CHRISTOPHER J. LYNCH, PH.D. – CURRICULUM VITAE

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Campus Address:
1030 University Blvd., Suffolk, VA 23435
Virginia Modeling, Analysis, and Simulation Center (VMASC)
Office of Enterprise Research and Innovation (OERI)
Old Dominion University (ODU)

EDUCATION

Old Dominion University, Norfolk, VA
Ph.D. in Modeling and Simulation **2019**
Dissertation: A Lightweight, Feedback-Driven Runtime Verification Methodology

Old Dominion University, Norfolk, VA
M.S. in Modeling and Simulation **2012**
Thesis: A Multi-paradigm Modeling Framework for Modeling and Simulating Problem Situations

Old Dominion University, Norfolk, VA
B.S. in Electrical Engineering **2011**
Minor: Applied Mathematics
Minor: Modeling and Simulation

PROFESSIONAL PROFILES

LinkedIn: https://www.linkedin.com/in/christopher-lynch-2290a758/
Virginia Modeling, Analysis, and Simulation Center Staff Profile: https://vmasc.org/staff-profiles/dr-christopher-lynch/
Web of Science Core Collection: https://www.webofscience.com/wos/author/record/ABA-1054-2020
Google Scholar: https://scholar.google.com/citations?user=iB9cEj0AAAAJ&hl=en
ResearchGate: https://www.researchgate.net/profile/Christopher-Lynch-2
ORCiD: https://orcid.org/0000-0002-4830-7488

EXPERIENCE

Old Dominion University
Research Assistant Professor – Virginia Modeling, Analysis, and Simulation Center (VMASC) **August 2023 – Current**
Leads research at the intersection of Data Science and Modeling and Simulation to provide proper support and practical use of model outcomes. This requires maintaining transparent connections to a problem's context understanding and developing techniques and applications for easily and quickly molding complex and potentially immense sets of data into digestible insights and actionable outcomes.

George Mason University
Adjunct Faculty – Computational and Data Sciences (CDS) Department **August 2021 – December 2022**
Approved to teach CDS courses at the graduate and undergraduate levels.

Old Dominion University
Adjunct Assistant Professor – Computational Modeling and Simulation Engineering (CMSE) Department **August 2021 – August 2024**
Approved to teach CMSE courses at the graduate and undergraduate levels.

Old Dominion University - Virginia Modeling, Analysis and Simulation Center (VMASC)
Lead Project Scientist **April 2020 – August 2023**
Leads and supports research to advance knowledge in the discipline of computational modeling and simulation (M&S). Primary research topics includes data analytics, predictive analytics, and the theory and practice of verification and validation for simulation models in support of simulation credibility.

Old Dominion University - VMASC
Senior Project Scientist **June 2013 – April 2020**
Conducts and supports research to advance knowledge in the discipline of M&S. His primary research topics includes data analytics, predictive analytics, the theory and practice of verification and validation for simulation models, and model conceptualization.

Old Dominion University Research Foundation - VMASC
Graduate Research Assistant **May 2011 – June 2013**
Assist on research projects with a primary focus on the design and implementation of simulation models using multiple modeling paradigms.

HONORS

Young Simulation Scientist (https://scs.org/scs-awards-and-recognition/) (August 2022). Awarded by The Society for Modeling and Simulation International (SCS).

ODU Top 40 Under 40 (https://odu.edu/about/odu-publications/insideodu/2022/05/19/topstory4) (May 2022). Awarded by the Old Dominion University Alumni Association (ODUAA).

CERTIFICATIONS

Enterprise Architecture in the UAF. ENOLA. Issued July 11, 2025.

Big Data and Data Science Research Ethics. CITI Program. Active July 04, 2025 – July 04, 2026.
Credential URL: https://www.citiprogram.org/verify/?w202f615b-e8df-45b0-a261-d08bc67c7313-70637013.
Credential ID: 70637013.

Essentials of Responsible AI. CITI Program. Active July 04, 2025 – July 04, 2026.
Credential URL: https://www.citiprogram.org/verify/?w3796b605-92ac-41dc-96a4-30bdcc6289b9-70637012.
Credential ID: 70637012.

CITI Good Clinical Practice Course. CITI Program. Active July 03, 2025 – July 03, 2028.
Credential URL: https://www.citiprogram.org/verify/?wb17cd63f-bb7b-47fb-9fc8-fef805323e52-70628993 .
Credential ID: 70628993.

Human Subjects Research – Basic/Refresher Course. CITI Program. Active July 01, 2025 – July 01, 2028.
Credential URL: https://www.citiprogram.org/verify/?wd5b22471-8d7e-4b24-9107-63d9a942c7d7-70628994.
Credential ID: 70628994.

Developing Domain Specific Languages in MagicDraw. ENOLA. Issued June 25, 2025.

Applying SysML with MagicDraw. ENOLA. Issued June 23, 2025.

Biomedical Research – Basic/Refresher. CITI Program. Active June 02, 2025 – June 02, 2028.
Credential URL: https://www.citiprogram.org/verify/?w3e2d7259-3890-4e1f-86a0-c827117b248f-69986853.
Credential ID: 69986853.

Generative AI with Large Language Models. Mastering LLM. Issued April 14, 2025.
Credential URL: https://www.masteringllm.com/certificate-validation?credentialId=3BY26HSW4P00S.
Credential ID: 3BY26HSW4P00S.

Fundamentals of Deep Learning. NVIDIA Deep Learning Institute. Issued September 11, 2024.
Credential URL: https://learn.nvidia.com/certificates?id.
Credential ID: 1tO0Ys3ITkGJkXM3sgBKrQ.

Artificial Intelligence Fundamentals. IBM SkillsBuild. Issued August 12, 2024.
Credential URL: https://www.credly.com/badges/621501d2-6931-4077-b24d-22b733f9d859/linked_in_profile

AWS Certified Cloud Practitioner Certification. Amazon Web Services. Active Feb 2023 – 2026.
Credential URL: https://aw.certmetrics.com/amazon/public/verification.aspx.
Credential ID: P50R1CPK6MVQQJKW.

Social and Behavioral Research – Basic/Refresher. CITI Program. Active April 2023 – April 2025. Record ID: 52813292. Credential URL: https://www.citiprogram.org/verify/?wfec130e2-c6cc-4087-8a46-ffd94277995c-52813292.

Social and Behavioral Responsible Conduct of Research. CITI Program. Awarded March 2, 2022. Record ID: 46068746. Credential URL: https://www.citiprogram.org/verify/?we33b8f1b-6d7f-4ff3-85b1-e3699bf58b45-46068746.

Communicating about Culturally Sensitive Issues. LinkedIn Learning. December 06, 2021. Credential URL: https://www.linkedin.com/learning/certificates/f0c1d1fad99d90d0043f93d50d9db2afcf4e7dc38278f83112a90f55a0cdbee5?trk=backfilled_certificate

Cultivating Cultural Competence and Inclusion. LinkedIn Learning. December 06, 2021. Credential URL: https://www.linkedin.com/learning/certificates/60bf4a15cadd17f01ecfb70a7e2b5ff17f7d7000c15d38d5e12a9b5e8f109eac?trk=backfilled_certificate

Skills for Inclusive Conversations. LinkedIn Learning. December 06, 2021. Credential URL: https://www.linkedin.com/learning/certificates/3b72b728366fca10a0ebbc6370ef88a6b4c21c339d1706185027d812cec7ffb9?trk=backfilled_certificate

Graduate Teaching Assistant Instructors' Institute Certificate. Old Dominion University. August 2013.

TEACHING

ACADEMIA – FULL COURSE

Old Dominion University, Norfolk, VA
AI 410/510 (Cross-listed with CYSE 410/510): Artificial Intelligence (AI) Methods and Models (37 students: 19 (410) and 18 (510)) **Spring 2026**
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George Mason University, Fairfax, VA
CSI 639: Ethics in Scientific Research (10 students: 4 MS and 6 PhD) **Fall 2022**
Reviews purpose of scientific research and principles for evaluating ethical issues. Teaches skills for survival through training in moral reasoning and responsible conduct. Discusses ethical issues and applying critical-thinking skills to design, execution, and analysis of experiments. Issues include using animals, humans in research; ethical standards in computer community; research fraud; and currently accepted guidelines for data ownership, manuscript preparation, and conduct of those in authority.

George Mason University, Fairfax, VA
CSI 639: Ethics in Scientific Research (6 students: 4 MS and 2 PhD) **Fall 2021**
Reviews purpose of scientific research and principles for evaluating ethical issues. Teaches skills for survival through training in moral reasoning and responsible conduct. Discusses ethical issues and applying critical-thinking skills to design, execution, and analysis of experiments. Issues include using humans in research; ethical standards in computer community; research fraud; and currently accepted guidelines for data ownership, manuscript preparation, and conduct of those in authority.

Old Dominion University, Norfolk, VA
MSIM 281: Discrete Event Simulation Lab **Spring 2014**
A laboratory course designed to provide a hands-on introduction to the development and application of discrete event simulation. Topics included an introduction to several discrete event simulation tools, common modeling constructs, data gathering and input data modeling, design of simulation experiments, output data analysis, and verification and validation.

ACADEMIA – INVITED LECTURE

George Mason University, Fairfax, VA
Invited Lecturer – CSI 709/CSS 739: Large Language Models: Evaluation and Trustworthiness – October 23, 2025 **Fall 2025**
Conducted a guest lecture bridging traditional Verification & Validation principles with modern LLM evaluation methodologies for graduate students. Topics included LLM failure taxonomies (hallucinations, safety failures, robustness failures), benchmarking limitations and leaderboard challenges, human evaluation protocols, and systematic adversarial red-teaming techniques. Featured a case study on ensemble validation methods for sensitive content generation from published IEEE Access research demonstrating 87.43% cross-model alignment and 90.6% human reviewer agreement.

George Mason University, Fairfax, VA
Invited Lecturer – CSI 709/CSS 739: Lightweight, Feedback-Driven Runtime Verification – Sept 19, 2022 **Fall 2022**
Conducted a lecture on the lightweight, feedback-driven runtime verification (LFV) methodology. Provided a historical background on Runtime Verification in M&S, an overview of the LFV to address existing shortcomings, and provided hands-on examples with implementing and interpreting runtime verification using the LFV of Discrete Event Simulations.

George Mason University, Fairfax, VA
Invited Lecturer – CSI 709/CSS 739: Lightweight, Feedback-Driven Runtime Verification – Sept 20, 2021 **Fall 2021**
Conducted a lecture on the lightweight, feedback-driven runtime verification (LFV) methodology. Provided a historical background on Runtime Verification in M&S, an overview of the LFV to address existing shortcomings, and provided hands-on examples with implementing and interpreting runtime verification using the LFV of Discrete Event Simulations.

George Mason University, Fairfax, VA
Invited Lecturer – CSI 709/CSS 739: Verification and Validation of Models – Sept 20, 2020 **Fall 2020**
Conducted a lecture on the lightweight, feedback-driven runtime verification (LFV) methodology. Provided a historical background on Runtime Verification in M&S, an overview of the LFV to address existing shortcomings, and provided hands-on examples with implementing and interpreting runtime verification using the LFV of Discrete Event Simulations.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – April 17, 2018 **Spring 2018**
Created a lecture on current challenges in Modeling and Simulation and grand challenge areas in other domains that Modeling and Simulation can assist in addressing. Lecture given by John Schull.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – March 13, 2018 **Spring 2018**
Conducted a lecture on Multi-paradigm Modeling with a specific focus on its role within M&S, when to use multiple paradigms, and the challenges that arise in a multi-paradigm setting. Discussed a framework for building multi-paradigm models and discussed existing tools that facilitate building these types of models.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Feb 13, 2018 **Spring 2018**
Conducted a lecture on the CLOUDES Discrete Event Simulation (DES) platform. Discussed high level overview of DES and why and how CLOUDES was created to reduce the barriers of entry for building simulations. Focused on conceptual model building, data collection and scheduling tools, model construction and testing, and viewing results.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Nov 16, 2017 **Fall 2017**
Conducted a lecture on Multi-paradigm Modeling with a specific focus on its role within M&S, when to use multiple paradigms, and the challenges that arise in a multi-paradigm setting. Discussed a framework for building multi-paradigm models and discussed existing tools that facilitate building these types of models.

Old Dominion University, Norfolk, VA

Guest Lecturer – MSIM 601: Introduction to M&S – Jan 31, 2017 **Spring 2017**
Conducted a lecture entitled "Verification and Validation in M&S." Focus on the role of verification and validation (V&V) within M&S studies and the challenges that V&V seeks to address. Provide the application of three techniques to an existing model, including visual validation, ANOVA, and the V&V Calculator.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Nov 3, 2016 **Fall 2016**
Conducted an overview on Multi-paradigm Modeling with a specific focus on when to use multiple paradigms and the challenges that arise in a multi-paradigm setting. Discussed a framework for building multi-paradigm models and discussed tools that facilitate building these types of models.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Oct 20, 2016 **Fall 2016**
Conducted an overview and discussion on various Modeling and Simulation tools for designing conceptual models, implementing simulations in various modeling paradigms, and tools designed to collect data to be used within simulations.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 602: Simulation Fundamentals – Nov 24, 2015 **Fall 2015**
Conducted a lecture on Multi-paradigm Modeling with a specific focus on its role within M&S, when to use multiple paradigms, and the challenges that arise in a multi-paradigm setting. Discussed a framework for building multi-paradigm models and discussed existing tools that facilitate building these types of models.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 602: Simulation Fundamentals – Sept 8, 2015 **Fall 2015**
Conducted a lecture on the use of conceptual models to support the model design process and how to transfer from a conceptual model into a simulation model. Talk revolved around the Modeling and Simulation – System Development Framework (MS-SDF).

