

Douglas R. Guilbeault

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Professional

2021-present, Faculty Affiliate, Berkeley Institute for Data Science (BIDS).

2020-present, Assistant Professor, Management of Organizations, Haas School of Business, UC Berkeley.

Education

2015 – 2020, Ph.D., University of Pennsylvania, The Annenberg School for Communication.

2013 – 2015, M.A., University of British Columbia, with Distinction (Cognitive Linguistics & Rhetoric).

2009 – 2013, B.A., University of Waterloo, with Distinction (Philosophy, Rhetoric, and Cognitive Science).

Certificates

2019, The Santa Fe Summer Institute in Complex Systems, New Mexico, USA.

2018, SICSS (Summer Institute in Computational Social Science), Duke University, USA.

Refereed Articles (Selected):

Guilbeault, Douglas and Damon Centola. 2021. [Topological Measures for Identifying and Predicting the Spread of Complex Contagions](#). *Nature Communications* 12 (4430). *Selected by editorial team as a [featured article](#) in Applied Physics and Mathematics.

Guilbeault, Douglas, Andrea Baronchelli, and Damon Centola. 2021. [Experimental Evidence for Scale Induced Category Convergence across Populations](#). *Nature Communications* 12 (327). *Computational Modeling Prize in Applied Cognition, *The Cognitive Science Society*.

Becker, Joshua, Douglas Guilbeault, and Ned Smith. 2021. [The Crowd Classification Problem: Social Dynamics of Binary-Choice Accuracy](#). *Management Science*. *See summary in [Harvard Business Review](#).

Centola, Damon, Douglas Guilbeault, Urmimala Sarkar, Elaine Khoong, and Jingwen Zhang. 2021. [The reduction of race and gender bias in clinical treatment recommendations using clinician peer networks in an experimental setting](#). *Nature Communications* 12 (6585). *Selected by editorial team as a [featured article](#) in Social Sciences.

Desikan, Bhargav, Tasker Hull, Ethan Nadler, Douglas Guilbeault, Aabir Abubaker, Mark Chu, Ruggiero Lo Sardo. 2020. [Compsyn: Perceptually Grounded Word Embeddings with Color](#). *Proceedings of the 28th International Conference on Computational Linguistics (COLING @ ACL)*. 1744–1751.

Guilbeault, Douglas, Joshua Becker, and Damon Centola. 2018. [Social learning and partisan bias in the interpretation of climate trends](#). *Proceedings of the National Academy of the Sciences* 115(39): 9714–9719. *Best Paper Award, *International Conference on Computational Social Science*. *Selected as featured cover article for journal issue.

Gorwa, Rob, and Douglas Guilbeault. 2018. [Unpacking the Social Media Bot: A Typology to Guide Research and Policy](#). *Policy & Internet*. *Best Paper Award, *International Communication Association*.

Refereed Articles (Extended):

Guilbeault, Douglas, Ethan Nadler, Mark Chu, Ruggiero Lo Sardo, Aabir Abubaker, and Bhargav Desikan. 2020. [Color Associations in Abstract Semantic Domains](#). *Cognition* (201): 104306.

Guilbeault, Douglas, Samuel Woolley, and Joshua Becker. 2021. [Probabilistic Social Learning Improves the Public's Judgments of News Veracity](#). *PLoS One* 16(3): e024787.

Guilbeault, Douglas, and Damon Centola. 2020. [Networked Collective Intelligence Improves Dissemination of Scientific Information Regarding Smoking Risks](#). *PLoS ONE* 15(2): e0227813.

Guilbeault, Douglas. 2018. [Digital Marketing in the Disinformation Age](#). *J. of International Affairs* 71(1): 33–43.

Guilbeault, Douglas, Joshua Becker, and Damon Centola. 2018. [Complex Contagions: A Decade in Review](#). In S. Lehmann & Y. Ahn (Eds.), *Spreading Dynamics in Social Systems*. Springer Nature. pp. 3–25.

Guilbeault, Douglas. 2017. [How Politicians Express Different Viewpoints in Gesture and Speech Simultaneously](#). *J. of Cognitive Linguistics* 28(3): 417–447.

Guilbeault, Douglas. 2016. [Growing Bot Security: An Ecological View of Bot Agency](#). *The International Journal of Communication* 10: 5003-5021.

Software Packages

[compsyn](#) (2021), pyti python package for generating perceptual word embeddings with color. MIT license.

Articles under Invited Revision

Guilbeault, Douglas. Disambiguating Ambiguity: Cultural Magnets and the Social Construction of Categories. *The American Journal of Sociology*.

Centola, Damon, Jingwen Zhang, Jaya Ayasola, Elaine Khoong, Joshua Becker, and Douglas Guilbeault. Experimental Evidence for Structured Information-Sharing Networks Reducing Medical Errors. *Proceedings of the National Academy of the Sciences*.

Journalism (Selected)

Becker, Joshua, Douglas Guilbeault, and Ned Smith. [Some Questions Benefit from Group Discussion. Others Don't](#). *Harvard Business Review*.

