ALINA LUNGEANU, PhD

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ACADEMIC APPOINTMENTS

Northwestern University, School of Communication Evanston, IL
Research Assistant Professor, Department of Communication Studies Oct 2017 - Present

Northeastern University, Network Science Institute Boston, MA
Visiting Research Assistant Professor Oct 2018 - Present

Pennsylvania State University, Social Science Research Institute University Park, PA
Research Associate 2015-2017

EDUCATION

Northwestern University Evanston, IL
School of Communication & McCormick School of Engineering
  Ph.D. Technology and Social Behavior Dec 2015
  Title: Assembly Mechanisms of Interdisciplinary Scientific Teams and Their Impact on Performance
  Committee: Noshir Contractor (chair), Darren Gergle, Brian Uzzi, Uri Wilensky, Teresa Woodruff
    ❖ ***Award:*** *2016 Northwestern University School of Communication Graduate Dissertation Award*

Academy of Economic Studies Bucharest, Romania
Faculty of Economic Cybernetics, Statistics and Informatics
  M.Sc. Management Information Systems Aug 2002
  B.Sc. Computer Science May 2001

RESEARCH INTEREST

I study diversity and leadership in teams along two lines of inquiry. First, I seek to advance our understanding of team innovation. Here, I uncover the social dynamics of collaboration in cross-boundary scientific teams and their effects on team innovation. Second, I investigate the performance of "extreme" teams using the context of NASA space teams. Here, I investigate the structure of informal leadership relationships among team members and its effects on team cognition during long-duration deep-space exploration missions. In sum, my work cuts across individual, team, and network levels of analyses using theories and tools from the social science and social networks research domains.

FUNDED RESEARCH PROJECTS

2021 **National Aeronautics and Space Administration**
  "Composing Teams with TEAMSTaR: Tool for Evaluating and Mitigating Space Team Risk" (Award #80NSSC21K0925, 01/01/2021 -12/31/2024, **$1,049,943**)
  Co-Investigator

2019 **National Science Foundation & National Institutes of Health**
  "SCISIPBIO: Understanding and Assembling Dream Teams to Conduct Clinical and Translational Science" (Award #R01GM1374100, 12/01/2019 -11/30/2023, **$997,132**)
  Principal Investigator

2019 **National Science Foundation**
  "Safe Bets and Risky Propositions: Leveraging Rich Data to Understand Scientific Diversity, Impact, and the Potential of Teams" (Award **#**1856090**,** 08/15/2019-07/31/2022, **$549,663**)
  Co-Investigator

REFEREED PUBLICATIONS

JOURNAL ARTICLES

Lungeanu, A., DeChurch, L. A., & Contractor, N. S. (2021, accepted). Leading teams over time through space: Computational experiments on leadership network archetypes. ***The Leadership Quarterly***.

Lungeanu, A., McKnight, M., Negron, R., Munar, W., Contractor, N.S., & Christakis, N. (2021). Using *Trellis* software to enhance high-quality large-scale network data collection in the field. ***Social Networks,*** 66, 171-184*.*

Whalen, R., **Lungeanu, A.,** DeChurch, L., & Contractor, N. (2020). Patent similarity data and innovation metrics. ***Journal of Empirical Legal Studies***, *17*(3), 615-639.

Lungeanu, A., Carter D.R., DeChurch, L.A., & Contractor, N.S. (2018). How team interlock ecosystems shape the assembly of scientific teams: A hypergraph approach. ***Communication Methods and Measures***, 12(2-3), 174-198*.*

Graif, C., **Lungeanu, A.**, & Yetter, A. (2017). Neighborhood isolation in Chicago: Violent crime effects on structural isolation and homophily in inter-neighborhood commuting networks, 2002-2013. ***Social Networks***, 51, 40-59*.*

❖ *Award: 2019 Robert J. Bursik Junior Scholar Award, American Society of Criminology*

Norton, W., **Lungeanu, A.**, Chambers, D., & Contractor, N.S. (2017). Mapping the growing discipline of dissemination and implementation science in health*.* ***Scientometrics***, 112(3), 1367-1390.

Lungeanu, A. & Contractor, N.S. (2015). The effects of diversity and network ties on innovations: the emergence of a new scientific field. ***American Behavioral Scientist***, 59(5), 548-564.

Sullivan, S., **Lungeanu, A.**, DeChurch, L.A., & Contractor, N.S. (2015). Space, time, and the development of shared leadership networks in multiteam systems. ***Network Science***, 3(S01), 124-155.

Lungeanu, A., Huang, Y., & Contractor, N.S. (2014). Understanding the assembly of interdisciplinary teams and its impact on performance. ***Journal of Informetrics***, 8(1), 59-70.

