

# COURTNEY J. BURRIS

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333 Jacobs Hall  
University at Buffalo  
Buffalo, NY, 14261

## EDUCATION

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- PhD** University at Buffalo, Operations Research Sept. 2017 – Aug. 2023  
Department of Industrial and Systems Engineering  
Title: Application-Based Approaches to Improve Educational Processes at the Course and Programmatic Levels  
Committee: Alexander Nikolaev, Ann Bisantz, Sabrina Casucci, and Kristen Moore
- MS** University at Buffalo, Operations Research Sept. 2017 - May 2019  
Department of Industrial and Systems Engineering  
3.819 GPA
- BS** Elmira College, Mathematics Sept. 2013 - June 2017  
Graduated Magna Cum Laude  
3.700 GPA

## EMPLOYMENT HISTORY

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- Clinical Assistant Faculty**, University at Buffalo Aug. 2023 – Present
- I currently serve as a clinical assistant faculty member in the department of management science and systems in the School of Management at the University at Buffalo.
  - Starting in Spring 2025, I serve as the program director for the Masters in Business Analytics program, in residence and online.
- CEO and Co-Founder**, RHM Innovations Inc. Nov. 2020 – Present
- RHM Innovations Inc. is a Buffalo-based durable medical equipment company that manufactures assistive shower systems that reduce strain on overworked caregivers and improves the quality of care and hygiene of residents at residential care facilities.
- Adjunct Math Faculty**, Bryant & Stratton College: May 2019 – May 2023
- Throughout the four years that I have been an instructor at Bryant & Stratton College I have taught 12 courses. I have taught Math 077, Math 101, Math 201, and Math 309. This is further detailed in the “Teaching Experience” section
- Research Assistant**, SUNY Buffalo: Aug. 2017 – May 2023
- Supervised a group of undergraduate researchers doing qualitative data analysis on a racial equity project and led a group of graduate students on a project for graduate

- student policy under the guidance of Dr. Kristen Moore, both in conjunction with the Justice, Equity, Diversity, and Inclusion organization in UB's SEAS.
- Analyzing the relationship between undergraduate engineering time usage and the establishment of an engineering identity under the supervision of Dr. Andrew Olewnik
  - NextGen research study on the accessible design of autonomous vehicles for individuals with disabilities under the supervision of Dr. Victor Paquet, ISE department chair
  - MxD project studying wearable sensor usage with employees at Boeing and John Deere under the supervision of Dr. Lora Cavuoto in conjunction with Northwestern University
  - Analyzing curricular metrics and curricular structure for engineering programs at SUNY Buffalo in partnership with the Director of Undergraduate Studies, Dr. Ann Bisantz
  - NIH funded project using social network analysis tools to understand how diseases propagate through a geographic network under the supervision of Dr. Ling Bian from the geography department

**Teaching Assistant, SUNY Buffalo:** Aug. 2017 – May 2023

Teaching assistant for the following courses at SUNY Buffalo (*note this is experience is further detailed in the "Teaching Experience" section*):

- EAS 345 (sole instructor), ENS 493 (faculty apprentice), EAS 199 (two semesters), EAS 305 (two semesters), IE 494, IE 551, IE 411/511, and IE441

**Resident Counselor, Upward Bound Math Science:** 2016, 2017 Summer

- Live in counselor for a 6-week intensive college preparatory program for first-generation, low income students in Maine, this took place at the University of Maine. My duties included supervising and managing the students, nurse responsibilities, and math tutoring

**Technical Theatre Assistant, Elmira College:** Sept. 2014 – May 2017

- Designed and built sets for 25 theatrical products at Elmira College. Extensive experience with power tools, hand tools, and design software

**Math Lab Tutor, Elmira College:** Jan. 2015 – May 2017

- Senior math tutor in the math lab at Elmira College. I tutored all levels of mathematics from Algebra I to Real Analysis

**Math Lab Assistant, Elmira College:** Sept. 2014 – May 2017

- Lab assistant in pre-calculus I and II, calculus I and II, and introduction to statistics. I assisted students in the lab and aided the professor in creating course materials and grading

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## TEACHING EXPERIENCE

**University at Buffalo, Buffalo, NY**  
**Clinical Assistant Faculty, School of Management**

Sept. 2017 to Present

- I have taught the following classes within the school of management:
- MGQ 608 Statistical Analysis for Managers
- MGS 404 Database Management Systems
- MGS 653 Social Network Analytics
- MGQ 608 Prescriptive Analytics and Optimization
- MGS 687 Experiential IT
- MGS 211/611 Experience the 50: Boston and Silicon Valley

**Instructor**, School of Engineering and Applied Sciences

- Sole instructor for EAS 345, Introduction to Data Science, which is part of the NSF data analytics micro-credential. The course primarily used the R language. There were 14 students

