & **Twyman, M.** (2020, May). The Social Dynamics of Hierarchical Knowledge Categorization: A Study of Kaggle Competitions. Extended Abstract presented at the 70th Annual International Communication Association Conference (ICA 2020), Virtual Conference, May 20-26, 2020.
4. Gómez-Zarà, D., Ng, J., **Twyman, M.**, DeChurch, L., Andreoli, S., Contractor, N. (2018, July). Social Cognition and Team Assembly: Competence, Warmth, or Embeddedness. Paper presented at the *Interdisciplinary Network for Group Research Conference*, Bethesda, MA, July 18-21, 2018.
5. **Twyman, M.**, Mesmer-Magnus, J., Lungeanu, A., DeChurch, L. A., & Contractor, N. S. (2018, July). The Emergence and Development of Crew Shared Mental Models: An Agent-Based Model. Paper presented at the *Interdisciplinary Network for Group Research Conference*, Bethesda, MA, July 18-21, 2018.
6. **Twyman, M.**, Mesmer-Magnus, J., Lungeanu, A., DeChurch, L. A., & Contractor, N. S. (2018, July). The Emergence and Development of Crew Shared Mental Models: An Agent-Based Model. Paper presented at *2018 International Conference on Computational Social Science (IC2S2)*. Evanston, Illinois, July 12-15, 2018.
7. Tanaka, K., Jha, S., Gado, H., **Twyman, M.**, DeChurch, L. A., & Contractor, N. S. (2018, June). 6-DoS (Six Degrees of Separation): A Web-Based Platform to Conduct Small-World Experiments. Paper presented at the XXXVIII Sunbelt Conference of the International Network for Social Network Analysis (INSNA), Utrecht, Netherlands, June 26-July 1, 2018.
8. Gómez-Zarà, D., Ng, J., **Twyman, M.**, DeChurch, L., Contractor, N. (2018, March). Social Cognition and Team Assembly: Competence, Warmth, or Embeddedness. Paper presented at the *ATLAS Teams Research Incubator Weekend*, Evanston, IL, USA, March 16-18, 2018.
9. **Twyman, M.**, Ma, L., Srivatsa, M., Cansever, D., & Contractor, N. (2017, May). Searching Networks to Assemble Teams. Paper presented at *Army Research Laboratory Network*

- Science Collaborative Technology Alliance Annual Technical Meeting*, Newark, Delaware, May 2-3, 2017.
10. DeChurch, L.A., Schultz, M., Johnson, J., Contractor, N.S., Mesmer-Magnus, J., Plummer, G., **Twyman, M.** (2017, January). Structured Text Analysis for Evaluating Shared Cognition. Paper presented at the *NASA Human Research Program Investigators' Workshop*, Galveston, TX, January 23-26, 2017.
 11. **Twyman, M.**, Newman, D., DeChurch, L., & Contractor, N. (2016, October). Networks of Computer-Mediated Team Assembly. Paper presented at the *Organizational Communication Mini-Conference 2016*, Evanston, Illinois, September 30-October 2, 2016.
 12. **Twyman, M.**, Newman, D., DeChurch, L., & Contractor, N. (2016, July). The Ties that Form Teams: Self-Organization, Homophily, and Multiplexity. Paper presented at *Interdisciplinary Network for Group Research Conference*, Helsinki, Finland, July 14-16, 2016. ***Runner-up: “Best Student Paper” Award**
 13. **Twyman, M.**, Wax, A., DeChurch, L., & Contractor, N. (2015, July). Looking for Leadership: Understanding Team Assembly in a Web Technology. In A. Wax and M. Twyman (co-chairs), *Technologies for Studying and Enabling Teams*. Symposium conducted at the *Interdisciplinary Network for Group Research Conference*, Pittsburgh, Pennsylvania, USA, July 23-25, 2015.
 14. **Twyman, M.**, Newman, D., DeChurch, L.A., & Contractor, N.S. (2018, April). Inviting Your Next Teammate: Algorithms & Acquaintances. Poster presented at the *Society for Industrial and Organizational Psychology (SIOP) Annual Conference*, Chicago, IL, April 19-21, 2018.
 15. **Twyman, M.**, Lungeanu, A., DeChurch, L., & Contractor, N. (2018, January). The emergence and development of crew shared mental models: An agent-based model. Poster presented at the *NASA 2018 Human Research Program Investigators' Workshop*, Galveston, TX, January 22-25, 2018.
 16. Contractor, N., DeChurch, L., Antone, W., **Twyman, M.**, Gibson, Z., Sawant, A., Gado, H., & Bell, S. (2018, January). Teamstar: A Tool for evaluating and mitigating space team risk. Poster presented at the *NASA 2018 Human Research Program Investigators' Workshop*, Galveston, TX, January 22-25, 2018.
 17. DeChurch, L., Park, P., Lungeanu, A., **Twyman, M.**, & Contractor, N. CREST: Crew Recommender for Effectively Switching Tasks. (2018, January). Poster presented at the *NASA 2018 Human Research Program Investigators' Workshop*, Galveston, TX, January 22-25, 2018.