BOOK CHAPTERS

Mesmer-Magnus, J., **Lungeanu,** A., Harris, A., Niler, A., DeChurch, L. A., & Contractor, N. (2020). Working in space: Managing transitions between tasks. In L. Landon, K. Slack, & E. Salas (Eds.), ***Psychology and Human Performance in Space Programs: Extreme Applicatio****n* (pp. 179-203): CRC Press.

Antone, B., **Lungeanu, A.,** Bell, S. T., DeChurch, L. A., & Contractor, N. (2020). Computational modeling of long-distance space exploration: A guide to predictive and prescriptive approaches to the dynamics of team composition. In L. Landon, K. Slack, & E. Salas (Eds.), ***Psychology and Human Performance in Space Programs: Research at the Frontier*** (pp. 107-130): CRC Press.

CONFERENCE PROCEEDINGS

Lungeanu, A., Sullivan, S., Wilensky. U, & Contractor, N.S. (2015). A computational model of team assembly in emerging scientific fields. ***Proceedings of the 2015 Winter Simulation Conference,*** Huntington Beach, Edited by CA. L. Yilmaz, W. K. V. Chan, I. Moon, T. M. K. Roeder, C. M. Macal & M. D. Rossetti (Eds.).

MANUSCRIPTS UNDER REVIEW

Lungeanu, A., Whalen, R., Wu, Y., DeChurch, L.A., & Contractor, N.S. "Scientific team diversity: The evolution of team expertise networks". *Under review*, ***Network Science***

WORKING PAPERS – Draft available

Lungeanu A., Mesmer-Magnus J., Niler, A.A., DeChurch, L.A., & Contractor, N.S. "Organizing for Mars: How work patterns shape information network formation in spaceflight multiteam systems". Target: Target: ***Human Factors***

Lungeanu, A., Park, P., DeChurch, L.A., & Contractor, N.S. "Deep Space Collaboration: Impact of Latency and Social Networks on Collaborative Work". Target: ***Management Science***

Lungeanu, A. & Contractor, N.S. "The Performance Dynamics of Team Diversity: Evidence from the Nascent Field of Oncofertility Science". Target: ***Management Science***

WORKING PAPERS – In progress

Neelam, M., **Lungeanu, A**., DeChurch, L.A., & Contractor, N.S. "Hard to recruit but worth trying: Searching for cross-boundary collaborations in science". Target: ***Research Policy***

Whalen, R., **Lungeanu, A.,** DeChurch, L.A., & Contractor, N.S. "Sustained Innovation Partnerships: Expertise Diversity and Divergent Ideation". Target: ***Management Science***

SOFTWARE DEVELOPMENT PROJECTS

Dream Team Recommender: A web application deployed to facilitate the assembly of scientific teams using matching and ranking algorithms based on individual attributes, such as skills or areas of expertise, and prior networks, such as co-authorship.
Link: https://dtr.soc.northwestern.edu/

TEAMSTaR: A web-based software interface that allows mission support and crew members to directly assess the current and future health of a crew, make informed decisions about crew membership and assignments, and receive mitigation strategies (in progress)

CONFERENCES

2021

Lungeanu, A., Contractor, N.S., & Wang, D. (co-organizers). *Science of Science and Networks*. Session organized at the Networks 2021, A Joint Sunbelt and NetSci Conference, 2021 (virtual).

Neelam, M., Lungeanu, A., DeChurch, L.A., & Contractor, N.S. (2021, July). *Hard to recruit but worth trying: Searching for cross-boundary collaborations in science*. Paper presented at the Networks 2021, A Joint Sunbelt and NetSci Conference (virtual).

Lungeanu, A., Neelam, M., DeChurch, L.A., & Contractor, N.S. (2021, June). *Science of Team Science: Searching for boundary-crossing collaborations*. Paper presented at the 12th Annual Science of Team Science Conference (virtual).

Lungeanu, A., DeChurch, L.A., & Contractor, N.S. (2021, February). *SCALE-ing crew shared mental models: A computational model*. Paper presented at 2021 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX (virtual).

Antone, B., Lungeanu, A., Bell, S.T., DeChurch, L.A., & Contractor, N.S. (2021, February). *CREWS: A successful crew composition countermeasure validated in HERA.* Paper presented at 2021 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX (virtual).

2020

Lungeanu, A., Gruest, V., DeChurch, L.A., Bell, S., & Contractor, N.S. (2020, June). *Leadership topologies, transitions, and rebounds in space explorer teams*. Paper accepted for presentation at the XL Sunbelt Conference of the International Network for Social Network Analysis (INSNA), Paris, France.

