JANA L. GEVERTZ

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Department of Mathematics and Statistics, The College of New Jersey
2000 Pennington Road, Ewing, NJ 08628-0718

RESEARCH INTERESTS

I am an experienced Ph.D. mathematical modeler with over twenty years of experience in building, validating, and simulating fit-for-purpose models specifically in the areas of oncology and immuno-oncology. I have expertise in sensitivity analysis, uncertainty quantification, model selection, solving optimization problems, and proposing model-informed experimental design recommendations. I have published high impact work on treatment resistance, virtual populations, identifying optimally synergistic combination therapies, and minimally sufficient experimental design.

EXPERIENCE

2026- *Associate Chair*
The College of New Jersey (TCNJ), Department of Mathematics & Statistics

2019- *Professor*
TCNJ, Department of Mathematics & Statistics

2022-2023 *Visiting Scientist*
EMD Serono Research & Development Institute, Global Quantitative Pharmacology

2014-2019 *Associate Professor*
TCNJ, Department of Mathematics & Statistics

2015-2017 *Visiting Researcher*
Rutgers University, Department of Mathematics

2009-2014 *Assistant Professor*
TCNJ, Department of Mathematics & Statistics

2007 *Research Intern*
Merck & Co., Inc., Applied Computer Science and Mathematics Division

EDUCATION

2009 *Ph.D., Applied and Computational Mathematics*
Princeton University
Dissertation: Growing Heterogeneous Tumors in Silico
Advisor: Dr. Salvatore Torquato

2006 *M.A., Applied and Computational Mathematics*
Princeton University

2004 *B.A., Mathematics*
Rutgers University, Highest Honors, Honors Program, Minor in Biology

AWARDS AND HONORS

2026 Fields Opportunity for Collaborations US (FOCUS) Visiting Researcher, the Fields Institute for Research in Mathematical Sciences, Toronto, Ontario, Canada

2025 Department of Defense Congressionally Directed Medical Research Programs (CDMRP) award (TB240022), *Machine Learning Approach Using Patient Registry Data to Reveal Neurological Manifestations of Persistent Lyme Disease*, 2025-2028 (Co-PI with Deanna Needell, UCLA). $739,332.00.

Excellence in Scholarship and Creative Activity Award, The College of New Jersey

Distinguished Service Award, Society for Mathematical Biology

2024 Long Term Visitor, Thematic Program on Mathematical Oncology, the Fields Institute for Research in Mathematical Sciences, Toronto, Ontario, Canada

2019 Department of Mathematics & Statistics Distinguished Teaching Award, TCNJ

2016 Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member, Mathematical Association of America

Distinguished College or University Teaching of Mathematics Award, New Jersey Section of the Mathematical Association of America

2009 Project NExT (New Experiences in Teaching) Fellow

2008 McGraw Center for Teaching and Learning of Princeton University Graduate Fellow

2005 National Science Foundation Graduate Research Fellow

2004 Burroughs Wellcome Fellow for Graduate Training in Biological Dynamics

2003 Phi Beta Kappa

2002 Golden Key International Honors Society

2001 National Society of Collegiate Scholars

PUBLICATIONS

(**Indicates undergraduate co-author*)

2026
- J J.L. Gevertz and J.R. Wares, 2026. Assessing the role of model complexity in virtual clinical trial outcomes. *Bulletin of Mathematical Biology* **88**: 145.
- J.L. Gevertz and I. Kareva, 2026. Model-supported patient stratification using multi-objective synergy optimization in combination therapy. *Mathematical Biosciences* **398**: 109713.
- J.L. Gevertz, H.V. Jain, I. Kareva, K.P. Wilkie, J. Brown, Y.P. Huang, E. Sontag, V. Vinogradov and M. Davies, 2026. Delaying cancer progression by integrating toxicity constraints in a model of adaptive therapy. *npj Systems Biology and Applications* **12**: 11.
- R.A. Bekker, R. Brady-Nicholls, L. de Pillis, J.L. Gevertz and H.V. Jain, 2026. Integrating machine learning into the in silico clinical trial pipeline. *Mathematical Biosciences* **391**: 109583.