18. **Twyman, M.**, Newman, D., DeChurch, L., & Contractor, N. (2017, October). Inviting Your Next Teammate: Algorithms and Acquaintances. Poster presented at *Organizational Communication Mini-Conference 2017*, Athens, Ohio, October 13-15, 2017.
19. **Twyman, M.**, Keegan, B. C., & Shaw, A. (2017, July). Black Lives Matter in Wikipedia: Collective Memory and Collaboration Around Online Social Movements. Poster presented at *2017 International Conference on Computational Social Science (IC2S2)*. Cologne, Germany, July 10-13, 2017.
20. **Twyman, M.**, DeChurch, L., & Contractor, N. (2017, June). Using a Network Approach for Modeling Shared Cognition of Astronaut Teams. Poster presented at *NetSci 2017 International School and Conference on Network Science*, Indianapolis, Indiana, June 19-23, 2017.
21. **Twyman, M.**, Ma, L., Srivatsa, M., Cansever, D., & Contractor, N. (2017, June). Searching Networks to Assemble Teams. Poster presented at *NetSci 2017 International School and Conference on Network Science*, Indianapolis, Indiana, June 19-23, 2017.
22. **Twyman, M.**, DeChurch, L. & Contractor, N. (2016, April). The Impact of Homophily and Multiplex Networks on the Assembly of Teams. Poster presented at *Sunbelt XXXVI Conference, International Network for Social Network Analysis*, Newport Beach, CA, April 5-10, 2016.
23. DeChurch, L., Contractor, N., Johnson, J., Mesmer-Magnus, J., Plummer, G., **Twyman, M.**, Niler, A., Larson, L. & Hernandez, I. (2016, February). SCALE: Shared Cognitive Architecture for Long-Distance Exploration. Poster presented at *NASA 2016 Human Research Program Investigators' Workshop*, Galveston, TX, February 8-11, 2016.
24. **Twyman, M.**, Wax, A., DeChurch, L., & Contractor, N. (2015, June). Emergence of Assembly & Leadership Networks in Teams. Poster presented at *NetSci 2015 International School and Conference on Network Science*, Zaragoza, Spain, June 1-5, 2015.

ADDITIONAL PUBLICATIONS & PRESENTATIONS

Peer-Reviewed Articles and Conference Proceedings

1. Eyink, K., Grazulis, L., Mahalingam, K., Shoaf, J., Hart, V., Esposito, D., Hoelscher, J., **Twyman, M.**, Tomich, D. (2012). Nanofabricated quantum dot array formation through annealing of nano-patterned planar InAs. *Journal of Vacuum Science and Technology. Materials, Processing, Measurement, & Phenomena: JVST B*, 30(4), 041806.
<https://doi.org/10.1116/1.4731471>

2. Eyink, K., Grazulis, L., **Twyman, M.**, & Mahalingam, K. (2010). Study of the driving force for the self-assembly of heterojunction quantum dots (zero D molecules) using finite element analysis. *Journal of Vacuum Science and Technology. Materials, Processing, Measurement, & Phenomena: JVST B*, 28(3), C3C33-C3C36. <https://doi.org/10.1116/1.3273902>
3. Mahalingam, K., Eyink, K., **Twyman, M.**, Shoaf, J., & Grazulis, L. (2010). Strain Relaxation in Planar InAs Epitaxial Layers Studied by High-Resolution Transmission Electron Microscopy. *Microscopy and Microanalysis*, 16(S2), 1786-1787. <https://doi.org/10.1017/S1431927610059702>
4. Eyink, K., Grazulis, L., Mahalingam, K., **Twyman, M.**, Shoaf, J., Hoelscher, J., ... Tomich, D. (2010). Shape changes in patterned planar InAs as a function of thickness and temperature (Vol. 7610, p. 761000-761000-8). <https://doi.org/10.1117/12.845939>

Conference Presentations & Posters

5. **Twyman, M.** (2010, April). Sensor-activated electromagnetic track. Paper presented at *Ohio Space Grant Consortium Research Project Symposium*, Cleveland, Ohio, USA, April 16, 2010.
6. Eyink, K., Grazulis, L., **Twyman, M.**, & Mahalingam, K. (2009, August). A Study of the Driving Force for the Self Assembly of Heterojunction Quantum Dots (Zero-D Molecules) Using Finite Element Analysis. Paper presented at *26th North American Molecular Beam Epitaxy Conference*, Princeton University, New Jersey, USA, August 9-12, 2009.
7. **Twyman, M.**, Bozeman, J., Mawasha, P.R., & Yelamarthi, K. (2007, August). A Parametric Study on the Material Properties of a Shape Memory Polymer. Poster presented at *Ohio Student Research Forum*, Wright State University, Ohio, USA, August 9-10, 2007.