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Sept 3, 2015 **Fall 2015**
Conducted a lecture discussing various Modeling and Simulation tools for designing conceptual models, implementing simulations in various modeling paradigms, and tools designed to collect data to be used within simulations.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – April 2015 **Spring 2015**
Conducted a lecture on multi-paradigm modeling and the value that conceptual modeling adds to implementing multi-paradigm models. Students were given exposure to The Brain and Enterprise Architect for building conceptual models and AnyLogic for implementing multi-paradigm simulations. Utilized a use case exploring factors that contribute to individuals' weight changes.

Old Dominion University, Norfolk, VA
Guest Lecturer – MSIM 601: Introduction to M&S – Jan 28, 2015 **Spring 2015**
Conducted an introductory discussion on Discrete Event Simulation (DES) and the CLOUDES simulation tool for building Discrete Event Simulations. The lecture included creating a reference model and a conceptual model of a toll booth and its implementation into a DES simulation.

Old Dominion University, Norfolk, VA

Guest Lecturer – MSIM 601: Introduction to M&S – Oct 1, 2014 **Fall 2014**
Conducted an introductory discussion on Discrete Event Simulation (DES) and the CLOUDES simulation tool for building Discrete Event Simulations. The discussion included the creation of a reference model and a conceptual model of a toll booth and its implementation into a DES simulation.

PROFESSIONAL & INDUSTRY TRAININGS

ODU - VMASC, Suffolk, VA
Data Modeling Prototype Bootcamp – NAVSEA Training, VMASC/Online **Aug 10-14, 2020**
Participated in a week-long Data Modeling training bootcamp. This bootcamp is designed to teach advanced data modeling capabilities to NAVSEA personnel across the Naval shipyards. Training bootcamp focuses on data modeling, using the R statistical software, Python, data wrangling, missing data, and empirical model building. The overarching goal is to help NAVSEA facilitate a paradigm shift off using MS Excel towards a focus on concepts and the use of exploratory programming languages. This is the third bootcamp topic in a series of six courses.

ODU - VMASC, Suffolk, VA
Data Analytics Bootcamp – NAVSEA Training, Portsmouth, NH **March 9-13, 2020**
Conducted a week-long data analytics bootcamp to NAVSEA analytics personnel. Course topics include how to use the R statistical software, descriptive and sampling statistics, machine learning, and visualization.

ODU - VMASC, Suffolk, VA
Predictive Analytics Bootcamp – NAVSEA Training, Honolulu, HI **Dec 2-6, 2019**
Conducted a week-long predictive analytics bootcamp to NAVSEA personnel. Course topics include how to use the R statistical software, generalized linear models, time series forecasting, and advanced visualization techniques.

ODU - VMASC, Suffolk, VA
Predictive Analytics Bootcamp – NAVSEA Training, VMASC **Oct 21-25, 2019**
Conducted a week-long predictive analytics bootcamp to NAVSEA personnel. Course topics include how to use the R statistical software, generalized linear models, time series forecasting, and advanced visualization techniques.

ODU - VMASC, Suffolk, VA
Predictive Analytics Prototype Bootcamp – NAVSEA Training, VMASC **Aug 19-23, 2019**
Developed and presented a Generalized Linear Models module within a week-long Predictive Analytics training bootcamp. This bootcamp is designed to teach advanced predictive analytic capabilities to NAVSEA personnel across the Naval shipyards. Training bootcamp focuses on predictive analytic capabilities, such as time series forecasting, generalized linear models, deep learning, and visualization. The overarching goal is to help NAVSEA facilitate a paradigm shift off using MS Excel towards a focus on analytics concepts and the use of exploratory programming languages for analytics personnel. This is the second bootcamp topic in a series of six courses.

ODU - VMASC, Suffolk, VA
Data Analytics Bootcamp – NAVSEA Training, Seattle, WA **May 20-24, 2019**
Conducted a week-long data analytics bootcamp to NAVSEA analytics personnel. Course topics include how to use the R statistical software, descriptive and sampling statistics, machine learning, and visualization.

ODU - VMASC, Suffolk, VA
Data Analytics Bootcamp – NAVSEA Training, Honolulu, HI **March 11-15, 2019**
Conducted a week-long data analytics bootcamp to NAVSEA analytics personnel. Course topics include how to use the R statistical software, descriptive and sampling statistics, machine learning, and visualization.

ODU - VMASC, Suffolk, VA
Data Analytics Prototype Bootcamp – NAVSEA Training, Suffolk, VA **Dec 3-7, 2018**
Developed and presented two statistics modules within a week-long Data Analytics training bootcamp designed to teach advanced data analytic capabilities to NAVSEA personnel across the Naval shipyards. Training bootcamp focuses on analytics capabilities, visualization, and interpretation of results. The goal is to help NAVSEA facilitate a paradigm shift off using MS Excel towards a focus on analytics concepts and the use of exploratory programming languages for analytics personnel. This is the first bootcamp topic in a series of six bootcamps.

ODU - VMASC, Suffolk, VA
Professional Training Session – Integrated Gaming System Controller Training **April 7-11, 2014**
Developed and conducted a week-long training on the Integrated Gaming System (IGS) simulation platform to educate game controllers in (1) the proper implementation of simulation constructs and (2) how to elicit the needed requirements from game participants.

ODU - VMASC, Suffolk, VA
Professional Training Session – Integrated Gaming System Controller Training **June 25-27, 2013**
Developed and conducted a three-day training on the Integrated Gaming System (IGS) simulation platform to educate game controllers on (1) how to properly implement simulation constructs and (2) how to elicit the needed requirements from game participants.

STUDENT MENTORING

PH.D. STUDENTS

Co-Chair Erik Jensen, *Finding Data-Independent Events with Event Graphs for Safe Parallel Execution in PDES*. Modeling and Simulation Department. In Progress.

Member Daniele Vernon-Bido, *Finding Core Members of Hedonic Games*. Modeling and Simulation Department. Graduated May 2022.

HIGH SCHOOL STUDENTS

Old Dominion University - VMASC, Suffolk, VA
Pruden Center – M&S Summer Intern Group **Summer 2017**
Mentored and advised a group of 4 interns on Modeling and Simulation topics culminating in projects for conceptual modeling and Discrete Event Simulation models. Results in a published, peer-reviewed conference paper in the 2017 Winter Simulation Conference with all students participating as co-authors.

Old Dominion University - VMASC, Suffolk, VA

Pruden Center – M&S Summer Intern Group **Summer 2016**

Mentored and advised a group of 5 interns on Modeling and Simulation topics culminating in projects for Discrete Event Simulation models. Results in a published, peer-reviewed conference paper in the 2016 Winter Simulation Conference one student co-author.

Old Dominion University - VMASC, Suffolk, VA

Taylor Copeland – Project LAUNCH, Summer Intern **Summer 2013**

Mentored and advised the intern through the design and implementation of code for an engineering-based robot project.

Old Dominion University - VMASC, Suffolk, VA

Florian Tolk – Summer Intern **Summer 2012**

Mentored and advised the intern through the design and implementation of code for an engineering-based robot project.

PUBLICATIONS

SUMMARY

Google Scholar Profile: https://scholar.google.com/citations?user=iB9cEj0AAAAJ&hl=en

Key: Google Cite Count (GCC) as of January 27, 2025.

Summary Statistics for all publications as of January 27, 2025:

Total GCC: 1276.
Cumulative h-index: 22.
Cumulative i10-index: 31.
Total 5-year GCC (since 2020): 955.
5-year (since 2020) h-index: 18.
5-year (since 2020) i10-index: 26.

JOURNAL (PEER REVIEWED)

*Key: Google Cite Count (GCC) as of June 12, 2025. * indicates graduate student at time of publication for articles published 2019 and beyond. Impact Factor (IF) is the 2022 Impact Factor reported by the Journal.*

Summary Statistics:

28 Published, Peer-Reviewed Journal Articles since 2015. First author on 4.
Cumulative Google Cite Count (GCC): 779.
Mean/Median GCC of all Peer-Reviewed Journal Articles: 27.82, 23.
Cumulative Google Cite Count when First author: 94.
Mean/Median GCC when first author: 23.5, 25.

Gore, R., Mazur-Hart, D., Sunkara, Mohan K., Ali, A., Ali, Q., **Lynch, C. J.**, and Ames, C. (Forthcoming). Pre-operative Patient Sentiment Is Associated With Postoperative Outcomes in Adult Spinal Deformity Surgery. *Spine Open*, *xx(x)*, xx. DOI: xxx**.**

Lynch, C.J., Jensen, E.*, Gore, R., Zamponi, V., O'Brien, K.*, Feldhaus, B., Smith, K., Martínez, J., Munro, M. H., Ozkose, T.E.*, Gundogdu, T.B.*, Reinhold, A. M., Kavak, H., and Ezell, B. (2025). AI-Generated Messaging for Life Events Using Structured Prompts: A Comparative Study of GPT with Human Experts and Machine Learning. *IEEE Access*, *13*, 147002-147033. DOI: 10.1109/ACCESS.2025.3600146. **2024 IF: 3.6. GCC: 0.**

Munro, Madison H., Gore, R., **Lynch, C.J.**, Hastings, Y.D., and Reinhold, A.M. (2025) Enhancing risk and crisis communication with computational methods: A systematic literature review. *Risk Analysis, 45*, 1683-1697. DOI: https://doi.org/10.1111/risa.17690. **2023 IF: 3. GCC: 2.**

Gore, R., Safaee, M. M., **Lynch, C. J.**, and Ames, C. P. (2025). A Spine-Specific Lexicon for the Sentiment Analysis of Interviews with Adult Spinal Deformity Patients Correlate with SF-36, SF-36, and ODI Scores: A Pilot Study of 25 Patients. *Information*, *16(2)*, 90. DOI: 10.3390/info16020090. **2023 IF: 3.1. GCC: 2.**

Collins, A.J., **Lynch, C.J.**, Leathrum Jr., J.F., Grigoryan, G., Cotter, T.S., Gore, R., and Butler, B. (2024). Practical considerations for transitioning a professional course online. *Adult Learning, 36(2),* 110-119. DOI: 10.1177/10451595241258232. **2022 5-year IF: 1.25. GCC: 1.**

Collins, A.J., Koehler, M., and **Lynch, C.J.** (2024) Methods that support the validation of agent-based models: An overview and discussion. *Journal of Artificial Societies and Social Simulation, 27(1)* 11, 1-32. DOI: 10.18564/jasss.5258. **2022 IF: 4.33. GCC: 29.**

Lynch, C.J., Jensen, E.J., Zamponi, V., O'Brien, K.*, Frydenlund, E., Gore, R. (2023) A structured narrative prompt for prompting narratives from Large Language Models: Sentiment assessment of ChatGPT-generated narratives and real tweets. *Future Internet*, *15*, 1-36. Special Issue in Advances in Text Mining Techniques and Applications for Knowledge Discovery. DOI: 10.3390/fi15120375. **2022 IF: 3.4. GCC: 27.**

Collins, A.J., Butler, B.M., Leathrum Jr., J.F., and **Lynch, C.J.** (2023) Teaching analytics online: A self-study of professional practice. *Studying Teacher Education*, *20(2)*, 169-193. DOI: 10.1080/17425964.2023.2282546. **2022 IF: 1.67. GCC: 3.**

Zamponi, V.*, O'Brien, K.*, Jensen, E.*, Feldhaus, B., Moore, R., **Lynch, C. J.**, and Gore, R. (2023). Understanding and assessing demographic (in) equity resulting from extreme heat and direct sunlight exposure due to lack of tree canopies in Norfolk, VA using agent-based modeling. *Ecological Modelling*, *483*, 110445, 1-14. DOI: 10.1016/j.ecolmodel.2023.110445. **2022 IF: 3.20. GCC: 3.**

Gore, R., **Lynch, C. J.**, Jordan, C. A., Collins, A., Robinson, R. M., Fuller, G.*, Ames, P., Keerthi, P., and Kandukuri, Y. (2022). Estimating the health effects of adding bicycle and pedestrian paths at the census tract level: multiple model comparison. *JMIR Public Health and Surveillance*, *8(8)*, e37379. DOI: 10.2196/37379. PMID: 36001362. PMCID: 9453587. **2022 IF: 8.05. GCC: 7.**

Collins, A. J., Frydenlund, E., **Lynch, C. J.**, and Robinson, R. M. (2022). Acceptance sampling to aid in the verification of computational simulations. *International Journal of Modeling, Simulation, and Scientific Computing*, 2250044. **2022 IF: 0.233. GCC: 1.**

Ezell, B., **Lynch, C.J.**; Hester, P.T. (2021). Methods for Weighting Decisions to Assist Modelers and Decision Analysists: A Review of Ratio Assignment and Approximate Techniques. *Applied Sciences,* 11(21), 10397. https://doi.org/10.3390/app112110397. **2022 IF: 3.20. GCC: 52.**

Lynch, C. J., & Gore, R. (2021). Short-Range Forecasting of COVID-19 During Early Onset at County, Health District, and State Geographic Levels Using Seven Methods: Comparative Forecasting Study. *J Med Internet Res, 23*(3), e24925. DOI: 10.2196/24925. **2022 IF: 8.13. GCC: 32.**