Lungeanu, A., Whalen, R., Wu, J., DeChurch, L.A., & Contractor, N.S. (2020, June). *Text and networks: Mapping changes in the expertise diversity of patent teams*. Paper presented at the XL Sunbelt Conference of the International Network for Social Network Analysis (INSNA), Paris, France.

Lungeanu, A., Whalen, R., Wu, J., DeChurch, L.A., & Contractor, N.S. (2020, June). *Mapping changes in the expertise diversity of patent teams over the past four decades*. In B. Yi, Z. Chinchilla Rodriguez, Z. Lin, & H. Ying (co-chairs), Scientometrics and Data Analytics Special Interest Group. Symposium conducted at the *International Science of Team Science (*INSciTS), Durham, NC, 2020.

Lungeanu, A., DeChurch, L.A., & Contractor, N.S. (2020, January). *Leadership networks and shared mental models: Leading teams over time through space*. Paper presented at 2020 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX.

Antone, B., Lungeanu, A., Bell, S.T., DeChurch, L.A., & Contractor, N.S. (2020, January). *Crew recommender for effective work in space (project CREWS): Validation & countermeasure development*. Paper presented at 2020 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX.

2019

DeChurch, L.A., Gruest, V., Lungeanu, A., Contractor, N.S. (2019, October). Leadership topologies in space explorer teams. Paper presented at the 7th *International Workshop in Social Network Analysis*, Vietri sul Mare, Italy.

Lungeanu, A., DeChurch, L. A., & Contractor, N.S. (2019, August). *Leading Teams Over Time Through Space: Computational Experiments on Leadership Networks.* In J. Olenick & S. Kozlowski (co-chairs)**,** A Matter of Time: Advancing the Study of Team Processes in Extreme Environments. Symposium conducted at the *Academy of Management (AoM)*, Boston, MA.

Lungeanu, A., DeChurch, L. A., & Contractor, N.S. (2019, June). *Leading Teams Over Time Through Space*. XXXIX Sunbelt Conference of the International Network for Social Network Analysis (INSNA), Montreal, Quebec, Canada.

Lungeanu, A., Park, P., DeChurch, L. A., & Contractor, N.S. (2019, June). *Leveraging Simulations to Improve the Functioning of Multiteam Systems*. 9th annual congress of the European Association of Work and Organizational Psychology, Turin, Italy.

Contractor, N.S., Antone, B., Lungeanu, A., Bell, S. T., & DeChurch, L. A. (2019, January). *Validating Models of Team Composition Decisions for Long-duration Space Exploration*. 2019 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX.

DeChurch, L. A., Lungeanu, A., Park, P., & Contractor, N.S. (2019, January). *CREST: Crew Recommender for Effectively Switching Tasks*. 2019 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX.

Lungeanu, A., DeChurch, L. A., & Contractor, N.S. (2019, January). *The Emergence and Development of Crew Shared Mental Models: An Agent-based Model*. 2019 NASA Human Research Program Investigators' Workshop Annual Conference, Galveston, TX.

2018

Lungeanu, A. (chair). *Modeling Space Teams: Leveraging Computational Tools to Solve Long Hard Problems (About Teams)*. Symposium conducted at the Interdisciplinary Network for Group Research (INGRoup), Bethesda, MA, 2018.

Lungeanu, A., Park, P., DeChurch, L. A., & Contractor, N.S. *Deep Space Collaboration: Impact of Latency and Social Networks on Collaborative Work*. In A. Lungeanu (chair), Modeling Space Teams: Leveraging Computational Tools to Solve Long Hard Problems (About Teams). Symposium conducted at the *Interdisciplinary Network for Group Research (INGRoup)*, Bethesda, MA, 2018

Twyman, M., Mesmer-Magnus, J., Lungeanu, A., DeChurch, L. A., & Contractor, N.S. *The Emergence and Development of Crew Shared Mental Models: An Agent-Based Model.* In A. Lungeanu (chair), Modeling Space Teams: Leveraging Computational Tools to Solve Long Hard Problems (About Teams). Symposium conducted at the *Interdisciplinary Network for Group Research (INGRoup)*, Bethesda, MA, 2018

Antone, W., Gibson, Z., Bell, S., Lungeanu, A., DeChurch, L. A., & Contractor, N. S *Crew Recommender for Effective Work in Space (CREWS).* In A. Lungeanu (chair), Modeling Space Teams: Leveraging Computational Tools to Solve Long Hard Problems (About Teams). Symposium conducted at the *Interdisciplinary Network for Group Research (INGRoup)*, Bethesda, MA, 2018