TEACHING EXPERIENCE

2019-present UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)
Annenberg School for Communication and Journalism

- **Communication Networks** (F2020), Ph.D. seminar
- **Organizational Communication** (F2020, S2021), Undergraduate lecture
- **Understanding Social Science Research** (S2021), Undergraduate lecture
- **Annenberg Summer Institute in Methods & Statistics (ASIMS) Social Networks Workshop** (Summer 2020), one-week Ph.D. instruction

Center for Excellence in Teaching Training Program Participant

- Completed ***New Faculty Institute*** workshop series
- Completed ***Accelerated Online Teaching Intensive*** workshop series

2015-2018 NORTHWESTERN UNIVERSITY (Evanston, IL) Teaching Assistant

Kellogg School of Management, McCormick Engineering, School of Communication

- **Design of Networks** with Noshir Contractor (Fall 2015 & Fall 2016), *Kellogg School of Management & McCormick Engineering*: MBA/M.S. students in Design Innovation
- **Social Network Analysis** with Noshir Contractor (Spring 2016), *McCormick Engineering & School of Communication*: Undergraduate students across engineering and communication
- **Networks and Innovation** with Noshir Contractor and Paul Leonardi (Dec. 2016 & Nov. 2017), *Kellogg School of Management Executive Education*: Executives participating in the Leading into The Future: Managing in a Changing World program
- **Social Network Analysis** with Noshir Contractor (Fall 2018), *McCormick Engineering & School of Communication*: Ph.D. students across engineering and communication

INVITED TALKS

2019 UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)
Center for Applied Network Analysis

2019 NORTHWESTERN UNIVERSITY (Evanston, IL)
Center for Connected Learning and Computer-Based Modeling

2019 SYRACUSE UNIVERSITY (Syracuse, NY)
School of Information Studies

2019 UNIVERSITY OF NOTRE DAME (South Bend, IN)
Mendoza College of Business: Information Technology, Analytics, and Operations

2018 UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)
Annenberg School for Communication and Journalism: Department of Communication

2018 UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (Champaign, IL)
School of Labor and Employment Relations

RESEARCH EXPERIENCE (as a Ph.D. student)

2013-2019 NORTHWESTERN UNIVERSITY Research Assistant

Social networks in ***Science of Networks in Communities (SONIC) Lab*** (2014-2019)

organizations Advisor: Dr. Noshir Contractor

Researched organizational topics with focus on social network analysis, team assembly, and network search strategies (finding teammates and collaborators)

Participated in sponsored research projects funded by the NSF, NIH, ARL, and NASA

Human-computer ***Neuroscience and Robotics (NxR) Lab: Surface Haptics Group*** (Spring 2014)

interaction Primary Investigator: Dr. Ed Colgate

Prototyped and developed software in Android for TPAD technology (touchscreen interfaces)

Inclusive Technology Lab (Fall 2013—Summer 2014)

Primary Investigator: Dr. Anne Marie Piper

Designed and developed Android applications for a wearable user interface for visually impaired people

ACADEMIC SERVICE

Reviewing Duties:

Ad Hoc Journal Reviews: Journal of Computer-Mediated Communication, Management Communication Quarterly, CSCW issues of the Proceedings of the ACM on Human Computer Interaction (PACM HCI), Small Group Research

Conferences: Academy of Management, Computer-Supported Cooperative Work and Social Computing (CSCW 2020), Interdisciplinary Network for Group Research (INGRoup)

Grants: NSF Review Panel (2020-2021 Academic Year)

University Service:

University of Southern California: Annenberg School for Communication and Journalism

- Annenberg Resources and Mentoring (Faculty Mentor)
- Annenberg Student Task Force (Faculty Committee Member)
- Communication Undergraduate Curriculum Committee (Member)
- Communication Ph.D. Admissions Committee (Applications Reader)
- Communication Digital Media Management Admissions Committee (Applications Reader)
- Journalism Retention Committee (Member)

Northwestern University: The Graduate School, Child and Family Resources Advisory Board

- Developed strategies to increase engagement of graduate-student parents with university-provided funding and resources, including implementation of new programming

Program Committee:

Organizational Communication Mini-Conference 2016, Northwestern University, Evanston, IL

- Reviewed abstracts, created program and schedule, managed logistics, and coordinated events for a student-organized conference with over 100 attendees

PROFESSIONAL EXPERIENCES AND ENGAGEMENTS

Spring 2020 LOS ANGELES ANGELS MAJOR LEAGUE BASEBALL TEAM (Anaheim, CA)
Research Collaborator