**Faculty Apprentice**, School of Engineering and Applied Sciences

- I served as a faculty apprentice in ENS 493, the engineering science capstone course, under Dr. Jessica Swenson and Dr. Corey Schimpf. This was part of the certificate program for the department of engineering education

**Teaching Assistant**, School of Engineering and Applied Sciences

- TA for IE551 Simulations and Stochastic Processes, a graduate course averaging 50 students per semester, I created and graded lab assignments and ran the Crowdlearning component of the course
- TA for IE411/511 Social Network Analysis and Behavior Models, an undergraduate and graduate course averaging 50 students per semester, I created and graded lab assignments and ran the Crowdlearning component of the course
- TA for IE441 Human Factors in Safety, an undergraduate course averaging 30 students per semester
- TA for IE494, Senior Capstone, an undergraduate course averaging 50 students per semester, I assisted in placing students in internships and running the end of the semester poster symposium
- TA for EAS305 Probability and Statistics for Engineers, an undergraduate course averaging 100 students per semester, I taught recitations and graded tests and assignments
- TA for EAS199 First Year Seminar, an undergraduate course averaging 100 students per semester, I aided in the classroom activities, graded, and ran labs

**Bryant & Stratton College**, Buffalo, NY

May 2019 to May 2023

**Adjunct Professor**, Mathematics

- Taught Math 309, an undergraduate course averaging 10 students per semester, covering the following topics: sampling methods, descriptive statistics, and hypothesis testing
- Taught Math 209, an undergraduate course averaging 25 students per semester, covering financial mathematics and modeling
- Taught Math 101, an undergraduate course averaging 15 students per semester, covering workplace mathematics
- Taught Math 077, an undergraduate course averaging 10 students per semester, covering the following topics: topic, topic, topic, topic
- Developed quizzes, exams, and homework

- Revised the syllabus to meet accreditation standards
- Created course materials that were dispersed to other faculty within the Bryant & Stratton network

#### **SERVICE AND LEADERSHIP ACTIVITIES**

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**MSBA Program Director**, University at Buffalo 2025 - Present  
 Currently serving as the faculty program director of the Masters in Business Analytics program for both the in residence and online programs.

**Mentor for the Emerging Entrepreneurs Program** 2024  
 I served as a mentor for a minority-owned business through M&Ts and the University at Buffalo's Emerging Entrepreneurs program.

**Alumni Engagement**, University at Buffalo 2024  
 Presented a Diversity, Equity, and Inclusion workshop for the school of management's lifelong learning alumni initiative. The title of the workshop was "Managing a Diverse Workforce".

**INFORMS UB Student Chapter**, University at Buffalo 2017 - 2021  
 INFORMS is the Institute for Operations Research and Management Science  
**President**, 2020-2021

- Hosted 23 events for the community, university, and department including workshops, research presentations, panels, social events, and more
- Funded 13 graduate students to attend the INFORMS Annual Meeting
- Earned the highest honor, Summa Cum Laude, from the national chapter for outstanding achievements as a student chapter

**President-Elect**, 2019-2020

- Hosted 21 events during the academic year for the community, university, and department, and published the second addition of the INFORMED magazine

**Vice President of Outreach**, 2017-2019

- Supervised three pro-bono projects within the Western New York community
  - Meals on Wheels I & II: We consulted with MOW of WNY and created a system for them to track and order inventory as well as to most efficiently utilize their storage space
  - UB Police: We created a scheduling tool for the UB police to use when scheduling officers across all three campus

**ISE Graduate Student Association**, University at Buffalo 2017 - 2019  
**President**, 2018-2019

- Revamped the ISE GSA, which previously held two events per year, and hosted over 10 events including professional development and social events

**Senator**, 2017-2018

- Participated as voting member in the university Graduate Student Association and pushed for living wages and the elimination of graduate student fees

**INFORMS Annual Meeting**

<b>Session Chair</b>	2019
<b>International Student Mentoring Program Mentor</b>	2017 - 2018
<ul style="list-style-type: none"> <li>Mentored a group of new international students for the academic year</li> </ul>	
<b>Pi Mu Epsilon</b> , Elmira College Pi Mu Epsilon is the national honor society for mathematics. <b>President</b> , 2016-2017 <b>Vice President</b> , 2015-2016	2015 - 2017
<b>Alpha Psi Omega</b> , Elmira College Alpha Psi Omega is the national honor society for theatre <b>Treasurer</b> , 2015-2016	2015 - 2017

## PUBLICATIONS

### JOURNAL PUBLICATIONS

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Schimpf, C., Swenson, J., & **Burris, C.** (2024, July). Power over and power with: integrating the concept of power into design team and stakeholder interactions. In *Frontiers in Education* (Vol. 9, p. 1371216). Frontiers Media SA.