2025
- J.L. Gevertz and I. Kareva, 2025. Using virtual patients to evaluate dosing strategies for bispecifics with a bell-shaped efficacy curve. *CPT: Pharmacometrics & Systems Pharmacology* **14**: 2139-2148.
- J.L. Gevertz, J.M. Greene, S. Prosperi, N. Comandante-Lou and E.D. Sontag, 2025. Understanding therapeutic tolerance through a mathematical model of drug-induced resistance. *npj Systems Biology and Applications* **11**: 30.

2024
- J.L. Gevertz and J.R. Wares, 2024. Assessing the role of patient generation techniques in virtual clinical trial outcomes. *Bulletin of Mathematical Biology* **86**: 119.

- I. Kareva and J.L. Gevertz, 2024. Cytokine storm mitigation for exogenous immune agonists. *Mathematics of Control, Signals, and Systems* **36**: 329-350.
- I. Kareva and J.L. Gevertz, 2024. Mitigating non-genetic resistance to checkpoint inhibition based on multiple states of immune exhaustion. *npj Systems Biology and Applications* **10**: 14.
- J.L. Gevertz and I. Kareva, 2024. Minimally sufficient experimental design using identifiability analysis. *npj Systems Biology and Applications* **10**: 2.

2023
- A. Surendran, J. Le Sauteur-Robitaille, D. Kleimeier, J. Gevertz, K. Wilkie, A.L. Jenner and M. Craig, 2023. Approaches to generating virtual patient cohorts with applications in oncology. In *Personalized Medicine Meets Artificial Intelligence*, Springer Cham, A. Cesario, M. D'Oria, C. Auffray and G. Scambia (Eds). (*Invited Chapter*)
- J.L. Gevertz and I. Kareva, 2023. Guiding model-driven combination dose selection using multi-objective synergy optimization. *CPT: Pharmacometrics & Systems Pharmacology* **12**: 1698-1713.
- M. Craig, J.L. Gevertz, I. Kareva and K.P. Wilkie, 2023. A practical guide for the generation of model-based virtual clinical trials. *Frontiers in Systems Biology* 3: 1174647.
- J.L. Gevertz, 2023. Synergizing teaching and research at primarily undergraduate institutions through student research. *Notices of the American Mathematical Society* **70**: 598-600.

2022
- S.D. Cárdenas*, C.J. Reznik*, R. Ranaweera, F. Song, C.H. Chung, E.J. Fertig and J.L. Gevertz, 2022. Model-informed experimental design recommendations for distinguishing intrinsic and acquired targeted therapeutic resistance in head and neck cancer. *npj Systems Biology and Applications* **8**: 32.
- M.C. Luo*, E. Nikolopoulou and J.L. Gevertz, 2022. From fitting the average to fitting the individual: a cautionary tale for mathematical modelers. *Frontiers in Oncology* **12**: 793908.

2021
- J.R. Wares, J. Dong*, J.L. Gevertz, A. Radunskaya, K. Viner, D. Wiebe and S. Solomon, 2021. Predicting the impact of placing an overdose prevention site in Philadelphia: a mathematical modeling approach. *Harm Reduction Journal* **18**: 110.
- E. Nikolopoulou, S. Eikenberry, J.L. Gevertz and Y. Kuang, 2021. Mathematical modeling of an immune checkpoint inhibitor and its synergy with an immunostimulant. *Discrete & Continuous Dynamical Systems - Series B* **26**: 2133.
- J.L. Gevertz, J.M. Greene, C.H. Sanchez-Tapia, E.D. Sontag, 2021. A novel COVID-19 epidemiological model with explicit susceptible and asymptomatic isolation compartments reveals unexpected consequences of timing social distancing. *Journal of Theoretical Biology* **510**: 110539.

2020
- J.L. Gevertz and J.R. Wares, 2020. Fostering diversity in top-rated pure mathematics graduate programs. *Notices of the American Mathematical Society* **67**: 678-682.

2019
- J.M. Greene, J.L. Gevertz and E.D. Sontag, 2019. Mathematical approach to differentiate spontaneous and induced evolution to drug resistance during cancer treatment. *JCO Clinical Cancer Informatics* **3**: 1-20.