Lynch, C. J., & Gore, R. (2021). Application of one-, three-, and seven-day forecasts during early onset on the COVID-19 epidemic dataset using moving average, autoregressive, autoregressive moving average, autoregressive integrated moving average, and naïve forecasting methods. *Data in Brief, 35*(), 106759. DOI: 10.1016/j.dib.2021.106759. **2022 IF: 1.48. GCC: 23.**

Lynch, C. J., Diallo, S., Kavak, H., & Padilla, J. (2020). A content analysis-based approach to explore simulation verification and identify its current challenges. *PLoS One, 15*(5), e0232929. DOI: 10.1371/journal.pone.0232929. **2022 IF: 3.75. GCC: 12.**

Shults, F. L., Wildman, W. J., Lane, J. E., **Lynch, C. J.**, & Diallo, S. D. (2018). Multiple Axialities: A Computational Model of the Axial Age. *Journal of Cognition and Culture*, *18*(5), 537-564. DOI: 10.1163/15685373-12340043. *Special Issue of Computer Modeling and Simulation*. **2022 IF: 0.39. GCC: 25.**

Wood, C., Diallo, S. Y., Gore, R., & **Lynch, C. J.** (2018). Trance, Dissociation, and Shamanism: A Cross-Cultural Model. *Journal of Cognition and Culture*, *18*(5), 508-536. DOI: 10.1163/15685373-12340042. *Special Issue of Computer Modeling and Simulation*. **2022 IF: 0.39. GCC: 2.**

Shults, F. L., Gore, R., Wildman, W. J., **Lynch, C. J.**, Lane, J. E., & Toft, M. D. (2018). A Generative Model of the Mutual Escalation of Anxiety Between Religious Groups. *Journal of Artificial Societies and Social Simulation*, *21*(4), 1-25. DOI: 10.18564/jasss.3840. **2022 IF: 4.33. GCC: 87.**

Padilla J. J., Kavak H., **Lynch C. J.**, Gore R.J., & Diallo S. Y. (2018) Temporal and spatiotemporal investigation of tourist attraction visit sentiment on Twitter. *PLOS ONE 13*(6): e0198857. https://doi.org/10.1371/journal.pone.0198857. **2022 IF: 3.75. GCC: 129.**

Shults, F. L., Lane, J. E., Wildman, W. J., Diallo, S. Y., **Lynch, C. J.**, & Gore, R. (2018). Modeling Terror Management Theory: Computer simulations of the impact of mortality salience on religiosity. *Religion, Brain, and Behavior: Special Issue: Terror Management Theory*, *8*(1), 77-100. Doi: http://dx.doi.org/10.1080/2153599X.2016.1238846. **2022 IF: 1.25. GCC: 107.**

Padilla, J., Diallo, S., **Lynch, C. J.,** and Gore, R. (2018) Observations on the practice and profession of Modeling and Simulation: A survey approach. *SIMULATION Transactions for the Society for Modeling and Simulation International*, 94(6), 493-506, DOI: 10.1177/0037549717737159. **GCC: 42.**

Gore, R., Diallo, S., **Lynch, C. J.**, & Padillla, J. (2017). Augmenting bottom-up metamodels with predicates. *Journal of Artificial Societies and Social Simulation*, *20*(1), 1-20, doi: 10.18564/jasss.3240. **2022 IF: 4.33. GCC: 28.**

Gore, R. J., **Lynch, C. J.**, & Kavak, H. (2016). Applying statistical debugging for enhanced trace validation of agent-based models. *Simulation: Transactions of the Society for Modeling and Simulation International*, 93(4), 273-284, doi: 10.1177/0037549716659707. *Special Issue of SIMULATION: Modeling and Simulation in the Era of Big Data and Cloud Computing: Theory, Framework, and Tools*. **GCC: 36.**

Diallo, S. Y., Gore, R., **Lynch, C. J.**, & Padilla, J. J. (2016). Formal methods, statistical debugging and exploratory analysis in support of system development: Towards a verification and validation calculator tool. *International Journal of Modeling, Simulation, and Scientific Computing*, *7*(1), 1-22, doi: 10.1142/S1793962316410014. **IF: 0.233. GCC: 23.**

Diallo, S. Y., **Lynch, C. J.**, Gore, R., & Padilla, J. J. (2016). Identifying key papers within a journal via network centrality measures. *Scientometrics*, *107*(3), 1-16, doi: 10.1007/s11192-016-1891-8. **2022 IF: 3.71. GCC: 41.**

Diallo, S. Y., **Lynch, C. J.**, Gore, R., & Padilla, J. J. (2016). Emergent behavior identification within an agent-based model of the Ballistic Missile Defense System using statistical debugging. *The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, *13*(3), 275-289, doi: 10.1177/1548512915621973. **2022 IF: 0.95. GCC: 15.**

Diallo, S. Y., Gore, R., Padilla, J. J., Kavak, H., & **Lynch, C. J.** (2015). Towards a World Wide Web of Simulation. *The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, 14(2), 159-170, doi:10.1177/1548512915621974. *Special Issue: Modeling & Simulation of Systems*. **2022 IF: 0.95. GCC: 7.**

Diallo, S. Y., Padilla, J. J., Papelis, Y., Gore, R., & **Lynch, C. J.** (2015). Content analysis to classify and compare Live, Virtual, Constructive simulations and System of Systems. *The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, *13*(4), 367-380, doi:10.1177/1548512915621972. *Special Issue: Modeling & Simulation of Systems*. **2022 IF: 0.95. GCC: 10.**

Diallo, S. Y., Gore, R. J., Barraco, A., Padilla, J. J., & **Lynch, C.** (2015). Quantitative performance metrics for evaluation and comparison of middleware interoperability products. *The Journal of*

Defense Modeling and Simulation: Applications, Methodology, Technology, *13*(2): 161-169, doi:10.1177/1548512915570143. **2022 IF: 0.95. GCC: 2.**

Diallo, S. Y., Gore, R. J., Padilla, J. J., & **Lynch, C. J.** (2015). An overview of modeling and simulation using content analysis. *Scientometrics*, *103*(3), 977-1002, doi: 10.1007/s11192-015-1578-6. **2022 IF: 3.71. GCC: 31.**

CONFERENCE (PEER REVIEWED)

*Key: Google Cite Count (GCC) as of June 12, 2025. * indicates graduate student at time of publication for articles published 2019 and beyond.*

Summary Statistics:

24 Published, Peer-Reviewed Conference since 2011. First author on 5.
Cumulative Google Cite Count (GCC): 465.
Mean/Median GCC of all Peer-Reviewed Conference papers: 19.375, 9.
Cumulative Google Cite Count when First author: 101.
Mean/Median GCC when first author: 20.2, 14.

Lynch, C. J. & Galassie, J. M. (2025). AI Framework for XR Technology Transfer and Adoption in Shipyards. Paper presented at the *2025 SNAME Maritime Convention (SNAME 2025)*. Alexandria, VA: Society of Naval Architects and Marine Engineers (SNAME), 1-14, 10, SNAME-SMC-2025-110. DOI: 10.5957/SMC-2025-110. Historical Acceptance Rate: ??%. **GCC: N/A.**

Sakib, S. K., Liddle, S. W., **Lynch, Christopher J.**, Agrawal, A., & Giabbanelli, P. J. (2025). Rethinking Learning: The Role of Unlearning in Generative AI-Based Conceptual Modeling. Paper presented at the *44th International Conference on Conceptual Modeling (ER 2025)*. Poitiers, France: Springer, 1-21. DOI: TBD. Historical Acceptance Rate: ~15-20%. **GCC: N/A**.

Jensen*, E.J., Leathrum, J.F., **Lynch, C.J.**, Smith, K., and Gore, R. (2025) DDA-PDES: A Data-Dependence Analysis Parallel Discrete-Event Simulation Framework for Event-Level Parallelization of General-Purpose DES Models. In *Proceedings of the 2025 Winter Simulation Conference,* edited by E. Azar, A. Djanatliev, A. Harper, C. Kogler, V. Ramamohan, A. Anagnostou, and S. J. E. Taylor. Piscataway, NJ: IEEE Press. *Dec 7–10, 2025, Seattle, WA*. DOI: . Historical Acceptance Rate: 75%. **GCC: 0.**

Jensen*, E.J., Leathrum, J.F., **Lynch, C.J.**, Smith, K., and Gore, R. (2025) Out-of-Order and Causally Correct: Ready event discovery through data-dependence analysis. *SIGSIM PADS '25, June 23–26, 2025, Santa Fe, NM*. **GCC: 0.**

Gundogdu*, TB., Ozkose*, TE., Ozeren*, F., Gore, R., **Lynch, CJ.**, Zamponi, V., O'Brien, J., Ezell, and Kavak, H. (2025) Evolving Risk Communication: Analyzing risk response effectiveness of personalized narrative messages. In *Proceedings of the 2025 Systems and Information Engineering Design Symposium (SIEDS)*. Piscataway, NJ: IEEE Press, 92-97. May 2, 2025, Charlottesville, VA. DOI: 10.1109/SIEDS65500.2025.11021204. **GCC: 0**.

Gore, R., Ezell, B., **Lynch, CJ.**, O'Brien, J.*, Zamponi, V., Jensen, E.*, Reinhold, AM., Izurieta, C., Munro, M.*, and Shanahan, E. (2024) Building a Domain Agnostic Framework for Efficient and Effective Risk Communication Messages. *16th International MODSIM World Conference*. Norfolk, VA. Historical Acceptance Rate: 85%. **GCC: 2.**

O'Brien, K.*, Zamponi, V., O'Brien, J.*, Gore, R., Jensen, E.*, and **Lynch C. J.** (2024) Analysis of behaviors across six domains of physical health for census tracts in Norfolk, VA. In *Modeling,*

Simulation, and Visualization Student Capstone Conference (MSVSCC'24). Historical Acceptance Rate: 90%. **GCC: 0**.

Zamponi, V.*, O'Brien, K.*, Gore, R., and **Lynch, C.J.** (2023). Growing an explanation of health inequities in Norfolk, VA with an Agent-Based Model. In: Mazal, J., et al. (eds.) *Modelling and Simulation for Autonomous Systems. MESAS 2022*. Lecture Notes in Computer Science, vol 13866. Springer, Cham, 326-338. DOI: 10.1007/978-3-031-31268-7_20. Historical Acceptance Rate: 70%. **GCC: 1**.

Lynch, C. J., Gore, R., Collins, A. J., Cotter, T. S., Grigoryan, G.*, & Leathrum, J. F. (2021). Increased need for Data Analytics education in support of verification and validation. In *Proceedings of the 2021 Winter Simulation Conference*, edited by S. Kim, B. Feng, K. Smith, S. Masoud, Z. Zheng, C. Szabo, and M. Loper. Piscataway, NJ: IEEE Press, 1-12. DOI: 10.1109/WSC52266.2021.9715485. Historical Acceptance Rate: 75%. **GCC: 14.**

Leathrum Jr., J. F., Collins, A. J., Cotter, T. S., **Lynch, C. J.**, & Gore, R. (2020). Education in analytics needed for the Modeling & Simulation process. In *Proceedings of the 2020 Winter Simulation Conference*, edited by K.-H. Bae, B. Feng, S. Kim, S. Lazarova-Molnar, Z. Zheng, T. Roeder, and R. Thiesing. Piscataway, NJ: IEEE Press, 3236-3247. DOI: 10.1109/WSC48552.2020.9384122. **GCC: 8**.

Diallo, S. Y., **Lynch, C. J.**, Rechowicz, K. J. & Zacharewicz, G. (2018). How to create empathy and understanding: Narrative analytics in Agent-based Modeling. In *Proceedings of the 2018 Winter Simulation Conference*, edited by M. Rabe, A. A. Juan, N. Mustafee, A. Skoogh, and B. Johansson. Piscataway, NJ: IEEE Press, 1286-1297. DOI: 10.1109/wsc.2018.8632267. Historical Acceptance Rate: 75%. **GCC: 6.**

Kavak, H., Padilla, J. J., **Lynch, C. J.**, and Diallo, S. Y. (2018). Big Data, Agents, and Machine Learning: Towards a Data-Driven Agent-based Modeling Approach. In *Proceedings of the 2018 Spring Simulation Multi-Conference – Annual Simulation Symposium (ANSS)*, *Baltimore, MD, 15-18 April 2018*, 1-12. Vista, CA: SCS. ISBN: 978-1-5108-6014-8. Historical Acceptance Rate: 52%. **GCC: 105.**

Padilla, J. J., **Lynch, C. J.**, Kavak, H., Evett, S., Nelson, D., Carson, C., and del Villar, J. (2017). Storytelling and Simulation Creation. In *Proceedings of the 2017 Winter Simulation Conference*, *Las Vegas, NV, 3-6 December 2017*, edited by W. K. V. Chan, A. D'Ambrogio, G. Zacharewicz, N. Mustafee, G. Wainer, and E. Page, 4288-4299. Piscataway, NJ: IEEE Press. DOI: 10.1109/WSC.2017.8248134. Historical Acceptance Rate: 75%. **GCC: 15.**

Deuro J., **Lynch, C. J.**, Kavak, H., and Padilla, J. J. (2017). Incorporating Sound in Simulations. In *Proceedings of the 2017 Winter Simulation Conference*, *Las Vegas, NV, 3-6 December 2017*, edited by W. K. V. Chan, A. D'Ambrogio, G. Zacharewicz, N. Mustafee, G. Wainer, and E. Page, 4209-4219. Piscataway, NJ: IEEE Press. DOI: 10.1109/WSC.2017.8248127. Historical Acceptance Rate: 75%. **GCC: 10.**