**Burris, C. J.**, Nikolaev, A., Paul, H., & Peng, L. (2023). Create-Rank-Compete Crowdlearning. *Advances in Engineering Education*, 11(2), 34-65.

**Burris, C. J.** (2023). *Application-Based Approaches to Improve Educational Processes at the Course and Programmatic Levels* (Doctoral dissertation, State University of New York at Buffalo).

**Burris, C.**, Nikolaev, A., Zhong, S., & Bian, L. (2021). Network effects in influenza spread: The impact of mobility and socio-economic factors. *Socio-Economic Planning Sciences*, 78, 101081.

### CONFERENCE PROCEEDINGS

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Schimpf, C. T., Swenson, J. E., & **Burris, C.** (2023, June). Addressing Engineers and Stakeholders Social and Institutional Power in an Human-Centered Design Capstone Course. In *2023 ASEE Annual Conference & Exposition*.

Moore, K., Sanchez-Pena, M. L., Chen, Q., McAlister, A. M., **Burris, C.**, & Mowatt, J. V. (2023, June). Integrating Participatory Methods in the Study of Equity and Inclusion. In *2023 ASEE Annual Conference & Exposition*.

### *Under Review*

“Maximizing the Expected Value of Experimentation for Finding top- $\kappa$  Rank via Aggregation of Pairwise Comparisons” in *IISE Transactions*.

“Teaching Assistants as Ambassadors for Equity, Inclusion and Belonging” in Studies in Engineering Education.

## **HONORS AND AWARDS**

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**Western New York Prosperity Fellowship** 2021 - 2023  
The Prentice Family Foundation’s Western New York Prosperity Fellowship Program is a truly innovative program for college and graduate students with an entrepreneurial drive who want to make a difference in Western New York. The Fellowship Program assists undergraduate and graduate students at the State University of New York at Buffalo (UB) and Canisius College who are actively preparing for careers that further economic development and growth in the Western New York area.

**Arthur A. Schomburg Fellowship** 2017 - 2021  
Arthur A. Schomburg Fellowship Program is sponsored by the SUNY office of Diversity Equity and Inclusion and offers support for students in doctoral programs across the university who can demonstrate that they would contribute to the diversity of the student body, especially those who can demonstrate that they have overcome a disadvantage or other impediment to success in higher education.

**INFORMS National Chapter Awards** 2018 - 2021  
**Summa Cum Laude**, 2020 & 2021

- Awarded during my terms as President and President-Elect
- Highest honor for a student chapter to earn

**Magna Cum Laude**, 2018 & 2019

- Awarded during my terms as Vice President of Outreach
- Second highest honor for a student chapter to earn

**ISE Graduate Student Service and Leadership Award** 2021  
This award is presented to a graduate student who has dedicated significant time, effort and/or leadership to support the university, school or ISE department.

**ISE Graduate Student Service and Leadership Award – Honorable Mention** 2020  
This award is presented to a graduate student who has dedicated significant time, effort and/or leadership to support the university, school or ISE department.

**Pitch Competition Awards** 2020 – 2024  
**2<sup>nd</sup> Place – University of Arkansas’ Heartland Challenge**, 2024  
**Awardee – Fuzehub Commercialization Competition**, 2023  
**1<sup>st</sup> Place – New York Business Plan Competition (NYBPC)**, 2023  
**1<sup>st</sup> Place – Henry A. Panasci Jr. Techonology Entrepreneurship Competition**, 2023  
**1<sup>st</sup> Place – Student2Biz Regional NYBPC**, 2021, 2022, and 2023  
**Semi-Finalist – WashU Olin’s Big Idea Bounce**, 2022 and 2023  
**Semi-Finalist – New York Business Plan Competition (NYBPC)**, 2021 and 2022  
**2<sup>nd</sup> Place – Henry A. Panasci Jr. Techonology Entrepreneurship Competition**, Apr. 2022  
**1<sup>st</sup> Place – Swarm Starter at University of Rochester**, 2021

**2<sup>nd</sup> Place – BXLP Fall Start-Up Bootcamp at University at Buffalo, 2021**  
**2<sup>nd</sup> Place – BXLP Summer BBQ at University at Buffalo, 2021**  
**Semi-Finalist – Mark Ain Competition at University of Rochester, 2021**  
**Finalist – Henry A. Panasci Jr. Techonology Entrepreneurship Competition, 2021**  
**1<sup>st</sup> Place – Health Futures at University at Buffalo, 2021**  
**2<sup>nd</sup> Place – emPower Pitch at University at Buffalo, 2021**  
**1<sup>st</sup> Place – BXLP Winter Start-Up Bootcamp at University at Buffalo, 2021**  
**2<sup>nd</sup> Place – Bulls Launch at University at Buffalo, 2020**  
**1<sup>st</sup> Place – Aging Innovation Challenge at University at Buffalo, 2020**

**Presidential Scholar, Elmira College** 2013 - 2017  
 The Presidential Scholarship is awarded to first-time, full-time students and takes into account a high school student's high school grade point average, academic curriculum, ACT or SAT, academic letters of recommendation, and co-curricular involvement.