2018
- J.L. Gevertz and J.R. Wares, 2018. Developing a minimally-structured mathematical model: immuno-enhanced oncolytic viruses with dendritic cell vaccines. *Computational and Mathematical Methods in Medicine* **2018**: 8760371.

2017
- S. Barish*, M.F. Ochs, E.S. Sontag and J.L. Gevertz, 2017. Evaluating optimal therapy robustness by virtual expansion of a sample population, with a case study in cancer immunotherapy. *Proceedings of the National Academy of Sciences* **114**: E6277-E6286.
- J.L. Gevertz, P.S. Kim and J.R. Wares, 2017. Mentoring undergraduate interdisciplinary mathematics research students: junior faculty experiences. *Problems, Resources, and Issues in Mathematics Undergraduate Studies* **27**: 352-369.

2016
- A.B. Shah*, K.A. Rejniak and J.L. Gevertz, 2016. Limiting the development of anti-cancer drug resistance in a spatial model of micrometastases. *Mathematical Biosciences and Engineering* **13**: 1185-1206.
- J.L. Gevertz and C. Wang, 2016. Finding causative genes from high-dimensional data: an appraisal of statistical and machine learning approaches. *Statistical Applications in Genetics and Molecular Biology* **15**: 321-347.
- J. Perez-Velazquez, J.L. Gevertz, A. Karolak and K.A. Rejniak, 2016. Microenvironmental Niches and Sanctuaries: A Route to Acquired Resistance. *Advances in Experimental Medicine and Biology* **936**: 149-164. (*Invited Chapter*)
- J.L. Gevertz, 2016. Microenvironment-Mediated Modeling of Tumor Response to Vascular-Targeting Drugs. *Advances in Experimental Medicine and Biology* **936**: 191-208. (*Invited Chapter*)

2015
- J.R. Wares, J.J. Crivelli*, C.O. Yun, I.K. Choi, J.L. Gevertz and P.S. Kim, 2015. Treatment strategies for combining immunostimulatory oncolytic virus therapeutics with dendritic cell injections. *Mathematical Biosciences and Engineering* **12**: 1237-1256.
- J.L. Gevertz, Z. Aminzare, K. Norton, J. Pérez-Velázquez, A. Volkening and K.A. Rejniak, 2015. Emergence of anti-cancer drug resistance: Exploring the importance of the microenvironmental niche and tumor heterogeneity through a spatial model. In "Applications of Dynamical Systems in Biology and Medicine", *IMA Volumes in Mathematics and its Applications*, vol 158, Springer-Verlag, A. Radunskaya and T. Jackson (Eds).
- J.C. Beier, J.L. Gevertz and K.E. Howard, 2015. Building context with tumor growth modeling projects in differential equations. *Problems, Resources, and Issues in Mathematics Undergraduate Studies* **25**: 297-325.

2012
- J.L. Gevertz, 2012. Optimization of vascular-targeting drugs in a computational model of tumor growth. *Physical Review E* **85**: 041914.

2011
- J.L. Gevertz, 2011. Computational modeling of tumor response to vascular-targeting therapies - Part I: Validation. *Computational and Mathematical Methods in Medicine* **2011**: 830515.

2009
- J.L. Gevertz and S. Torquato, 2009. Growing heterogeneous tumors in silico. *Physical Review E* **80**: 051910.
- J.L. Gevertz and S. Torquato, 2009. Mean survival time of absorbing triply periodic minimal surfaces. *Physical Review E* **80**: 011102.

2008
- J.L. Gevertz, G. Gillies and S. Torquato, 2008. Simulating tumor growth in confined heterogeneous environments. *Physical Biology* **5**: 036010.
- J.L. Gevertz and S. Torquato, 2008. A novel three-phase model of brain tissue microstructure. *PLoS Computational Biology* **4**: e1000152.

2006
- J.L. Gevertz and S. Torquato, 2006. Modeling the effects of vasculature evolution on early brain tumor growth. *Journal of Theoretical Biology* **243**: 517-531.