Shults, F. L., Gore, R., Wildman, W. J., **Lynch, C. J.**, Lane, J. E., & Toft, M. D. (2017). Mutually escalating religious violence: A generative model. *Paper presented at the 2017 Social Simulation Conference*. Dublin, Ireland. 1-12. **GCC: 17.**

Cornelius, C. V. M., **Lynch, C. J.**, and Gore, R. (2017). Aging out of crime: Exploring the relationship between age and crime with agent based modeling. In *Proceedings of the 2017 Spring Simulation Multi-Conference – Agent Directed Simulation (ADS) Symposium, Virginia Beach, VA, 23-26 April 2017,* edited by Y. Zhang and G. Madey. Vista, CA: SCS, 25-36. Historical Acceptance Rate: 52%. **GCC: 59.**

Diallo, S. Y., **Lynch, C. J.**, Padilla, J. J. & Gore, R. (2016). The impact of modeling paradigms on the outcome of simulation studies: An experimental case study. In *Proceedings of the 2016 Winter Simulation Conference*, edited by T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick. Piscataway, NJ: IEEE Press, 1451-1462. DOI: 10.1109/WSC.2016.7822197. Historical Acceptance Rate: 75%. **GCC: 7.**

Padilla, J. J., **Lynch, C. J.**, Kavak, H., Diallo, S. Y., Gore, R., Barraco, A., & Jenkins, B. (2016). Using simulation games for teaching and learning Discrete-Event Simulation. In *Proceedings of the 2016 Winter Simulation Conference*, edited by T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick. Piscataway, NJ: IEEE Press, 3375-3384. DOI: 10.1109/WSC.2016.7822368. Historical Acceptance Rate: 75%. **GCC: 45.**

Balaban, M. A., **Lynch, C. J.**, & Mastaglio, T. W. (2016). Analysis of future UAS-based delivery. In *Proceedings of the 2016 Winter Simulation Conference*, edited by T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick. Piscataway, NJ: IEEE Press, 1595-1606. DOI: 10.1109/WSC.2016.7822209. Historical Acceptance Rate: 75%. **GCC: 33.**

Balaban, M. A., **Lynch, C. J.**, & Mastaglio, T. W. (2016). Towards airspace rules for future UAS-based delivery. In *Proceedings of the 2016 Winter Simulation Conference*, edited by T. M. K. Roeder, P. I. Frazier, R. Szechtman, E. Zhou, T. Huschka, and S. E. Chick. Piscataway, NJ: IEEE Press, 1619-1629. DOI: 10.1109/WSC.2016.7822211. Historical Acceptance Rate: 75%. **GCC: 2.**

Lynch, C. J., & Diallo, S. Y. (2015). A taxonomy for classifying terminologies that describe simulations with multiple models. In *Proceedings of the 2015 Winter Simulation Conference*, edited by L. Yilmaz, W. Chan, I. Moon, T. Roeder, C. Macal, and M. Rossetti. Piscataway, NJ: IEEE Press, 1621-1632. DOI: 10.1109/WSC.2015.7408282. Historical Acceptance Rate: 75%. **GCC: 35.**

Padilla, J. J., Romero-Hall, E., Diallo, S., Barraco, A., Kavak, H., **Lynch, C. J.**, Gore, R., & Sheth-Chandra, M. (2015). Modeling and Simulation as a Service (MSaaS) for education: Learning STEM concepts through simulation use and building. In *Proceedings of the 2015 Summer Computer Simulation Conference (SCSC)*. Vista, CA: SCS, 1-9. Historical Acceptance Rate: 71%. **GCC: 4.**

Lynch, C. J., Padilla, J. J., Diallo, S. Y., Sokolowski, J. A., & Banks, C. M. (2014). A multi-paradigm modeling framework for modeling and simulating problem situations. In *Proceedings of the 2014 Winter Simulation Conference (WSC)*, edited by A. Tolk, S. Diallo, I. Ryzhov, L. Yilmaz, S. Buckley, and J. Miller. Piscataway, NJ: IEEE Press, 1688-1699, DOI: 10.1109/WSC.2014.7020019. Historical Acceptance Rate: 75%. **GCC: 40.**

Padilla, J., Diallo, S., Barraco, A., **Lynch, C.**, & Kavak, H. (2014). Cloud-based simulators: Making simulations accessible to non-experts and experts alike. In *Proceedings of the 2014 Winter Simulation Conference (WSC)*, edited by A. Tolk, S. Diallo, I. Ryzhov, L. Yilmaz, S. Buckley, and J. Miller. Piscataway, NJ: IEEE Press, 3630-3639, DOI: 10.1109/WSC.2014.7020192. Historical Acceptance Rate: 75%. **GCC: 45.**

Sokolowski, J. A., Banks, C. M., Diallo, S. Y., Padilla, J. J., & **Lynch, C. J.** (2013). A simulation analysis to weigh the impact of obesity: corresponding patient need with medical capacity. In *Proceedings of the 2013 Summer Computer Simulation Conference*. Vista, CA: SCS, 1-8. Historical Acceptance Rate: 71%. **GCC: 3.**

Lynch, C. J., Diallo, S. Y., & Tolk, A. (2013). Representing the ballistic missile defense system using agent-based modeling. In *Proceedings of the 2013 Spring Simulation Multi-Conference – Symposium on Military Modeling & Simulation (MMS)*. Vista, CA: SCS, 1-8. Historical Acceptance Rate: 52%. **GCC: 11.**

Sokolowski, J. A., Banks, C. M., Diallo, S. Y., Padilla, J. J., & **Lynch, C. J.** (2012). A methodology for engaging modeling and simulation to assess a corollary problem to the obesity epidemic. In

Proceedings of t*he International Workshop on Applied Modeling & Simulation (WAMS) 2012*, edited by Bruzzone, Buck, Cayirci, and Longo, 30-37. **GCC: 2.**

Lynch, C., Lambert, R., McKenzie, F. D., & Williams, A. (2011). A remote monitoring system for treating Pectus Carinatum. In *Proceedings of the 4th International Conference on Biomedical Engineering and Informatics (BMEI)*. Piscataway, NJ: IEEE, 2365-2369, DOI: 10.1109/BMEI.2011.6098770. **GCC: 1.**

BOOK CHAPTERS (PEER REVIEWED)

Key: Google Cite Count (GCC) as of June 12, 2025.

Lynch, C. J., & Schoenberg, W. A. (Forthcoming). From Principles to Practice: Risks, Case Studies, and Domain-Specific Benchmarking for Large Language Models in Modeling and Simulation. In P. Giabbanelli (Ed.), …

Lynch, C. J., & Agrawal, A. (Forthcoming). Benchmarking Fundamentals in Large Language Models. In P. Giabbanelli (Ed.), …

Diallo, S., **Lynch, C. J.**, Padilla, J. J., & Gore R. (2021). An Agent-Based Model of Obesity and Policy Implications. In E. Elliott and L. D. Kiel (Eds.), *Complex Systems in the Social and Behavioral Sciences: Theory, Method and Application,* pp. 204-238. Ann Arbor, MI: University of Michigan Press. DOI: 10.3998/mpub.10155018. ISBN: 978-0-472-12892-1. **GCC: 2.**

Lynch, C. J., Kavak, H., Gore, R., and Vernon-Bido, D. (2019). Identifying Unexpected Behaviors in Agent-Based Models through Spatial Plots and Heat Maps. In T. Carmichael, A. Collins, & M. Hadžikadić. *Complex Adaptive Systems: Views from the Physical, Natural, and Social Sciences*. Series in Understanding Complex Systems (UCS), pp.129-142. Cham, Switzerland AG: Springer. DOI: 10.1007/978-3-030-20309-2. ISBN: 978-3-030-20307-8. **GCC: 10.**

Diallo, S. Y. & **Lynch, C. J.** (2018). Examination of Emergent Behavior in the Ballistic Missile Defense System: A Modeling and Simulation Approach. In L. Rainey & M. Jamshidi. *Engineering Emergence: A Modeling and Simulation Approach* (pp.319-328). Boca Raton: CRC Press. eBook ISBN: 9781351694858. **GCC: 1.**

Diallo, S. Y., **Lynch, C. J.**, & Mustafee, N. (2017). Funding an Academic Simulation Project: The Economics of M&S. In A. Tolk & U. Ören (Eds.), *The Profession of Modeling and Simulation: Discipline, Ethics, Education, Vocation, Societies, and Economics*. Hoboken, NJ: John Wiley & Sons, Inc., 267-285, DOI: 10.1002/9781119288091.ch13. ISBN: 978-1-119-28808-4. **GCC: 1.**

Diallo, S. Y., & **Lynch, C. J.** (2015). A roadmap for building a digital patient system. In C. D. Combs, J. A. Sokolowski, & C. M. Banks (Eds.), *The Digital Patient: Advancing Healthcare, Research, and Education*. Hoboken, NJ: John Wiley & Sons, Inc., 209-224, DOI: 10.1002/9781118952788.ch15. ISBN: 978-1-118-95275-7. **GCC: 1.**

DATASETS (NOT PEER REVIEWED)

Key: Google Cite Count (GCC) as of June 12, 2025.

Lynch, C.J., Jensen, E., and Gore, R. (2025). ML Classifiers, Human-Tagged Datasets, and Validation Code for Structured LLM-Generated Event Messaging: BERT, Keras, XGBoost, and Ensemble Methods. *Mendeley Data*, V1, DOI: 10.17632/g2sdzmssgh.1. **GCC: 0.**

Gore, R., and **Lynch, C.J.** (2024). Spinal specific lexicon for sentiment analysis of adult spinal deformity patient interviews correlate with SRS22, SF36, and ODI scores: A pilot study of 25 patients. *Mendeley Data, V1*, DOI: 10.17632/c82dy27fk7.1. **GCC: 1.**

Lynch, C.J., Gore, R., and Jensen, E. (2023). Large Language Model-Driven Narrative Generation Study Data: ChatGPT-Generated Narratives, Real Tweets, and Source Code. *Mendeley Data*, *V2*, DOI: 10.17632/nyxndvwfsh.2. **GCC: 4**.

Gore, R., **Lynch, C.J.**, Jordan, C.A., Collins, A.J., Robinson, R.M., Fuller, G., Ames, P., Keerthi, P., and Kandukuri, Y. (2022). Modeling The Health Effects of Adding Bicycle & Pedestrian Paths At The Census Tract-Level Supplementary Information. Mendeley Data, V4, DOI: 10.17632/6rpf6r3nvb.4. **GCC: 0**.

Lynch, C. J., Gore, R. (2020). Short-range Early Phase COVID-19 Forecasting R-Project and Data. *Mendeley Data, V2*, DOI:10.17632/cytrb8p42g/2. **GCC: 3**.

PROTOCOLS AND PREREGISTRATIONS (NOT PEER REVIEWED)

Lynch, C.J., Gore, R., Jordan, C., O'Brien, K., and Keerthi, P. (2022). Impact of Food Desert Interventions on Vulnerable Populations: A Systematic Review and Meta-Analysis of Health Outcome Effect Estimates. *PROSPERO*, CRD42022291593. URL: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022291593. DOI: 10.2196/24925. PMID: 33621186. PMCID: 7990039.

PREPRINTS (NOT PEER-REVIEWED)

Lynch, C.J., Jensen, E., Gore, R., Zamponi, V., O'Brien, K., Feldhaus, B., Smith, K., Mar tínez, J., Munro, M. H., Ozkose, T. E., Gundogdu, T. B., Reinhold, A. M., Kavak, H., and Ezell, B. (2025). AI-Generated Messaging for Life Events Using Structured Prompts: A Comparative Study of GPT with Human Experts and Machine Learning. preprint *techRxiv*. DOI: 10.36227/techrxiv.174123588.85605769/v1.

Gore, R., Safaee, M.M., **Lynch, C.J.**, and Ames, C.P. (2024). Spinal Specific Lexicon for Sentiment Analysis of Adult Spinal Deformity Patient Interviews Correlate with SRS22, SF36, and ODI Scores: A Pilot Study of 25 Patients. *Preprints*, 11/21/2024. DOI: https://doi.org/10.20944/preprints202411.1616.v1

Lynch, C.J., Jensen, E., Munro, M. H., Zamponi, V., Martinez, J., O'Brien, K., Feldhaus, B., Smith, K., Reinhold, A. M., and Gore, R. (2024). GPT-4 Generated Narratives of Life Events using a Structured Narrative Prompt: A Validation Study. arXiv preprint *arXiv*:2402.05435. DOI: 10.48550/arXiv.2402.05435.

Lynch, C.J., Jensen, E., Zamponi, V., O'Brien, K., Frydenlund, E., and Gore, R. (2023). A Structured Narrative Prompt for Large Language Models to Create Pertinent Narratives of Simulated Agents' Life Events: A Sentiment Analysis Comparison. *Preprints*, 09/29/2023, DOI: preprints202309.2026.v1.

Gore, R., **Lynch, C.J.**, Jordan, C.A., Collins, A., Robinson, R.M., Fuller, G., Ames, P., Keerthi, P., and Kandukuri, Y. (2022). Modeling the Health Effects of Adding Bicycle & Pedestrian Paths at the Census Tract-Level. *JMIR Preprints*. 11/04/2022:37379.