Gorwa, Robert & Douglas Guilbeault. 2017. [The Promise and Peril of Political Bots](#). *Wired*.

Guilbeault, Douglas & Samuel Woolley. 2016. [How Twitter Bots are Shaping the Election](#). *The Atlantic*.

Book Chapters

Guilbeault, Douglas & Joel Finkelstein. 2018. [Human-bot Ecologies](#). In Z. Papacharissi (Ed.), *A Networked Self: Human Augmentics, Artificial Intelligence, Sentience*. Routledge.

Woolley, Sam & Douglas Guilbeault. 2018. [United States: Manufacturing Consensus Online](#). In S. Woolley & P. Howard (Eds.), *Computational Propaganda: Political Parties, Politicians, and Political Manipulation on Social Media*. Oxford University Press. Pg. 185-212.

Art Exhibits

"[Millenia as Moment: A Triptych in 75 Colorgrams](#)." *Creativity & Cognition, ACM*. Venice, Italy, June 2021, w. [compsyn](#). Gallery [here](#).

Awards & Honors

2020. "Club 6" (Recognition for teaching excellence), *Haas School of Business, UC Berkeley*.

2020. Stanford's Art of Science Competition (Winner). "[Changing Views in Data Science over Fifty Years](#)."

2019. Facebook Content Moderation Policy Research Award. [Networked Crowdsourcing: An Online Experiment in Content Moderation](#). w. Damon Centola.

2019. Computational Modeling Prize in Applied Cognition. The Social Network Dynamics of Category Formation. *The 41st Annual Meeting of the Cognitive Science Society*. w. Andrea Baronchelli and Damon Centola.

2018. Best paper award. Bipartisan Social Networks Reduce Political Bias in the Interpretation of Climate Trends. *The International Conference on Computational Social Science*. Kellogg, Northwestern, July. w. Joshua Becker and Damon Centola.

2018. Dissertation award. The Network Dynamics of Interdisciplinary Research. *The Institute for Research on Innovation and Science*, The University of Michigan.

2018. Top student paper award. What should we do about Political Automation? Challenges for Policy and Research. Communication & Technology Division, *The International Communication Association*, Prague, March. w. Robert Gorwa.

2014. The Philosophy Award for Distinguished Achievement. University of Waterloo.

2012. The Albert Shaw Poetry Prize. University of Waterloo.

Awards & Honors (Honorable mentions)

2021. The STARTs (Science, Technology, and Arts) Prize for Social Good (Finalist).

2021. The Wharton People Analytics White Paper Competition (Semi-finalist).

Scholarships & Fellowships

2020. Barbara and Gerson Bakar Faculty Fellowship. UC Berkeley.
2018. Research Fellowship at the Institute for the Future.
2016-2020. Joseph-Armand Bombardier Canadian Graduate Scholarship from the Social Science and Humanities Research Council of Canada (SSHRCC).
2014. The Tina and Morris Wagner Foundation Fellowship. University of British Columbia.
2014. The Langridge Graduate Scholarship in Humanities. University of British Columbia.
2013-2014. Joseph-Armand Bombardier Canadian Master's Scholarship from the Social Science and Humanities Research Council of Canada (SSHRCC).
2013. Faculty of Arts Graduate Award. University of British Columbia.
2009. Merit Scholarship. University of Waterloo.

Research Grants

Guilbeault, Douglas. 2022. *Identifying Stereotypes in Online Images and Their Implications for Algorithmic Bias.* [The Center for Equity, Gender, and Leadership \(EGAL\)](#), Haas School of Business, University of California, Berkeley (\$9000).
Guilbeault, Douglas. 2021. *Measuring Stereotypes in Online Images and their Impact on Recommendation Algorithms.* [The Fisher Center for Business Analytics](#), Haas School of Business, University of California, Berkeley (\$12,000).
Guilbeault, Douglas and Joshua Becker. 2018. *The Collective Intelligence Dynamics of Fake News.* The Gates Foundation and the Institute for the Future. (\$20,000).
Guilbeault, Douglas, Jahani E. , Gallagher N., Cavelli N., Leng Y., and C. Bail (*equal authorship). 2018. *The Outsider Effect on Polarization Dynamics in Social Networks.* Russell Sage Foundation, in association with the Summer Institute for Computational Social Science, Duke University, 2018. (\$10,000).
Centola, Damon, **Guilbeault D.**, Ayasola J., Audrain J., and J. Becker. 2017. *Using Social Networks to Improve Scientific Communication about Tobacco Use.* NIH grant. (\$50,000).