Sports Analytics

Investigating team dynamics and organizational performance in competitive team environments

- Summer 2016 IBM T.J. WATSON RESEARCH CENTER** (Yorktown Heights, NY)
 Research Intern
Cognitive Distributed Analytics
Manager: Dr. Mudhakar Srivatsa, Mentor: Dr. Liang Ma
Algorithms, Simulation Designed and implemented computational models for expertise search in networks when assembling problem-solving teams
- Summer 2013 THE MITRE CORPORATION** (McLean, VA)
 Consulting Intern
Infrastructure, Operations, & IT Service Management
Healthcare IT, Strategy Developed internal materials for potential impact of automatic network discovery on telemental health group therapy practices for veterans with post-traumatic stress disorder (PTSD)
- BJC HEALTHCARE** (St. Louis, MO)
 Project Management Intern
- Spring 2013 Project Management in Clinical Engineering/Assets Management**
Project management Developed software for resource productivity tracking to streamline workflow for Displaced Assets Program (program saves **\$4 million** annually), and aided in buying medical devices (**\$7 million** purchase)
- 2012 Strategy and Development in Center for Clinical Excellence**
Strategy, Process improvement Collected data and facilitated development of new processes in two hospitals, developed metrics and data visualization dashboard for process optimization of Displaced Assets Program
- Summer 2011 JOINT CENTER FOR POLITICAL & ECONOMIC STUDIES** (Wash., DC)
 Policy Intern
Media and Technology Institute
Mentor: Dr. Nicol Turner-Lee (now at Brookings Institution)
Technology policy Researched policy on Broadband Internet, broadband adoption in USA, and networking architecture
- WRIGHT PATTERSON AIR FORCE BASE** (Dayton, OH)
 Research Assistant
- 2010-2012 Human Performance Wing**
 (funded M.S. in Biomedical Engineering)
Digital signal processing Analyzed EEG signals, processed MRI images, and designed user interface for a research CT scanner
- Summer 2009 Sensors and Optics**
 (funded by Chenega Federal Systems in Lorton, VA; Secret Clearance)
High-performance computing Conducted finite element modeling of semiconductor materials using cluster computing
- 2008—2012 Sensors and Optics**
 (funded by Southwestern Ohio Council for Higher Education)
Hardware Prepared microscope samples, operated multiple high-end instruments, and maintained lab space

WRIGHT STATE UNIVERSITY

Research Scholar

2009—2010 *NASA Ohio Space Grant Consortium*

“Senior Scholarship for Research” Award

Sensors, Circuits

Built a sensor-activated electromagnet track, implemented an alternative design at United Rehabilitation Services of Greater Dayton

Summer 2007 *NSF Ohio SEA Glenn-Stokes*

Research Intern

Experimental design

Designed and conducted experiment for material properties of shape memory polymers

PROFESSIONAL MEMBERSHIPS

Academy of Management

Association for Computing Machinery

Interdisciplinary Network for Group Research

International Communication Association

International Network for Social Network Analysis

National Society of Black Engineers

Order of the Engineer

Tau Beta Pi Engineering Honor Society Ohio Mu Chapter

MENTORING

Ph.D. Students:

University of Southern California

- Eugene Lee
- Yiqi Li
- Jingyi Sun
- Weiwei Zheng

Masters Students:

University of Southern California

- USC Information Sciences Institute Center for Knowledge-Powered Interdisciplinary Data Science (CKIDS) Project Mentor for the “Investigations of a Data Science Online Community” Project
 - Team awarded “Best Interdisciplinary Data Science Team”
 - Mentee, Devendra Swami, awarded “Best Interdisciplinary Data Scientist”
 - Mentored one Ph.D. student (Weiwei Zheng) and four M.S. in Data Science students: Jacob Bickman, Devendra Swami, Jae Young Kim, and Kevin Tsang

Undergraduates:

University of Southern California

- Noah Kim, Major: Communication – Mentee in the Annenberg Resources and Mentoring (ARM) program

Northwestern University

- Brian Gee, Major: Industrial Engineering
- Yixian (Amy) Wang, Major: Industrial Engineering and Mathematical Methods in the Social Sciences

MEDIA ENGAGEMENT

Dec. 2019 Quoted in “As Algorithms Battle Biases, Researchers Say Hiring Software Must Be More Than Meets the A.I.” by Tiernan Ray

Fortune

<https://fortune.com/2019/12/26/hiring-software-algorithm-artificial-intelligence-biased/>

May 2019 Podcast Guest on “NUWorkWell: Navigating the Academic Job Search”

Northwestern University—The Graduate School initiative on Work, Life & Wellness

<https://www.buzzsprout.com/245987/1129961-work-well-navigating-the-academic-job-search?play=true>