Lynch, C.J. and Gore, R. (2020). Short-range forecasting of coronavirus disease 2019 (COVID-19) during early onset at county, health district, and state geographic levels: Comparative forecasting approach using seven forecasting methods. *JMIR Preprints*, 10/10/2020. URL:

https://preprints.jmir.org/preprint/24925/submitted. DOI: 10.2196/24925. PMID: 33621186. PMCID: 7990039.

Lynch, C.J. and Gore, R. (2020). Short-range forecasting of coronavirus disease 2019 (COVID-19) during early onset at various Levels of Geographic Granularity Using Seven Different Methods. *Preprints with The Lancet*, 10/19/2020. URL: https://ssrn.com/abstract=3687363 or http://dx.doi.org/10.2139/ssrn.3687363. DOI: 10.2139/ssrn.3687363.

Frydenlund, E., Collins, A., **Lynch, C. J.**, & Robinson, R. M. (Posted April 16, 2019). Acceptance Sampling to Aid in Verification of Computational Simulation Models. *SSRN*. http://dx.doi.org/10.2139/ssrn.3373344.

DISSERTATION & THESIS

Key: Google Cite Count (GCC) as of March 20, 2024.

Lynch, C. J. (2019). A Lightweight, Feedback-Driven Runtime Verification Methodology (Doctoral Dissertation). Old Dominion University Theses: Modeling and Simulation. College of Engineering and Technology: Norfolk, VA, United States of America, 1-323. ProQuest Number: 22619686. **GCC: 5.**

Lynch, C. J. (2012). A Multi-Paradigm Modeling Framework for Modeling and Simulating Problem Situations (Master's Thesis). Old Dominion University Theses: Modeling and Simulation. College of Engineering and Technology: Norfolk, VA, United States of America, 1-133. OCLC: 827224773. http://www.worldcat.org/oclc/827224773.

GRANTS – AWARDED

AS PRINCIPAL INVESTIGATOR (PI)

Cumulative Total Awarded Funding as PI: $675,330.95.
Cumulative Total Awarded Funding Percent of Credit as PI: $357,062.17.

Virginia Modeling, Analysis and Simulation Center
PROJECT: Intrinsic Policy-Aware Provenance Infrastructure for Regulatory Compliance Verification **July 2026 – June 2027**
FUNDER: Old Dominion University (ODU)
Award $95,000.00. 90% of Credit: $85,500.00
Lynch, Christopher J. (VMASC/ODU, PI), Lawsure, K. (Co-Principal). " Intrinsic Policy-Aware Provenance Infrastructure for Regulatory Compliance Verification," Sponsored by ODU, Public, $95,000.00. (July 1, 2026 – June 30, 2027).

...

Virginia Modeling, Analysis and Simulation Center
PROJECT: AI Hazard Mitigation Planning Platform **July 2026 – June 2027**
FUNDER: Old Dominion University (ODU)
Award $56,196.00. 34% of Credit: $19,106.64
Lynch, Christopher J. (VMASC/ODU, PI), Behr, J. (Co-Principal), Lawsure, K. (Co-Principal). " AI Hazard Mitigation Planning Platform," Sponsored by ODU, Public, $56,196.00. (July 1, 2026 – June 30, 2027).

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Virginia Modeling, Analysis and Simulation Center
PROJECT: Student Performance Data Validation & Analysis **April 2026 – December 2026**
FUNDER: Virginia Department of Education (VDOE)
Award $9,396.00. 70% of Credit: $6,577.20
Lynch, Christopher J. (VMASC/ODU, PI), Frydenlund, E. (Co-Principal). "Student Performance Data Validation & Analysis," Sponsored by VDOE, Public, $9,396.00. (April 1, 2026 – December 31, 2026).

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Virginia Modeling, Analysis and Simulation Center
PROJECT: **Self-Contained Pediatric AI Platforms for Safe and Transparent Clinical Communication** **November 2025 – October 2026**
FUNDER: NVIDIA – Academic Grant Program
Award $3,999.00. 70% of Credit: $2,799.30
Lynch, Christopher J. (VMASC/ODU, PI), Saglam, Ahmet (Co-Principal). "NVIDIA Gen AI: Self-Contained Pediatric AI Platforms for Safe and Transparent Clinical Communication", Sponsored by NVIDIA – Academic Grant Program, Private, $3,999.00. (November 01, 2025 – October 31, 2026).

NVIDIA DGX™ Spark Academic Grant (2025) – Generative AI – Alignment and Inference: Awarded competitive hardware grant to develop Cross-Perspective Transparent Attribution (CPTA) methods for multi-stakeholder AI communication in safety-critical domains. This project establishes frontier-scale LLM infrastructure (Llama 3.1-70B) optimized with TensorRT-LLM and NeMo frameworks, building technical capacity for on-premise, network-isolated AI systems required in defense, healthcare, and other security-sensitive applications. The work positions future research in explainable AI safety, human-centered evaluation methodologies, and scalable deployment of transparent RAG systems across diverse stakeholder contexts.

Virginia Modeling, Analysis and Simulation Center
PROJECT: Virgina Department of Education Student Performance Data Validation & Analysis **November 2025 – December 2025**
FUNDER: Virginia Department of Education (VDOE)
Award $24,711.00. 40% of Credit: $9,884.40
Lynch, Christopher J. (VMASC/ODU, PI), Frydenlund, E. (Co-Principal), Lawsure, K. (Co-Principal), Allen, B. "Virginia Department of Education Student Performance Data Validation & Analysis," Sponsored by VDOE, Public, $24,711.00. (November 1, 2025 – December 31, 2025).

The Virginia Modeling, Analysis and Simulation Center (VMASC), under the guidance and direction of the Virgina Department of Education (VDOE), is developing and implementing a methodology to replicate school- and division-level accountability outcomes using VDOE business rules to confirm the validity of accountability outcomes.

Virginia Modeling, Analysis and Simulation Center
PROJECT: UNOS Year 5 **October 2022 – October 2023**
FUNDER: United Network for Organ Sharing (UNOS)
Award $140,171.00. 45% of Credit: $63,076.95
Lynch, Christopher J. (VMASC/ODU, PI), Jordan, C. (Co-Principal), Gore, R. (Co-Principal), "UNOS Year 5," Sponsored by United Network for Organ Sharing, Private, $140,171.00. (October 16, 2022 – October 31, 2023).

For continued collaboration between ODU and the United Network of Organ Sharing (UNOS), this project phase involves getting the Heart simulation model to a publication ready status, expanding the Kidney-Pancreas model for an additional initialization avenue, and building model documentation for the completed and in-process simulation models.

Virginia Modeling, Analysis and Simulation Center
PROJECT: UNOS Year 3 **April 2022 – October 2022**
FUNDER: United Network for Organ Sharing (UNOS)
Award $71,226.00. 45% of Credit: $32,051.70
Lynch, Christopher J. (VMASC/ODU, PI), Jordan, C. (Co-Principal), Gore, R. (Co-Principal), "UNOS Year 4," Sponsored by United Network for Organ Sharing, Private, $71,226.00. (April 15, 2022 – October 15, 2022).

ODU and UNOS are jointly developing simulation models of the United States transplant process across organ types. This project phase involves performing research studies utilizing the Kidney-Pancreas model, developing a Shiny dashboard user interface, and beginning development of a verified and validated Heart simulation model.

Virginia Modeling, Analysis and Simulation Center
PROJECT: Integrated Gaming System (IGS) PWS **February 2014 – September 2014**
FUNDER: Cubic Applications, Inc.
Award $273,131.95. 50% of Credit: $136,565.98.
Lynch, Christopher J. (VMASC/ODU, PI), Diallo, S. (Co-Principal), Barraco, A. (Co-Principal), "Integrated Gaming System (IGS) PWS," Sponsored by Cubic Applications, Inc., Private, $273,131.95. (February 21, 2014 - September 30, 2014).

Provided simulation support and training for a wargaming event by using a commercial-off-the-shelf simulation software to support the outcomes of game moves. This included database development for the simulation, onsite M&S support during development and for event support, developing an analysis plan to examine the results of each move, and conducting a five-day training session to educate game controllers on how to implement simulation components and extract requirements from game participants.

Old Dominion University Research Experience for Undergraduates
PROJECT: Research Experience for Undergraduates (REU) Grant **Spring 2011 –2012**
FUNDER: Old Dominion University
Award $1,500.00. 100% of Credit: $1,500.00.
Lynch, Christopher J. (ODU, PI), McKenzie, Frederic (Advisor), "Research Experience for Undergraduates (REU) Grant," Sponsored by Old Dominion University - Undergraduate Research Program, Old Dominion University, $1,500.00. (January 2011 - May 2011).

The grant supported the project "Device and Method for Improved Pectus Carinatum Treatment." This research resulted in a device to improve the treatment process of Pectus Carinatum by incorporating continuous monitoring elements into the design of a chest brace used for treatment and providing a visual representation of the force applied by the brace to the patient to better inform physicians of when the brace needed to be tightened and the magnitude of the adjustment.

AS CO-PRINCIPAL INVESTIGATOR (CO-PI)

Cumulative Total Awarded Funding as Co-PI: $7,552,141.00.
Cumulative Total Awarded Funding Percent of Credit as Co-PI: $1,270,732.85.

Draper-Amason, Darryl (CME/ODU, PI), Kosteczko, Joeseph (Co-PI), **Lynch, Christopher J.** (Co-PI). "WRT-2510", Sponsored by SERC, $439,339.00. (September 30, 2025 – September 29, 2026). **20% of Credit: $87,867.80.**

Czack, Russell (VDMC/ODU, PI), Smith, Katherine (Co-PI), Johnson, Jessica (Co-PI), **Lynch, Christopher J.** (Co-PI), Diaz, Rafael (Co-PI), Czack, Russel (Co-PI), Dudley, Jason (Co-PI). "Supervisor of Shipbuilding (SUPSHIP) Workforce 4/0/5.0 Training", Sponsored by Blue Forge Alliance, Private, $1,291,295.00. (January 1, 2025 – December 31, 2026). **20% of Credit: $258,259.00.**

Giabbanelli, Philippe (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-PI). "Joint EVMS/VMASC Pilot Project to Prepare Competitive NIH Applications and Build Internal Research Capacity on Generative AI", Sponsored by ODU, State, $100,000.00. (January 1, 2025 – May 15, 2025). **50% of Credit: $50,000.00.**

Whitney, Mark (VDMC/ODU, PI), Smith, Katie (VDMC/ODU, Co-PI) **Lynch, Christopher J.** (Co-PI) "SBIR/STTR Technology Integration into Shipyards", Sponsored by National Center for Manufacturing Services, Private, $609,848.00. (June 26, 2024 – June 25, 2026). **25% of Credit: $152,462.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Ezell, Barry (Co-Principal). "Individualized and Effective Cyber Risk Training Using Large Language Models", Sponsored by Commonwealth Cyber Initiative, State, $50,000.00. (January 15, 2024 – January 31, 2025). **25% of Credit: $12,500.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Nielsen, Alex (Co-Principal), Cordner, Jessica (Co-Principal). "Effective & Individualized Risk Communication", Sponsored by Old Dominion University, State, $75,557.00. (August 16, 2023 – May 15, 2024). **20% of Credit: $15,111.40**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Nielsen, Alex (Co-Principal), Cordner, Jessica (Co-Principal). "IRAD: Data Fusion & Intelligence Lab", Sponsored by Old Dominion University, State, $135,305.00. (July 1, 2022 – June 30, 2023). **25% of Credit: $33,826.25**.

Ezell, Barry (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Draper, D. (Co- Principal), Johnson, J. (Co-Principal), and Handley, H. (Co-Principal). "Curriculum Enhancement and Sim Support", Sponsored by Stevens Institute of Technology, $750,000.00. (September 17, 2021 – September 16, 2023). **20% of Credit: $150,000.00**.

Gore, Ross (VMASC/ODU, PI), Shull, John (Co- Principal), Nielsen, Alex (Co- Principal), Jordan, Craig (Co- Principal), **Lynch, Christopher J.** (Co- Principal), Aggarwal, Priyanka (Co-Principal). "IRAD: Digital Neighborhood", Sponsored by ODU, State, $476,800. (June 1, 2021 – December 31, 2022). **5% of Credit: $23,840.00**.

Jordan, Craig (VMASC/ODU, PI), **Lynch, Christopher J.** (Co- Principal), "UNOS Organ Donor Model – year 3," Sponsored by UNOS, Private, $140,701.00. (April 15, 2021 – April 14, 2022). **10% of Credit: $14,070.10**.

Ezell, Barry (VMASC/ODU, PI), Gore, Ross (Co-Principle), **Lynch, Christopher J.** (Co-Principle), "Covid 19 Forecasting and Analytic Support to VDEM and VDH," Sponsored by the Virginia Department of Emergency Management (VDEM), State, $88,200. (January 01, 2021 – July 31, 2021). **33% of Credit: $29,106.00**.

Padilla, Jose (VMASC/ODU, PI), Rechowicz, (Co-Principal), Pinto, Cesar, (Co-Principal), **Lynch, Christopher J.** (Co-Principal), Jordan, Craig, "NATO Innovation Hub Synthetic Environment for Testing and Evaluation Study", Sponsored by North Atlantic Treaty Organization, Private, $40,000.00. (November 5, 2019 – December 31, 2019). **20% of Credit: $8,000**.

Collins, Andrew (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Gore, Ross (Co-Principal), Barraco, Anthony (Co-Principal), Leathrum, James (Co-Principal), and Cotter, T. (Co-Principal), "Automation Tools and Analytics Courses for the Naval Shipyard Project Extension," Sponsored by Naval Sea Systems Command, Private, $1,679,378.00. (September 28, 2019 – March 31, 2023). **5% of Credit: $83,968.90**.