Invited Lectures (2020–present)

"A Computational Theory of How Categories are Socially Constructed." Invited colloquium at *The Graduate School of Business at Stanford, Organizational Behavior Group* (Host: Justin Berg & Hayagreeva Rao), March 2021.
"The Collective Psychology of Categorization." Invited lecture at the *Psychology of Collectives Preconference* within the *Society for Personality and Social Psychology (SPSP)* (Host: Amit Goldenberg), February 2022.
"Coordinated Influence and the Landscape of Ambiguity." Invited lecture for the *International Roundtable on Computational Social Science.* Linköping University. (Host: Károly Takács), November 2021.
"The Network Origins of New Concepts." Invited lecture for Stanford's RAIN (Research on Algorithms and Incentives in Networks) seminar. Stanford's Department of Management Science and Engineering (Host: Itai Ashlagi), November 2021.
"The Categorical Imperative in Collective Intelligence." Invited talk at *INFORMS* in the general session entitled *Topics in Social Media Analytics* (Chair: Tauhid Zaman), October 2021.
"Strategic Influence in the Social Construction of Categories." Invited talk at *ACM Conference on Collective Intelligence*, June 2021.
"Social Networks and Cultural Computation: Communication Dynamics in the Emergence of Categories." Invited colloquium at *The Sante Fe Institute of Complex Systems* (Host: Anjali Bhatt), May 2021.
"Large Communication Networks Promote Shared Understanding across Cultures." Invited colloquium at *The Kellogg School of Management and NICO (The Northwestern Institute of Complex Systems)* (Host: Hyejin Youn), February 2021.
"Network Experiments on the Social Construction of Categories." Invited colloquium in the Analytic Sociology Series at the *European University Institute* (Host: Arnout van der Rijt), January 2021.
"Experiments on the Sociological Origins of Categories." Invited talk at *The Computational Social Science Forum (Berkeley Institute for Data Science)*, November 2020.

"Promoting Shared Understanding across Cultures: Comparing U.S. and Chinese Populations in an Online Language Game." Invited talk at *The American Sociology Association, Computational Sociology Pre-Conference (Stanford)*, August 2020.

"Experiments on the Sociological Origins of Categories." Invited colloquium in the Sociology Department @ the University of Pennsylvania. March 2020.

Conference Papers (2020–present)

"Seeing is Believing: How Images Code Gender Bias More Strongly than Text." *The American Sociology Association: Computational Approaches to Rational Choice*. August 2021, w. Solene Delecourt.

"Promoting Shared Understanding across Cultures: Comparing U.S. and Chinese Populations in an Online Language Game." Culture Conference at the Haas School of Business, University of California, Berkeley. January 2021.

"Topological Measures for Maximizing the Spread of Complex Contagions." *The American Sociology Association – Mathematical Sociology Division*, August 2020. w. Damon Centola.

"The Color of Gender Disparity across Disciplines." *The American Sociology Association – Media Sociology*, August 2020. w. Ethan Nadler, Mark Chu, Ruggiero Lo Sardo, Aabir Abubaker, and Bhargav Desikan.

"On Scale-Induced Category Convergence." *The International Conference on Computational Social Science*, August 2020. w. Andrea Baronchelli and Damon Centola.

"Exposure to Common Enemies can Increase Political Polarization: Evidence from a Cooperation Experiment with Automated Partisans." *The International Conference on Computational Social Science*, August 2020. w. Eaman Jahani, Natalie Gallagher, Friedolin Merhout, Nicolo Cavalli, Yan Leng, and Christopher Bail.

"Probabilistic Social Learning Improves the Public's Assessment of News Veracity." *The International Conference on Computational Social Science*, August 2020. w. Joshua Becker and Samuel Woolley.

"Micro Categories, Macro Ambiguities." *The Nagymaros Conference* at the Stanford Graduate School of Business, June 2020.

"Networked Crowdsourcing: An Online Experiment in Content Moderation." *Workshop on Empirical Approaches in Platform Governance Research*. Alexander von Humboldt Institute for Internet and Society, Berlin, Germany, June 2020.

"Optimal Seeding Strategies for Social Contagions." *American Sociological Association* (Section on Mathematical Sociology), June 2020 (San Francisco), w. Damon Centola.

"How Social Groups Grow Categories." *Culture Conference* at the Berkeley Haas School of Business, January 2020.

Teaching

EW MBA 257 (Haas) – People Analytics. [Course materials \(2021\)](#).

Service

Reviewer for *Proceedings of the National Academy of the Sciences*, *Nature Communications*, *The American Journal of Sociology*, *Administrative Science Quarterly*, *Scientific Reports*, *Organization Science*, *Collective Intelligence*, *Industrial and Corporate Change*, *Cognitive Science*, *New Media & Society*, *EPJ Data Science*, *PloS One*, *IC²S²*, *Social Media and Society*, *Culture Health & Sexuality*, *Language and Cognition*, *The Journal of Big Data*, *The Journal of Pragmatics*.

Organizer of the Management of Organizations Research Colloquium, Haas School of Business. 2020 – 2021.

Co-organizer of the Computational Social Science Forum, Berkeley Institute for Data Science. 2020 – 2021.

Researcher for the [Transatlantic Working Group](#) on Content Moderation Online and Freedom of Expression, organized by the Annenberg Public Policy Center and the Institute for Information Law at the University of Amsterdam. For coverage, see [here](#).

Professional Experience

Consultant: Annenberg Public Policy Center, The Institute for Information Law at the University of Amsterdam, Google, Facebook, Oxford Internet Institute, The Institute for the Future, The Campaign Legal Center.