2005
- J.L. Gevertz, S. Dunn and C.M. Roth, 2005. Mathematical model of real-time PCR kinetics. *Biotechnology and Bioengineering* **92**: 346-355.
- J. Gevertz, H.H. Gan and T. Schlick, 2005. In vitro RNA random pools are not structurally diverse: A computational analysis. *RNA* **11**: 853-863.

EDITED BOOKS AND VOLUMES

2020
- G. Bebis, M. Alekseyev, H. Cho, J. Gevertz and M. Rodriguez Martinez (Eds.), 2020. Mathematical and Computational Oncology, Second International Symposium, ISMCO 2020, Proceedings. Springer.

TEACHING EXPERIENCE

The College of New Jersey, 2009-

- Applied Mathematics Capstone (face-to-face, online)
- Business Calculus (face-to-face, blended)
- Calculus A (face-to-face, online, Hyflex)
- Calculus B (regular and honors)
- Differential Equations (face-to-face, online, Hyflex)
- Linear Programming
- Mathematical Biology
- Numerical Methods
- Probability
- Seminar in Dynamical Systems (face-to-face, Hyflex)
- Statistics and Data Science Capstone

Rutgers University, 2003-2009

- Calculus 2
- Precalculus (Teaching Assistant)

Princeton University, 2007-2008

- New Mathematics Instructor Training Course (Co-Teacher)
- Advanced Physical Chemistry (Assistant in Instruction)

RESEARCH MENTORING (UNDERGRADUATES, UNLESS OTHERWISE INDICATED)

2025-2026 *Joseph McGowan*, Mathematics, TCNJ Class of 2026
Incorporating Neural Networks into the Equation Learning Pipeline for Applications to Biological Data

2024-2025 *Kyla Devlin*, Applied Mathematics, TCNJ Class of 2025
Bispecifics versus Combination Therapy: An Optimization Study

2023-2024 *Odalys Garcia-Lopez*, Statistics, TCNJ Class of 2024
Minimally Sufficient Experimental Design for Pharmacokinetic-Pharmacodynamic Models

2023-2024 *Lauren Terr*, Statistics, TCNJ Class of 2024
Minimally Sufficient Experimental Design for Pharmacokinetic-Pharmacodynamic Models

2021-2022 *Anna Dorval, Applied Mathematics, TCNJ Class of 2023*
Using Neural Networks to Solve an Optimal Control Problem in Cancer

2021-2022 *Aahna Rathod, Applied Mathematics and Biology, TCNJ Class of 2023*
Exploring Resistance Induction via Mathematical Models of Cancer

2021 *Swetha Yogeswaran (high school student), South Brunswick High School Class of 2022*
Exploring Resistance Induction via Mathematical Models of Cancer

2020-2022 *Santiago Cárdenas, Applied Mathematics and Biology, TCNJ Class of 2022*
Data-Driven Model Selection of Resistance to a Targeted Cancer Agent

2020 *Francesca Zumpano, Statistics, TCNJ Class of 2021*
Covariate Selection in a Virtual Population – Can we Explain Personalized Response to Immunotherapy?

2020 *Leanna Diaz, Statistics, TCNJ Class of 2021*
Covariate Selection in a Virtual Population – Can we Explain Personalized Response to Immunotherapy?

2019-2020 *Elpiniki Nikolopoulou (graduate student), Applied Mathematics, Arizona State University, PhD Conferred in 2020*
Mathematical Modeling of Novel Cancer Immunotherapies

2019-2021 *Michael Luo, Applied Mathematics, TCNJ Class of 2021*
Using Nonlinear Mixed Effects to Optimize a Model of Immunotherapy-Treated Murine Melanoma

2019-2020 *Connie Reznik, Mathematics, TCNJ Class of 2020*
Modeling Cancer Treatment Response and Resistance in Individual Mice

2017-2018 *Christopher Kouba, Applied Mathematics and Chemistry, TCNJ Class of 2019*
Simplifications of a Hybrid Spatial Model of Cancer Drug

2017-2018 *Abhin Shah, Mathematics, TCNJ Class of 2018*
Simplifications of a Hybrid Spatial Model of Cancer Drug