Collins, A., (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Ezell, Barry, (Co-Principal), "Department of Defense's Modeling and Simulation Technology Readiness", Sponsored by Naval Air Warfare Center TSD, Private, $60,000.00. (March 12, 2019 – October 28, 2019). **35% of Credit: $21,000.00**.

Collins, Andrew (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Gore, Ross (Co-Principal), Barraco, Anthony (Co-Principal), Leathrum, James (Co-Principal), and Cotter, T. (Co-Principal), "Automation Tools and Analytics Courses for the Naval Shipyard," Sponsored by Naval Sea Systems Command, Private, $1,192,843.00. (September 28, 2018 – March 31, 2023). **10% of Credit: $119,284.30**.

Diallo, S. (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Barraco, Anthony (Co-Principal), "Civilization Transformation Model Year 3", Sponsored by Center for Mind and Culture, Private, $163,597.00. (July 1, 2017 – June 30, 2018). **50% of Credit: $81,798.50**.

Diallo, S. (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Barraco, Anthony (Co-Principal), "Modeling Religion: Simulating the Social Effects of Religion", Sponsored by Boston VA Research Institute, Inc., Private, $135,850.00. (July 1, 2015 – July 2, 2017). **50% of Credit: $67,925.00**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Barraco, Anthony (Co-Principal), "TRADOC ARCIC Future Warfare Study Program," Sponsored by Cubic Applications Inc, Private, $173,428.00. (May 30, 2013 - September 30, 2013). **50% of Credit: $86,714.00**.

TRAVEL GRANTS

Lynch, Christopher J. "Graduate Student Travel Award" ODU Student Engagement and Enrollment Services. $500.00 (September 2011).

MICROGRANTS & RESEARCH ACCESS AWARDS

Lynch, Christopher J. (VMASC/ODU, PI), Gore, R. (Co-PI), and Jensen, E. (Co-PI) "Anthropic External Researcher Access Program." Awarded $1,000. (2025). Competitive microgrant awarded to support external research leveraging Claude models for LLM evaluation.

GRANTS – SUBMITTED AND PENDING

AS PRINCIPAL INVESTIGATOR (PI)

Lynch, Christopher J. (VMASC/ODU, PI), Frydenlund, E. (Co-Principal), Lawsure, K. (Co-Principal). "Student Performance and Support Framework (SPSF)," Sponsored by VDOE, Public, $280,839.00. (May 1, 2026 – April 30, 2027). **65% of Credit: $182,545.35**.

AS CO-PRINCIPAL INVESTIGATOR (CO-PI)

Whytlaw, Jennifer (PSG/ODU, PI), Kim, Keuntae (Co-Principal), Yusuf, Juita (Co-Principal), **Lynch, Christopher J.** (VMASC/ODU, Co-Principal), Lawsure, Kaleen (Co-Principal), Foytik, Peter (Co-Principal). "VDOT Hurricane Evacuation Study," Sponsored by VDOT, Public, $725,313.00. (May 04, 2026 – October 31, 2028). **15% of Credit: $108,796.95**.

Shetty, Sachin (CSICS/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Gore, Ross. (Co-Principal), and Baracco, Anthony (Co-Principal). "FORTIFI - Framework for Orchestrating Rapid Trusted Integration of MBSE Functions and Intelligence", Sponsored by Nexcepta, Inc., Private, $1,750,000.00. (January 12, 2026 – January 11, 2027). **25% of Credit: $437,500.00**.

Gore, Ross (CSICS/ODU, PI), **Lynch, Christopher J.** (Co-Principal), and Bandara, Eranga. (Co-Principal). "AI-based Unified Representation, Orchestration, Reasoning, and Analysis (AURORA)", Sponsored by Nexcepta, Inc., Private, $3,752,129.00. (March 01, 2026 – February 28, 2029). **10% of Credit: $375,212.90**.

Rechowicz, Krzysztof (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Irwin, Tom (Co-Principal). "AI-Driven Shipyard Modernization: Compliance, Efficiency, and Strategic Readiness", Sponsored by HII, Private, $1,119,469.00. (October 01, 2025 – September 30, 2027). **40% of Credit: $447,787.60**.

Whitney, Mark (VDMC/ODU, PI), Smith, Katherine (Co-PI), Johnson, Jessica (Co-PI), **Lynch, Christopher J.** (Co-PI), Diaz, Rafael (Co-PI), Czack, Russel (Co-PI), Dudley, Jason (Co-PI). "Mobile Marine Naval Yard – Greenfield Module Fabrication Facility", Sponsored by Michael Baker Int'l, Private, $2,805,891.00. (January 1, 2025 – December 31, 2026). **10% of Credit: $280,589.10.**

GRANTS – NOT AWARDED

AS PRINCIPAL INVESTIGATOR (PI)

Lynch, Christopher J. (VMASC/ODU, PI), Gore, Ross (Co-Principal). "TriGuard: Distributed Energy Resource Ecosystem Grid Protection", Sponsored by Commonwealth Cyber Initiative (CCI), Public, $75,000.00. (May 20, 2026 – May 31, 2027). **70% of Credit: $52,500.00**.

Lynch, Christopher J. (VMASC/ODU, PI), Gore, Ross (Co-Principal). "Robust Across Borders: Multilingual Benchmark for Assessing Large Language Models (LLMs) for Manipulation Risk and Bias", Sponsored by Meta, Private, $200,000.00. (October 15, 2024 – October 14, 2025). **60% of Credit: $120,000.00**.

Lynch, Christopher J. (VMASC/ODU, PI), Gore, Ross (Co-Principal). "Steerability in the Face of Danger: Safety-Robust Benchmarks for AI-Driven Agentic Systems", Sponsored by Meta, Private, $200,000.00. (October 15, 2024 – October 14, 2025). **60% of Credit: $120,000.00**.

Lynch, Christopher J. (VMASC/ODU, PI), Gore, Ross (Co-Principal). "Using GPT-4 and the Narrative Policy Framework To Create Inclusive & Accessible Cybersecurity Training Modules", Sponsored by Commonwealth Cyber Initiative (CCI), State, $50,000.00. (July 1, 2024 – December 31, 2024). **50% of Credit: $25,000.00**.

Lynch, Christopher J. (VMASC/ODU, PI), Gore, Ross (Co-Principal). "Credibility Metrics for Building Trust in ML Models - Phase 1", Sponsored by Modus Operandi, Private, $60,550.00. (October 1, 2022 – March 31, 2023). **60% of Credit: $36,330.00**.

Lynch, Christopher J. (Self, PI). "International Workshop for Ethical and Transparent Reporting in Scientific Research", Early Career Award sponsored by The Einstein Foundation, Private, €100,000.00. (2022) **100% of Credit: €100,000.**

Lynch, Christopher J. (VMASC/ODU, PI), Jordan, Craig (Co-Principal), Gore, Ross (Co-Principal). "Sentiment based measures to support the County Health Rankings", Sponsored by Robert

Wood Johnson Foundation, Private, $100,000.00. (August 1, 2019 – July 31, 2020). **34% of Credit: $34,000.00**.

AS CO-PRINCIPAL INVESTIGATOR (CO-PI)

Johnson, Jessica. (VDMC/ODU, PI), Kosteczko, Joeseph (Co-PI), **Lynch, Christopher J.** (Co-PI). "HoloErgo: A Holographic Cognitive Ergonomics Interface for Human-Centered Industry 5.0", Sponsored by Epic Games, Inc., $150,000.00. (January 1, 2026 – December 31, 2026). **40% of Credit: $60,000.00.**

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "III: Medium: Identifying the demographic, and ethical biases in Large Language Model Benchmarks via Crowd-sourcing", Sponsored by NSF, Private, $1,200,000.00. (June 01, 2025 – May 31, 2028). **25% of Credit: $300,000.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), and Bandara, Eranga. (Co-Principal). "SBIR: Support of Large Language Model Development for Course of Action Analysis", Sponsored by Nexcepta, Inc., Private, $300,000.00. (April 01, 2025 – September 30, 2026). **25% of Credit: $75,000.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Addressing Urban Heat and Biodiversity Inequities in Hampton Roads: A Digital Twin Approach for Healthier Communities", Sponsored by Commonwealth Health Research Board (CHRB), State, $200,000.00. (July 01, 2025 – June 30, 2027). **40% of Credit: $80,000.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Inclusive Intelligence: Multilingual Benchmarks for Equitable Risk Communication in AI Systems", Sponsored by Meta, Private, $200,000.00. (October 15, 2024 – October 14, 2025). **50% of Credit: $100,000.00**.

Shetty, Sachin (CSICS/ODU, PI), Banerjee, Soumya (Co-Principal), Foytik, Peter (Co-Principal), **Lynch, Christopher J.** (Co-Principal). "Automated SysML Model Development", Sponsored by Doma Technologies, Private, $65,000.00. (July 1, 2024 – December 31, 2024). **15% of Credit: $9,750.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Quantifying and Ranking the Health Improvements of Future Municipal Infrastructure Interventions in Neighborhoods in Every County in Virginia", Sponsored by Robert Wood Johnson Foundation, Private, $50,000.00. (January 1, 2024 – December 31, 2024). **35% of Credit: $17,500.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Addressing inequities in extreme heat and direct sunlight exposure due to lack of tree canopies in Virginia", Sponsored by Commonwealth Health Research Board (CHRB), State, $200,000.00. (July 1, 2024 – June 30, 2026). **40% of Credit: $80,000.00**.

Gore, Ross (VMASC/ODU, PI), Behr, Joshua (Co-Principal), **Lynch, Christopher J.** (Co-Principal). "NSF Convergence Accelerator Track K: Quantifying the Health Improvements of Municipal Infrastructure Water Quality Interventions at the Census-Tract Level", Sponsored by National Science Foundation (NSF), Federal, $553,621.00. (August 16, 2024 – August 15, 2025). **20% of Credit: $110,724.20**.

Rechowicz, Krzysztof (VMASC/ODU, PI), Barraco, Anthony (Co-Principal), Padilla, Jose (Co-Principal), Ezell, Barry (Co-Principal), Frydenlund, Erika (Co-Principal), **Lynch, Christopher J.** (Co-Principal). "USMC AFSIM and CBT XXI Simulation Study", Sponsored by U.S. Marine Corps Systems Command (MCSC), Federal, $364,000.00. (April 30, 2024 – April 29, 2025). **15% of Credit: $54,600.00**.

Gore, Ross (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Quantifying the Health Improvements of Future Municipal Infrastructure Interventions in Neighborhoods in Virginia", Sponsored by Commonwealth Health Research Board, State, $200,000.00. (July 1, 2023 – June 30, 2025). **50% of Credit: $100,000.00**.

Frydenlund, Erika (VMASC/ODU, PI), Padilla, Jose (Co-Principal), **Lynch, Christopher J.** (Co-Principal). "Evolution and Mitigation of Protracted Refugee Situations", Sponsored by Minerva Research Institute, Federal, $1,473,802.00. (January 1, 2019 – December 31, 2021). **20% of Credit: $294,760.40**.

Collins, Andrew (VMASC/ODU, PI), Pazos-Lago, Maria (Co-Principal), **Lynch, Christopher J.** (Co-Principal). "Strategic Coalition Formation within Project-based Organizations: A Hybrid Modeling Approach", Sponsored by National Science Foundation (NSF), Federal, $313,137.00. (October 1, 2018 – September 30, 2021). **33% of Credit: $103,335.21**.

Collins, Andrew (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal), Ezell, Barry (Co-Principal). "Developing a Modeling Algorithm for Strategic Group Formation", Sponsored by Army Research Office, Federal, $255,514.00. (June 1, 2018 – May 31, 2020). **48% of Credit: $103,335.21**.

Collins, Andrew (VMASC/ODU, PI), Pazos-Lago, Maria (Co-Principal), **Lynch, Christopher J.** (Co-Principal), Croll, Menion (Co-Principal). "Modeling Strategic Coalition Formation in Organizations", Sponsored by National Science Foundation (NSF), Federal, $530,746.00. (June 1, 2018 – May 31, 2021). **25% of Credit: $132,686.50**.

Diallo, Saikou (VMASC/ODU, PI), Sosonkina, Masha (Co-Principal), Barraco, Anthony (Co-Principal), **Lynch, Christopher J.** (Co-Principal), Cvijetic, Bratislav (Co-Principal). "Religious Forecast", Sponsored by Center for Mind and Culture (CMAC), Private, $641,890.00. (July 1, 2018 – June 30, 2021). **10% of Credit: $64,890.00**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "ARCIC MATOC, TRADOC ARCIC Future Warfare Division (FWD), Future Study Plan/Unified Quest Events", Sponsored by Cubic, Inc, Private, $2,034,378.00. (November 15, 2015 – October 30, 2016). **25% of Credit: $508,594.50**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Civilization Transformation Model", Sponsored by Boston VA Research Institute, Inc., Private, $299,447.00. (July 1, 2015 – June 30, 2018). **50% of Credit: $149,723.50**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "A Formal Specification of Interoperability and Composability", Sponsored by National Geospatial Intelligence Agency, Federal, $300,000.00. (January 1, 2015 – December 31, 2015). **50% of Credit: $150,000.00**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "Command and Control Course of Action (COA) Analysis Tool", Sponsored by Xanalytix Systems, Private, $33,000.00. (October 1, 2014 – September 30, 2015). **50% of Credit: $16,500.00**.