Lungeanu, A., Park, P., DeChurch, L. A., & Contractor, N.S. *Deep Space Collaboration: Impact of Latency and Social Networks on Collaborative Work.* NASA Human Research Program Investigators' Workshop, Galveston, TX, 2018; Sunbelt XXXVIII, Utrecht, The Netherlands, 2018; 4th Annual International Conference on Computational Social Science (IC2S2), Evanston, IL, 2018; NCA 104th Annual Convention, Salt Lake City, UT, 2018

Twyman, M., Mesmer-Magnus, J., Lungeanu, A., DeChurch, L. A., & Contractor, N.S. *The Emergence and Development of Crew Shared Mental Models: An Agent-Based Model.* NASA Human Research Program Investigators' Workshop, Galveston, TX, 2018, 4th Annual International Conference on Computational Social Science (IC2S2), Evanston, IL, 2018

Antone, W. B., Lungeanu, A., & Contractor, N. *Multi-attribute Diffusion Models for Cross-sectional Networks.* 2018 INFORMS Annual Meeting, Phoenix, AZ, 2018

Antone, B., Lungeanu, A., & Contractor, N.S. *An Extension of Autologistic Actor Attribute Models for Multi-Attribute Influence Processes.* The 7th International Conference on Complex Networks and Their Applications, Cambridge, United Kingdom, 2018

Antone, B., Huang, Y., Lungeanu, A., Contractor, N.S., Rimal, R., Bingeheimer, J., & Munar, W. *Modern Contraception Use in Rural Kenya: Intervention Analysis Through Simulation of Complex Diffusion Processes.* Winter Simulation Conference 2018, Gothenburg, Sweden, 2018

2017

Weber, G., Contractor, N.S., Gopal, S., Lungeanu, A., & Tyshchuk, Y. *"Can cross-university collaboration be facilitated by establishing institutes to promote team science?"*, Science of Team Science Conference (SciTS), Clearwater Beach, FL, 2017

Weber, G., Contractor, N.S., Lungeanu, A., & Tyshchuk, Y. *"A framework for analyzing funded and non-funded teams through each phase of a research grant competition"*, Science of Team Science Conference (SciTS), Clearwater Beach, FL, 2017

Lungeanu, A., Fu, Y-C., Zhang, L., & Baker, D. *"Global Networks of Science and Future Science Policy: The Role of U.S. Research Universities in Collaboration and Internationalization of New Scientific Knowledge"*, 1st North American Social Networks (NASN), Washington, DC, 2017

2016

Lungeanu, A. & Contractor, N.S., *"Assembly Mechanisms of Emerging Interdisciplinary Scientific Teams and Their Impact on Performance", Academy of Management (AoM), Anaheim, CA, 2016*

Lungeanu, A. *"Team Assembly in New Emerging Fields: A Computational Modelling Approach"*, Modeling Science, Technology & Innovation Conference (ModSTI), Washington, DC, 2016

Lungeanu, A., Agniel, D., Lei, K., Weber, G., & Contractor, N.S. *"Modeling the Dynamics of Collaboration in the Scientific Workforce: The Case of Clinical and Translational Science Awards Pilot Grant Program"*, Science of Team Science Conference (SciTS), Phoenix, AZ, 2016

2015

Lungeanu, A., Sullivan, S., Wilensky. U, & Contractor, N.S. "*A computational model of team assembly in emerging scientific fields*", Winter Simulation Conference**,** Huntington Beach, CA, 2015

Lungeanu, A., Sullivan, S., & Contractor, N.S. "*Understanding the Assembly of Interdisciplinary Teams in an Emerging Scientific Field*", Interdisciplinary Network for Group Research Conference (INGRoup), Pittsburg, PA, 2015; Computational Social Science Summit (CSS), Evanston, IL, 2015

Lungeanu, A., Norton, W., & Contractor, N.S. *"Collaboration and Advice Networks among Dissemination and Implementation Researchers: Implications for Strategic Initiatives to Advance the Science"*, Science of Team Science Conference (SciTS), Bethesda, MD, 2015

2014
Huang, Y., Zhang, C., Fazel-Zarandi, M., Devlin, H., Lungeanu, A., Wasserman, S., & Contractor, N.S. "*Network Imputation in Predicting Researcher Collaboration*", 5th Annual VIVO Conference, Austin, TX, 2014

Lungeanu, A., Sullivan, S., & Contractor, N.S. "*Compositional, relational and ecosystem influences on team assembly in emerging scientific fields*", INSNA / Sunbelt XXXIV, St. Petersburg, FL, 2014, 5th Annual International Science of Team Science Conference (SciTS), Austin, TX, 2014