2015-2017 *Rebecca Santorella, Applied Mathematics, TCNJ Class of 2017*
A Multiscale Model of Tumor Growth in Response to Stochastic Signaling Networks

2015-2016 *Syndi Barish, Applied Mathematics and Biology, TCNJ Class of 2016*
Analyzing Robustness of Therapy using a Virtual Population Approach

2014-2015 *Ami Shah, Biology, TCNJ Class of 2016*
Optimizing Solid Tumor Treatment with a DNA Damaging Drug in the Face of Pre-Existing or Acquired Resistance

2014-2015 *Daniel Chawla, Biology, TCNJ Class of 2015*
A Computational Model of Tumor Growth and Microenvironment-Driven Invasion

2013-2014 *Tyler Higgins, Applied Mathematics and Chemistry, TCNJ Class of 2014*
Predicting Ternary Equilibria: A Comparison between Algebraic and Kinetic Models

2013 *Jessica Perez, Applied Mathematics, TCNJ Class of 2015*
Continuous and Discrete Modeling of Tumor Growth and Invasion

2013-2014 *Archana Patel, Mathematics, TCNJ Class of 2014*
Pharmacokinetic/Pharmacodynamic Model of Tumor Response to a Cytotoxic Drug

2013 *Sarah Hirsh, Biology, TCNJ Class of 2014*
A Computational Model of Vasculogenesis

2012-2013 *Kayla Spector, Physics, TCNJ Class of 2013*
A Mathematical Model of Tumor Growth in Variable-Density Environments

2012 *Warren Jagger, Applied Mathematics, Class of 2014*
Mathematical Model of Tumor-Immune System

SELECTED PRESENTATIONS

For Conference/Workshop Presentations: P = Plenary, I = Invited, C = Contributed

2026
- [P] *Central Section Meeting of the American Mathematical Society*, University of Minnesota, Duluth, MN (October, forthcoming)
- [I] *14th European Conference on Mathematical & Theoretical Biology*, Graz, Austria (July, forthcoming)
- [I] *Centre for Mathematical Medicine Seminar*, The Fields Institute for Research in Mathematical Sciences, University of Toronto, Toronto, Ontario, CA (March, forthcoming)

2025
- [I] *Math for Medicine (Against Cancer) Workshop*, Wolfgang Pauli Institute, Vienna, Austria
- [I] *Society for Mathematical Biology Annual Meeting*, Edmonton, Canada
- *Mathematical Biology Seminar*, New Jersey Institute of Technology, Newark, NJ
- [P] *Mechanistic Learning as a Combination of Machine Learning and Modeling in Mathematical Oncology*, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada

2024
- *Applied and Computational Mathematics Seminar*, Temple University, Philadelphia, PA
- *Math Seminar Series*, Rutgers – Camden, Camden, NJ
- [I] *Frontiers in Computational and Mathematical Medicine*, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada
- [I] *Mathematical Modelling of Cancer Treatments, Resistance, Optimization*, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada
- [I] *Joint Annual Meeting of the Korean Society for Mathematical Biology and the Society for Mathematical Biology*, Seoul, Republic of Korea
- *School of Science Colloquium*, The College of New Jersey, Ewing, NJ

2023
- [I] *2023 Quantitative Systems Pharmacology (QSP) Symposium*, Buffalo, NY
- [I] *The Society for Mathematical Biology Annual Meeting*, Columbus, OH

2022
- [P] *Mathematical Association of America EPaDel Section Meeting*, Penn State Berks, Reading, PA
- [I] *MathFest*, Philadelphia, PA
- *Systems Modeling and Simulation Seminar*, Pfizer, virtual
- [I] *SIAM Conference on the Life Sciences*, Pittsburgh, PA
- [I] *Summer School in Nonlinear Dynamics for the Life Sciences,* McGill University, virtual

- [I] *BIRS Workshop on Mathematical Modeling Approaches to Virtual Clinical Trials*, Banff International Research Station for Mathematical Innovation and Discovery, virtual
- *Center for Computational Oncology Seminar Series*, University of Texas at Austin, virtual