Diallo, Saikou (VMASC/ODU, PI), **Lynch, Christopher J.** (Co-Principal). "An Agent-Based Model of the Ballistic Missile Defense System", Sponsored by Missile Defense Agency, Federal, $169,989.00. (June 16, 2014 – March 15, 2016). **50% of Credit: $84,994.50**.

CREATIVE WORKS

PUBLICLY AND FREELY AVAILABLE TOOLS AND PLATFORMS

COVID-19 Daily County Forecasting App: Daily cumulative COVID-19 case and vaccine distribution counts for each county in Virginia. Link: https://vmasc.shinyapps.io/va-county-covid-forecast/.

Systematic Review – Abstract Reviewer Platform: Platform to facilitate groups conducting the abstract review phase of a formal Systematic Review. Reviewer assignments can be generated through the app and each reviewer's responses can be provided back to the coordinator for aggregation. Link: https://vmasc.shinyapps.io/systematic-review-abstract-review-facilitator/.

Sensitivity Assessor: Platform to pull in data, conduct exploration, and explore conditions contributing to outcomes of interest for data sets. Outcomes and interpretations are provided in easy to understand language for users. Link: https://vmasc.shinyapps.io/SensitivityAssessor/.

Exploring Data in Swarbrick's Six Domains of Physical Health at the Census Tract Level in Norfolk, VA: Platform containing VMASC's contribution to CivicLab Norfolk's 2023 Datathon Challenge. This solution was awarded 2nd place. Link: https://vmasc.shinyapps.io/hr-datathon-2023/

Biodiversity of Significant Trees in Norfolk, VA by Census Tract: Platform containing VMASC's contribution to the Inaugural CivicLab Norfolk's Datathon. This solution took honorable mention but is entirely reproducible. Link: https://vmasc-datathon-2022.github.io/

V&V Calculator: Platform to explore verification, validation, and exploratory hypotheses for suspicious behaviors in simulation outcomes. This is a rebuild of the original Java platform implemented at VMASC by Ross Gore. Link: https://vmasc.shinyapps.io/VandVCalculator/

CLOUDES: Discrete Event Simulation platform that is publicly available and free to use. Focus on ease of use and keeping model components simply. Link: https://beta.cloudes.me/.

RESEARCH PAPERS PRESENTED AT PROFESSIONAL MEETINGS

Lynch, CJ., Galassie, J. (2026) Bridging the Technology Gap: Using Agentic AI and RAG Models to Connect Operational Needs with Evidence-Backed Solutions. Virtual presentation for the MORS National Security Risk Analysis Community of Practice. Presented February 19, 2026.

Lynch, CJ., Galassie, J. (2025) AI Framework for XR Technology Transfer and Adoption in Shipyards. Paper presented at the SNAME Maritime Convention, Norfolk, VA, October 29-31, 2025. Presented on October 30, 2025.

Gore R (2024). Individualizing Risk Communication Messages within the Narrative Policy Framework. 49th Annual Natural Hazards Research and Applications Workshop. Boulder, CO. Co-authors: Ezell, B., **Lynch, CJ.**, O'Brien, J., Zamponi, V., Jensen, E., Reinhold, AM., Izurieta, C., Munro, M., and Shanahan, E. [Competitively Selected for Presentation].

Lynch, CJ. (2024) A Domain Agnostic Framework for Efficient and Effective Cybersecurity Risk Communication and Training. Presented at the Commonwealth Cyber Initiative (CCI) Symposium 2024 for the Social Cybersecurity track. Co-authors: Gore, R., Kavak, H., Ezell, B., and Watson, G. Presented April 16, 2024. [Competitively Selected for Presentation].

Lynch, CJ. (2024) Research Spotlight: Large Language Models in Research. Invited presentation for the 2024 Modeling, Simulation, & Visualization Student Capstone Conference (MSVSCC'24). Presented on April 11, 2024.

Gore R, Zamponi V, O'Brien K, O'Brien J, Jensen E, and **Lynch CJ**. Census Tract Level Analysis of Behaviors & Practices in Six Domains of Physical Health for Norfolk, VA. Invited poster presentation for the Hampton Roads Chapter of the American Society for Public Administration Annual Research Symposium. Hampton, VA.

Zamponi V, O'Brien K, Jensen E, Feldhaus B, **Lynch, CJ**, and Gore R. (2024). Understanding and Assessing Demographic (In) Equity Resulting from Extreme Heat and Direct Sunlight Exposure Due to Lack of Tree Canopies In Norfolk, VA Using Agent-Based Modeling. Invited poster presentation for the Hampton Roads Chapter of the American Society for Public Administration Annual Research Symposium. Hampton, VA.

Lynch, CJ., Gore, R., Jensen, E., O'Brien, K., and Zamponi, V. (2023) Sensitivity Assessment for Simulations: Gaining quantified insight about how simulation outcomes arise. Virtual presentation for the Modeling and Simulation (M&S) Community of Interest (COI) within the M&S Technology Center at the DHS Science and Technology Directorate. Presented on April 05, 2023.

Lynch, CJ., Gore, R., Jensen, E., O'Brien, K., and Zamponi, V. (2022). Sensitivity Assessment for Simulations: Gaining quantified insight about how simulation outcomes arise. Seminar

conducted for the Virginia Modeling, Analysis, and Simulation Center's researchers and project scientists and industry members. Presented both in-person and virtually on September 29, 2022.

Gore, R. (2022) Individualized and Effective Cyber Risk Training for the Maritime Industry Using Large Language Models. Presented at the inaugural National COVA CCI Cybersecurity Education & Research Conference (CybER Con), September 28-29, 2022. Norfolk, VA. Co-authors: Ezell, B. and **Lynch, CJ.** [Competitively Selected for Presentation].

Lynch, CJ., and Gore, R. (2022). Sensitivity Assessment for Simulations: Gaining quantified insight about how simulation outcomes arise. Virtual presentation for the George Mason University (GMU) CDS/CSI/CSS Colloquium. Presented online on September 23, 2022.

Gore, R., **Lynch, CJ.**, Jordan, C., Zamponi, V., O'Brien, K., and Jensen, E. (2022) Sensitivity analysis within HASH simulations: Identify conditions and variables that drive simulations towards unexpected outcomes. HASH Developer Blog, Posted September 15, 2022. URL: https://hash.dev/blog/sensitivity-assessor.

Gore, R., and **Lynch, CJ.** (2022). Data Science in Support of Public Health Awareness and Informed Decision Making: COVID-19 Case and Vaccine Count Forecasting. Seminar presented as part of the ODU Data Science Seminar Series. Old Dominion University, Norfolk, VA. Presented Online on June 22, 2022.

Lynch, CJ. (December 6, 2017). Storytelling and Simulation Creation. Paper presentation at the 2017 Winter Simulation Conference (WSC) Las Vegas, NV. [Competitively Selected for Presentation]

Lynch, CJ. (August 13, 2017). Identifying Unexpected Behaviors of Agent-Based Models through Spatial Plots and Heat Maps. Paper presentation given at Swarmfest 2017 VMASC, Suffolk, VA. [Competitively Selected for Presentation]

Lynch, CJ. (August 11, 2017). Teaching Simulation through Sensory Augmentation. Oral presentation given at the Swarmfest 2017 VMASC, Suffolk, VA.

Rechowicz, K., **Lynch, CJ.**, and Ralph, C. (August 11, 2017). Teaching Simulation through Sensory Augmentation. Interactive demonstration using augmented reality conducted at the Swarmfest 2017 conference, VMASC, Suffolk, VA.

Lynch, CJ. (December 11, 2016). The impact of modeling paradigms on the outcomes of simulation studies: An experimental case study. Paper presented at the 2016 Winter Simulation Conference (WSC) Arlington, VA. [Competitively Selected for Presentation]

Lynch, CJ. (December 11, 2016). Using simulation games for teaching and learning Discrete-Event Simulation. Paper presented at the 2016 Winter Simulation Conference (WSC) Arlington, VA. [Competitively Selected for Presentation]

Lynch, CJ. (December 6, 2015). A taxonomy for classifying terminologies that describe simulations with multiple models Paper presented at the 2015 Winter Simulation Conference (WSC) Huntington Beach, CA. [Competitively Selected for Presentation]

Lynch, CJ. (2015). From Concept to Multi-Paradigm Simulation. Tutorial presented at the Spring Simulation Multi-Conference 2015, 12 April 2015, Alexandria, VA. In *2015 SpringSim: Program Book*. Vista, CA: SCS, 17. [Competitively Selected for Presentation]

Lynch, CJ. (December 7, 2014). A Multi-paradigm Modeling Framework for Modeling and Simulating Problem Situations. Paper presented at the 2014 Winter Simulation Conference (WSC) Savannah, GA. [Competitively Selected for Presentation]

Lynch, CJ. (December 7, 2014). Cloud-based simulators: Making simulations accessible to non-experts and experts alike Paper presented at the 2014 Winter Simulation Conference (WSC) Savannah, GA. [Competitively Selected for Presentation]

Lynch, CJ., Diallo, SD., and Ezell, B. (January 9, 2014). An M&S Methodology – MS-SDF Application to Real-World Problems: Sea Level Rise. Presentation given at Oak Ridge National Lab (ORNL).

Lynch, CJ. (April 11, 2013). (Invited Paper Presentation) Representing the Ballistic Missile Defense System using Agent-based Modeling. Paper presented at the 2013 Modeling, Simulation & Visualization Student Capstone Conference (MSVSCC) Suffolk, VA. [Awarded Best Presentation award in the Homeland Security and Military track].

Lynch, CJ. (April 19, 2012). Command and Control Quad-Copter and Ground Vehicle: Autonomous Task Execution. Paper presented at the Modeling, Simulation & Visualization 2012 Student Capstone Conference (MSVSCC) Suffolk, VA.

Lynch, CJ. (February 11, 2012). A Remote Monitoring System for Treating Pectus Carinatum. Oral presentation at the ODU Undergraduate Research Symposium, 2012 Norfolk, VA.

Lynch, CJ. (October 2011). A Remote Monitoring System for Treating Pectus Carinatum. Paper presented at the 2011 4th International Conference on Biomedical Engineering and Informatics (BMEI) Shanghai, China. [Competitively Selected for Presentation]

MANUSCRIPTS UNDER-REVIEW

N/A

AWARDS

AWARD	AWARDING ORGANIZATION	DATE AWARDED
Best Track Presentation for Health Care	MS&V Student Capstone Conference 2024	April 2024
Certificate of Outstanding Contribution for contributions in Reviewing	Journal Simulation Modelling Practice and Theory	October 2016
Certificate of Reviewing	Simulation Modelling Practice and Theory	September 2016
Certificate of Appreciation for contributions to the 2015 Spring Simulation Multi-Conference	Society for Modeling and Simulation International (SCS)	Spring 2015
Best Track Presentation for Homeland Security and Military	MS&V Student Capstone Conference 2013	April 2013
Certificate of Excellence in Undergraduate Research	Old Dominion University	Fall 2012
Recipient of the Research Experience for Undergraduates (REU) Grant	Old Dominion University	Spring 2012

IN THE NEWS

TELEVISION

NorfolkTV-48 (NorfolkTV). September 28, 2022. “Hampton Roads Datathon 2022” https://www.youtube.com/watch?v=nDObhM29jwo.

Norfolk 10 News. WAVY.com. April 23, 2020. "ODU creates daily COVID-19 forecast model to predict future cases in your area". https://www.wavy.com/news/health/coronavirus/odu-creates-daily-covid-19-forecast-model-to-predict-future-cases-in-your-area/.

13 News Now. April 16, 2020. "ODU research team launches COVID-19 forecasting model". https://www.13newsnow.com/article/news/health/coronavirus/odu-research-team-launches-covid-19-forecasting-model/291-6fb510e7-85ca-462f-bd1b-dfa3939f2c6a.

PRINT

VMASC. August 25, 2023. "VMASC research team published new article on the dangers of extreme heat and prolonged exposure to direct sunlight due to lack of tree canopies in Norfolk, VA". https://vmasc.org/vmasc-research-team-published-new-article-on-the-dangers-of-extreme-heat-and-prolonged-exposure-to-direct-sunlight-due-to-the-lack-of-tree-canopies-in-norfolk-va/.

CivicLab Norfolk. 2023. "Hampton Roads Datathon 2023 – Project Summaries". https://www.norfolk.gov/DocumentCenter/View/81246/Hampton-Roads-Datathon-2023-Project-Summaries.

InsideODU. May 19, 2022. "ODU Alumni Association Announces Its 40 Under 40 2022 Class". https://odu.edu/about/odu-publications/insideodu/2022/05/19/topstory4

Old Dominion University Alumni Association (ODUAA). May 17, 2022. "Old Dominion University Announces its 40 Under 40 2022 Class". https://www.odu.edu/article/odu-alumni-association-announces-its-40-under-40-2022-class.

CivicLab Norfolk. 2022. "The Inaugural Hampton Roads Datathon". https://www.norfolk.gov/5495/The-Inaugural-Hampton-Roads-Datathon.

ODU News. June 10, 2022. "ODU-Led Project Team Wins Navy Excellence Award". https://www.odu.edu/engineering/article/odu-led-project-team-wins-navy-excellence-award.

The Observer. March 2022. "NAVSEA's Ship Maintenance Performance Group selected as 2022 Department of the Navy Information Technology Award". Print only.

Department of Navy Chief Information Officer (doncio.navy.mil). February 16, 2022. "Congratulations to the 2022 DON IT Excellence Awards Winners – Information Technology Excellence "Workforce" Award". https://www.doncio.navy.mil/ContentView.aspx?ID=15436.