**Omicron Delta Kappa, Elmira College** Inducted 2016  
 Omicron Delta Kappa is the national leadership honor society.

**Pi Mu Epsilon, Elmira College** Inducted 2015  
 Pi Mu Epsilon is the national honor society for mathematics.

**Alpha Psi Omega, Elmira College** Inducted 2015  
 Alpha Psi Omega is the national honor society for theatre.

**Daniel J. Lipson Prize, Elmira College** 2015  
 The Daniel J. Lipson Prize is presented to an Elmira College sophomore or junior who excels in performing arts.

## **PRESENTATIONS AND INVITED TALKS**

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**Burris, C., Paul, H., & Nikolaev, A.,** “Maximizing the Expected Value of Experimentation for Rank Aggregation of Top-k Pairwise Comparisons.” INFORMS Annual Meeting, Indianapolis, IN. October, 2022.

**Burris, C., Nikolaev, A.,** “Create & Rank Crowdlearning as an Engagement/Enjoyment Driver in Remote Learning.” INFORMS Annual Meeting, Anaheim, CA. October, 2021.

**Burris, C., Nikolaev, A., Zhong, S., & Bian, L.,** “Network Effects in Influenza Spread: The Impact of Mobility and Socio-Economic Factors.” INFORMS Annual Meeting, Seattle, WA. October, 2019.

**Burris, C., Farasat, A., & Nikolaev, A.,** “A Constrained Model Predictive Control Framework for Optimal Teaching Policy.” ASEE, Zone 1, Niagara Falls, NY. April, 2019.

**Burris, C., Farasat, A., & Nikolaev, A.,** “Time-Dependent Student Performance Modeling and Optimal Teaching Policies.” YinZOR, Pittsburgh, PA. August, 2018.

**Burris, C. & Jacobson, J.C.**, “Exploring Sampling Strategies Using the Marvel Comic Book Universe.” MAA Seaway Conference, Canton, NY. November, 2016.

**Panel and Guest Speaker Engagements:**

Panel member for Blackstone Launchpad Winter Start-Up Bootcamp, University at Buffalo, Jan. 2023

Panel member Networking Best Practice, Bootsector, Seneca One, Buffalo, NY, Nov. 2022

Guest speaker for Blackstone Launchpad event in ISE 435/535 Seminar, University at Buffalo, Oct. 2021

Guest speaker for Blackstone Launchpad event in Occupational Therapy, University at Buffalo, Sept. 2021

Panel member for Blackstone Launchpad Fall Start-Up Bootcamp, University at Buffalo, Sept. 2021

Panel member for Blackstone Launchpad event in School of Engineering and Applied Sciences, University at Buffalo, April, 2021

Panel member for Blackstone Launchpad event in Chemical Engineering, University at Buffalo, March, 2021

Panel member for “Graduate Student Panel”, University at Buffalo, March, 2019

Panel member for “Interested in Graduate School? IISE and INFORMS Are Here to Help”, University at Buffalo, December, 2017

**PATENTS**

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Burris, C.J., Carey, Z., “Adjustable and Attachable Showerhead,” Unites States Patent, No. 63276544.

Burris, C.J., Carey, Z., “Adjustable and Attachable Showerhead,” Unites States Patent, No. 63172642.

**PROFESSIONAL AFFILIATIONS**

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INFORMS, 2017-Present

Served as VP of Outreach, President-Elect, and President for the University at Buffalo Student Chapter.

ASEE, 2022-Present

Industrial and Systems Engineering Graduate Student Association, 2017-2019

Served as Senator and President for this organization at the University at Buffalo.

**PROFESSIONAL SERVICE**

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**Session Chair**

INFORMS Annual Meeting, 2019

**Peer-Reviewed Articles for:**

- Socio-Economic Planning Sciences

**LANGUAGES**

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**English:** Native Language

**Spanish:** Intermediate Listener, Novice Speaker, Intermediate Reading and Writing

**COMPUTER SKILLS**

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**Programming:** R, Python, Gurobi, CPLEX, Julia, HTML, and CSS

**Applications:** ARENA, UCInet, MatLab, and Maple