2021
- *Department of Mathematics & Statistics Colloquium*, Tri-Colleges: Swarthmore, Haverford, and Bryn Mawr, virtual
- [I] *Canadian Society of Applied and Industrial Mathematics Annual Meeting*, virtual
- *Quantitative Pharmacology Forum*, EMD Serono, virtual
- *Mathematical Biology Seminar*, University of Iowa, virtual

2020
- *Mathematical Biology Seminar*, University of Minnesota, virtual

2019
- [I] *The Society for Mathematical Biology Annual Meeting & Conference*, Montreal, Canada
- *Department of Mathematics/Department of Bioinformatics & Computational Biology Seminar*, Worchester Polytechnic Institute, Worchester, MA
- [I] *Joint Mathematics Meetings*, Baltimore, MD

2018
- *Research Program in Quantitative Sciences Seminar*, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University, Baltimore, MD
- [I] *Workshop on Mathematical Models in Cancer*, Wolfgang Pauli Institute, Vienna, Austria
- [I] *Workshop for Women in Mathematical Biology*, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN
- [P] *32nd Annual Moravian Student Mathematics Conference,* Moravian University, Bethlehem, PA

2017
- [I] *The Society for Mathematical Biology Annual Meeting & Conference*, Salt Lake City, UT
- *Interdisciplinary Pharmacometrics Program Seminar*, Sanofi, Bridgewater, NJ

2016
- [C] *Joint Mathematics Meetings*, Seattle, WA
- [I] *SIAM Conference on the Life Sciences*, Boston, MA
- *Center for Systems and Computational Biology Seminar*, The Cancer Institute of New Jersey, New Brunswick, NJ
- [I] *Workshop on Mathematical Oncology VI – The Interplay of Theory, Experiment and Clinical Practice*, Fields Institute, Toronto, Canada
- *Biomathematics/Computational Biology Colloquium*, New York University, New York, NY
- *Department of Mathematics & Computer Science Seminar*, University of Richmond, Richmond, VA

2015
- [P] *Mathematical Association of America New Jersey Section Meeting*, Union, NJ
- *Integrative Mathematical Oncology Seminar*, Moffitt Cancer Center, Tampa, FL
- [I] *Mathematical Methods in Systems Biology*, Dublin, Ireland

2014
- *Institute of Computational Biology Seminar*, Helmholtz Zentrum München, Munich, Germany
- [I] *9th European Conference on Mathematical & Theoretical Biology*, Gothenburg, Sweden

- *Mathematical Biology Seminar*, New Jersey Institute of Technology, Newark, NJ
- *Computational and Applied Mathematics Seminar*, Rutgers University, Piscataway, NJ

2013
- *Association for Women in Mathematics Seminar*, University of Texas at Austin, Austin, TX
- [I] *6th International Symposium on Biomathematics and Ecology: Education and Research (BEER-2013)*, Arlington, VA
- [I] *The Society for Mathematical Biology Annual Meeting and Conference*, Tempe, AZ
- [C] *Association for Women in Mathematics Research Symposium*, Santa Clara University, Santa Clara, CA
- *Biomathematics Seminar*, Virgina Commonwealth University, Richmond, VA
- *School of Science Colloquium*, The College of New Jersey, Ewing, NJ

2012
- [C: poster] *SIAM Conference on the Life Sciences*, San Diego, CA
- *Department of Math & Stat Colloquium*, The College of New Jersey, Ewing, NJ
- [C] *Joint Mathematics Meetings* (joint with Dr. Julie Beier), Boston, MA

2011
- [C] *International Congress on Industrial and Applied Mathematics*, Vancouver, Canada
- *Department of Math & Stat Colloquium*, The College of New Jersey, Ewing, NJ
- [C] *AWM Workshop for Women Graduate Students and Recent PhDs* (at the Joint Mathematics Meetings), New Orleans, LA

2010
- *Department of Mathematics Colloquium*, Seton Hall University, South Orange, NJ
- *MathFest*, Pittsburgh, PA
- *Physics & Mathematics of Cancer Seminar*, Princeton University, Princeton, NJ