ODU News. April 8, 2021. "ODU Research Helping Virginia Plot COVID-19 Vaccine Strategy". https://www.odu.edu/about/odu-publications/insideodu/2021/04/08/feature1.

The Virginian-Pilot. March 28, 2021. "How best to predict where coronavirus strikes? ODU forecasters have spent the past year trying". https://www.pilotonline.com/2021/03/28/how-best-to-predict-where-coronavirus-strikes-odu-forecasters-have-spent-the-past-year-trying/.

ODU News. April 1, 2021. "ODU Research Helping Virginia Plot COVID-19 Vaccine Strategy". https://www.odu.edu/article/odu-research-helping-virginia-plot-covid-19-vaccine-strategy.

Digital Health Science News. March 23, 2021. "ODU Researchers Publish Two Papers Based on Their Real-Time Platform That Forecasts the Spread of COVID-19 in Virginia". https://www.digitalhealthscience.org/2021/03/23/odu-researchers-publish-two-papers-based-on-their-real-time-platform-that-forecasts-the-spread-of-covid-19-in-virginia/

ODU Press Release. March 23, 2021. "ODU Researchers Publish Two Papers Based on Their Real-Time Platform that Forecasts the Spread of COVID-19 in Virginia". https://vmasc.shinyapps.io/va-county-covid-forecast/_w_94a212a1/press-release-2.pdf.

Newsbreak.com. 2020. "ODU center launches COVID-19 prediction tool online". https://www.newsbreak.com/virginia/norfolk/news/1547134275914/odu-center-launches-covid-19-prediction-tool-online.

Monarch Magazine (ODU). Summer 2020 Issue. "Getting a step ahead of COVID". https://ww1.odu.edu/about/odu-publications/monarch-magazine/issue/summer-2020/covid.

ODU News. May 21, 2020. "ODU and GMU Researchers Publish Study Exploring Challenges in Communicating Simulation Correctness". https://www.odu.edu/article/odu-and-gmu-researchers-publish-study-exploring-challenges-communicating-simulation.

Williamsburg Yorktown Daily (WYDAILY.com). May 5, 2020. "Predicting the spread of coronavirus in your area: This Hampton Roads university developed a model". https://wydaily.com/news/local/2020/05/05/predicting-the-spread-of-coronavirus-in-your-area-this-hampton-roads-university-developed-a-model/

Medium. April 30, 2020. "With data-driven models, every day of COVID-19 can tell us more about what happens next." https://medium.com/modeling-innovation/with-data-driven-models-every-day-of-covid-19-can-tell-us-more-about-what-happens-next-3527a99549de.

ODU News. April 17, 2020. "VMASC Develops Real-Time Platform That Predicts Spread of COVID-19 in Virginia". https://www.odu.edu/article/vmasc-develops-real-time-platform-predicts-spread-of-covid-19-virginia#.Xqr0XVNKjAI.

10 ON YOUR SIDE (WAVY.com). April 14, 2020. "ODU center launches COVID-19 prediction tool online". https://www.wavy.com/news/education/odu-center-launches-covid-19-prediction-tool-online/.

ODU Press Release. April 14, 2020. "ODU's Virginia Modeling, Analysis and Simulation Center (VMASC) Launches COVID-19 Prediction Site". https://vmasc.shinyapps.io/va-county-covid-forecast/_w_94a212a1/press-release.pdf.

ODU News. March 2, 2012. "VMASC Researchers Developing 100-Year Sea Level Rise Research Model". https://ww1.odu.edu/news/2012/3/vmasc_researchers_de.

ODU News. February 13, 2012. "VMASC Researchers Developing 100-year Sea Level Rise Decision Model". https://ww1.odu.edu/impact/initiatives/resiliencecollaborative/news/2012/2/vmasc_researchers_de.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Associate Editor of the ACM SIGSIM M&S Knowledge Repository **Jan 2019 - Present**
Responsible for maintaining the CFP page for M&S related journal special issue calls and conferences pertaining to M&S.

Member, The Society for Modeling and Simulation International (SCS): 2014, 2016-Present

UNIVERSITY SERVICE

- Committee Member – Search Committee member for ODU Research Foundation for position Posting #24-045. February 2025.
- Committee Member – Search Committee member for ODU Research Foundation for NAVSEA PM search as part of "Automation Tools and Analytics Courses for the Naval Shipyard Project Extension" project. November 2019.

PROFESSIONAL SERVICE

PROPOSAL REVIEWS

- Proposal Reviewer – 2025 NSF Review Panel for Office for Advanced Cyberinfrastructure (OAC)

CONFERENCE ORGANIZATIONAL SUPPORT

- Track Co-chair for AI and Autonomous Systems – 2024 Modeling, Simulation, and Visualization Student Capstone Conference (MSVSCC)
- Track Co-chair for Simulation in Education – 2023 Winter Simulation Conference
- Track Co-chair for Simulation Education – 2022 Winter Simulation Conference
- Track Co-chair for Simulation Education – 2021 Winter Simulation Conference
- Program Committee Member – ACM SIGSPATIAL International Workshop on Geospatial Simulation (GeoSim 2020)
- Program Committee Member – ACM SIGSPATIAL 2019 International Workshop on Geospatial Simulation
- Proceedings Co-Chair for the 2019 Spring Simulation Conference
- Co-Chair for the Student Colloquium and Demo Track of the 2019 Spring Simulation Conference
- Program Committee Member – ACM SIGSPATIAL 2018 International Workshop on Geospatial Simulation
- Proceedings Co-Editor for the 2018 Summer Simulation Multi-Conference (SCSC, SPECTS, and ICBGM)
- Committee Member: Events Chair for Swarmfest 2017
- Program Committee Member – Simulation Education Track of the 2017 Winter Simulation Conference

REVIEWER – EXTERNAL DISSERTATION/THESIS REVIEWER

- *Western Sydney University – August 2025 (Thesis Review)*

REVIEWER - JOURNAL

Web of Science: https://www.webofscience.com/wos/author/record/ABA-1054-2020

Summary: 52 Verified Peer Reviews from 2014-2025 across 19 journals.

- *Journal of Artificial Societies and Social Simulation – July 2025 (SJR 2024: 0.586 Q1)*
- *BMC Medical Informatics and Decision Making – July 2025 (5 year JIF 2024: 4.4)*
- *Journal of Artificial Societies and Social Simulation – March 2025 (SJR 2024: 0.586 Q1)*
- *Journal of Artificial Societies and Social Simulation – January 2025 (SJR 2024: 0.586 Q1)*
- *PLOS One – June 2024 (SJR 2024: 0.803 Q1)*
- *PLOS Computational Biology – March 2024*
- *PLOS One – February 2024 (SJR 2023: 0.839 Q1)*
- *PLOS One – December 2023 (SJR 2022: 0.885 Q1)*
- *Advances in Public Health – November 2023*

- *PLOS One – October 2023 (SJR 2022: 0.885 Q1)*
- *PLOS Computational Biology – August 2023*
- *Discrete Dynamics in Nature and Society – August 2023*
- *Data in Brief – July 2023*
- *Advances in Public Health – July 2023*
- *PLOS One – July 2023 (SJR 2022: 0.885 Q1)*
- *Journal of Medical Internet Research – June 2023*
- *Journal of Medical Internet Research – June 2023*
- *Emergency Medicine International – October 2022*
- *Journal of Simulation – September 2022*
- *BMJ Open – September 2022*
- *Journal of Simulation – June 2022*
- *BMJ Open – May 2022*
- *Data in Brief – April 2022*
- *PLOS One – April 2022 (SJR 2021: 0.852 Q1)*
- *Journal of Medical Internet Research – March 2022*
- *Simulation: Transaction of the Society for Modeling and Simulation International – February 2022*
- *Journal of Simulation – February 2022*
- *Data in Brief – February 2022*
- *BMJ Open – February 2022*
- *Data in Brief – January 2022*
- *Data in Brief – November 2021*
- *Simulation: Transaction of the Society for Modeling and Simulation International – October 2021*
- *Data in Brief – October 2021*
- *Journal of Medical Internet Research – September 2021*
- *Data in Brief – September 2021*
- *Software: Practice and Experience – August 2021*
- *Journal of Mathematical and Fundamental Sciences – August 2021*
- *Journal of Medical Internet Research – August 2021*
- *Journal of Medical Internet Research PrePrints – August 2021*
- *Software: Practice and Experience – July 2021*
- *Population, Space and Place – June 2021*
- *Journal of Medical Internet Research – June 2021*
- *Journal of Medical Internet Research – June 2021*
- *Simulation: Transaction of the Society for Modeling and Simulation International – June 2021*
- *Journal of Medical Internet Research – June 2021*
- *Advances in Environmental and Engineering Research – June 2021*
- *Advances in Environmental and Engineering Research – May 2021*
- *Software: Practice and Experience – May 2021*
- *Journal of Medical Internet Research – May 2021*
- *Advances in Environmental and Engineering Research – April 2021*
- *Computers in Human Behavior Reports – March 2021*
- *Software: Practice and Experience – Jan 2021*
- *Population, Space and Place – Oct 2020*

- *Simulation: Transaction of the Society for Modeling and Simulation International – Sept 2020*
- *Journal of Defense Modeling and Simulation – Dec 2016*
- *Simulation Modelling Practice and Theory – Sept 2016*
- *Religion, Brain, & Behavior – 2015 (2015 3-Year IF 0.548)*

REVIEWER - CONFERENCE

- *Winter Simulation Conference: Simulation Education Track – Dec 2023*
- *Winter Simulation Conference: Simulation Education Track – Dec 2022*
- *ACM SIGSPATIAL 2021 International Workshop on Geospatial Simulation (GeoSim 2021)*
- *Winter Simulation Conference: Simulation Education Track – Dec 2021*
- *ACM SIGSPATIAL 2020 International Workshop on Geospatial Simulation (GeoSim 2020)*
- *Winter Simulation Conference: Simulation Education Track – Dec 2020*
- *ACM SIGSPATIAL 2019 International Workshop on Geospatial Simulation (GeoSim 2019)*
- *Summer Simulation Conference 2019 – Humans, Societies, and Artificial Agents (HSA) Track (SCSC'19)*
- *Spring Simulation Conference 2019 – Annual Simulation Symposium (ANSS'19)*
- *Winter Simulation Conference: Simulation Education Track – Dec 2018*
- *ACM SIGSPATIAL 2018 International Workshop on Geospatial Simulation (GeoSim 2018)*
- *Modeling and Simulation Visualization Capstone Conference 2018 (MSVCC 2018)*
- *Spring Simulation Multi-Conference: Annual Simulation Symposium (ANSS'18)*
- *Winter Simulation Conference: Simulation Education Track – Dec 2017*
- *Spring Simulation Multi-Conference: Annual Simulation Symposium (ANSS'17)*
- *Spring Simulation Multi-Conference: Annual Simulation Symposium (ANSS'16)*
- *wwwAfrica2016: A special event of www2016*
- *Spring Simulation Multi-Conference - Annual Simulation Symposium (ANSS'15)*
- *2015 Modeling and Simulation Student Capstone Conference*
- *Spring Simulation Multi-Conference 2014 - Military Modeling and Simulation (MMS) Track*
- *Spring Simulation Multi-Conference 2013 - Military Modeling and Simulation (MMS) Track*

REVIEWER – EDITED BOOK

- *Human Simulation: Perspectives, Insights, and Applications*. Editors: Diallo, Wildman, Shults, and Tolk – June 2018
- *Emergent Behavior in Complex Systems Engineering: A M&S Approach*. Editors: Mittal, Diallo, and Tolk – Aug 2017

COMMUNITY ENGAGEMENT

- **Hampton Roads Datathon (2025) Member of Planning Committee:**
- **3rd Annual Hampton Roads Datathon (2024)**: Team member on VMASC ODU's collaborative team for CivicLab Norfolk's Hampton Roads Datathon focused on Infrastructure. The team, comprising members from OERI, VMASC, and CSICS, developed an interactive platform for decision-makers to assess the resilience of hurricane evacuation routes under scenarios like flooding, cyber-attacks, and traffic disruptions. This innovative solution earned an **honorable mention**. Link: https://rossgore.github.io/hr-datathon-2024/. Team: Zamponi, V., O'Brien, J., O'Brien, K., Jensen, E., **Lynch, CJ.**, and Gore, R.
- **2nd Annual Hampton Roads Datathon (2023)**: Team member on VMASC ODU's team for CivicLab Norfolk's Datathon on Community Wellness, analyzing Swarbrick's six domains of wellness at the census tract level in

Norfolk, VA. The solution, "Exploring Data in Swarbrick's Six Domains of Physical Health," earned **2nd place** and resulted in a conference paper. Link: https://vmasc.shinyapps.io/hr-datathon-2023/. Team: O'Brien, K., Zamponi, V., O'Brien, J., Gore, R., **Lynch, CJ.**, and Jensen, E.

- **1st Annual Hampton Roads Datathon (2022)**: Team leader for VMASC ODU in CivicLab Norfolk's inaugural week-long competition on Biodiversity. The solution, "Biodiversity of Significant Trees in Norfolk, VA by Census Tract," received an **honorable mention** and led to a peer-reviewed conference paper and journal article. The project is fully reproducible. Link: https://vmasc-datathon-2022.github.io/. Team: **Lynch, CJ.**, Gore, R., O'Brien, K., Zamponi, V., Jensen, E., and Feldhaus, B.