Sullivan, S., Lungeanu, A., DeChurch, L.A., & Contractor, N.S. "*An Agent-Based Model (ABM) of the Emergence of Leadership for Innovation in Multiteam Systems*", Society for Industrial and Organizational Psychology (SIOP) Annual Conference, Honolulu, HI, 2014

2013
Lungeanu, A., Sullivan, S., & Contractor, N.S. "*Formation and evolution of teams in new scientific fields: A hybrid model approach*", INFORMS, Minneapolis, MN, 2013

Sullivan, S., Lungeanu, A., DeChurch, L.A., & Contractor, N.S. "*Modeling the emergence of leadership reliance networks*", INFORMS, Minneapolis, MN, 2013

Lungeanu, A., Contractor, N.S., Carter, D., & DeChurch, A. *A hypergraph approach to understanding the assembly of scientific research teams.* In D. Carter (chair), Teams on the hyper-edge: Using hypergraph network methodology to understand teams. Symposium conducted at the *Interdisciplinary Network for Group Research (INGRoup)*, Atlanta, GA, 2013

Birkholz, J., Lungeanu, A., Bakhshi, R., Groenewegen, P., van Steen, M., & Contractor, N.S. "*Methodological specifications for application of the mean-field model for large scale social networks*", INSNA / Sunbelt XXXIII, Hamburg, Germany, 2013

Lungeanu, A. & Contractor, N.S. "*The Effects of Diversity on Collaborative Innovative Networks: The Case of the Oncofertility Scientific Subfield*", Organizational Communication Mini Conference, Norman, OK, 2012 (Poster), International Communication Association (ICA), London, 2013

Sullivan, S., Lungeanu, A., DeChurch, L.A., & Contractor, N.S. *"Leading innovation over space and time"*, ARS'13 International Workshop, Rome, Italy, 2013

2012
Lungeanu, A., Huang, Y., & Contractor, N.S. "*A network perspective on success in collaboration: Stop citing me for our own good*?", Organizational Communication Mini Conference, Columbia, MO, 2011, INSNA / Sunbelt XXXII, Redondo Beach, CA, 2012, and Academy of Management (AoM), Boston, MA, 2012

Lungeanu, A., Murase, T., Carter, D., & Contractor, N.S. "*A hypergraph approach to understanding the assembly of scientific research teams*", INSNA / Sunbelt XXXII, Redondo Beach, CA, 2012

Zhu, M., Lungeanu, A., & Contractor, N.S. "*Growth of new scientific fields: The case of Oncofertility",* INSNA / Sunbelt XXXII, Redondo Beach, CA, 2012

Huang, Y., Zhang, C., Fazel-Zarandi, M., Devlin, H., Lungeanu, A., Wasserman, S., & Contractor, N.S. "*Comparing efficacy of link prediction models for expert recommender system*", INSNA / Sunbelt XXXII, Redondo Beach, CA, 2012

2011

Huang, **M., Lungeanu, A.,** Yao, Y., & Contractor, N.S. (co-organizers and instructors). *Network Data Collection, Analysis, and Visualization via C-IKNOW*. Workshop conducted at INSNA/Sunbelt XXXI, St. Petersburg, FL, 2011.

Huang, Y., Lungeanu, A., Zhang, C., Stringer, M., Haynes, J., McClary, D., & Zen, X. *"Structured and Relational Information Extraction"*, Mining the Digital Traces of Science International Workshop, France, 2011
  ❖ ***Winner*** *of the data pre-processing challenge*

INVITED PRESENTATIONS

2017 Purdue University, Brian Lamb School of Communication
      Pennsylvania State University, College of Information Sciences and Technology

2016 University of Michigan, Institute for Research on Innovation and Science

2015 Pennsylvania State University, Methodology Center
      Pennsylvania State University, Population Research Institute

TEACHING EXPERIENCE

Guest Instructor, Pennsylvania State University - Graduate Class
      Sociology Department
      Methods in Social Network Analysis, 2015 & 2016

Teaching Assistant, Northwestern University - Graduate Class
      Kellogg School of Management, Industrial Engineering & Management Sciences, and School of Communication
      Social Network Analysis, 2012

PROFESSIONAL AFFILIATIONS

Academy of Management, Interdisciplinary Network for Group Research, International Network for Social Network Analysis, International Communication Association

NON-ACADEMIC APPOINTMENTS

Kepler-Rominfo SA   Romania (2001-2007)
IT Consultant / Project Manager

MGI Romania, METRO Group Information Technology   Germany (2006)
IT Specialist / Solution Architect