Pre 2010
- [C] *The Society for Mathematical Biology Annual Meeting and Conference*, Vancouver, Canada, 2009
- *Mathematical Biology Seminar*, University of British Columbia, Vancouver, Canada, 2008
- [C: poster] *The Society for Mathematical Biology Annual Meeting and Conference*, Toronto, Canada, 2008
- [C: poster] *SIAM Conference on Mathematics for Industry*, Philadelphia, PA, 2007
- [C: poster] *Workshop for Young Researchers in Mathematical Biology*, Mathematical Biosciences Institute, The Ohio State University, Columbus, OH, 2007
- [C] *DIMACS Workshop on Computational Tumor Modeling*, Rutgers University, Piscataway, NJ, 2006
- [C: poster] *Biomedical Engineering Society Annual Fall Meeting*, Philadelphia, PA, 2004

RESEARCH SUPPORT

External

2025
- The Seaver Institute Seed Grant, *Ecosystem Modeling: Tumors to the Ocean*. $30,000 awarded to interdisciplinary research team.
- Funded workshop participant and keynote speaker, Workshop on Mechanistic Learning as a combination of Machine Learning and Modeling in Mathematical Oncology, Banff

International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada

2024 • Funded Long Term Visitor, Thematic Program on Mathematical Oncology, the Fields Institute, Toronto, Ontario, Canada

2018 • Funded speaker for the Women in Mathematical Biology Workshop at the Institute for Mathematics and its Applications, University of Minnesota

2015 • Travel Grant Recipient for the American Institute of Mathematics workshop on Tumor-Immune Dynamics

2014 • Travel Grant Recipient for the Mathematical Biosciences Institute workshop on Cancer and the Immune System, The Ohio State University

• AWM-NSF Travel Grant Recipient for the 9th European Conference on Mathematical and Theoretical Biology

2013 • Travel Grant Recipient for the 6th International Symposium on Biomathematics and Ecology: Education and Research

• Funded Research Group Co-Leader at the WhAM! Workshop at the Institute for Mathematics and its Applications, University of Minnesota

2012 • Travel Grant Recipient for the Mathematical BioSciences Problem-Solving Workshop, The Ohio State University

2011 • Travel Grant Recipient for the Association for Women in Mathematics Workshop for Women Graduate Students and Recent PhDs

Internal (Funded by TCNJ)

- Provost's Innovation Fund Award, 2026
- School of Science Mini-Grant, 2024
- Support of Scholarly Activity (SOSA) Award: 2023-2025, 2020-2022, 2018-2020, 2016-2018, 2014-2015, 2012-2014, 2010-2012
- School of Science Mini-Grant, 2015
- Gitenstein-Hart Sabbatical Prize, 2015-2016
- Mentored Undergraduate Summer Experience (MUSE) Award: 2012, 2013
- TCNJ Advancement Program Travel Grants, 2013
- TCNJ Advancement Program Mentoring Grant, 2012-2013

SERVICE

Select Service to the Profession and the Community

- *Reviewer*: Journal of Theoretical Biology, Physical Biology, Physica A, Physiological Genomics, Physics in Medicine and Biology, Chemistry Central Journal, Journal of Physics: Condensed Matter, Mathematical Medicine & Biology, AIP Advances, International Journal of Mathematics and Mathematical Sciences, Trends in Biotechnology, Mathematical Biosciences, BMC Bioinformatics, Journal of Physics D: Applied Physics, Computational and Mathematical Methods in Medicine, PLOS One, Problems, Resources, and Issues in Mathematics Undergraduate Studies, Biomedical Physics & Engineering Express, PLoS Computational Biology, Bulletin of Mathematical

Biology, Viruses, Understanding Complex Biological Systems (Springer), Scientific Reports, Mathematical Biosciences, Annals of Biomedical Engineering, Mathematical Biosciences and Engineering, Cancer Informatics, Cancers, ImmunoInformatics, Pharmaceutics, iScience, Cancer Research Communications, Cells, Science Advances, Biomedicines, npj Systems Biology and Applications, Nature Communications, npj DigitalMedicine, British Journal of Cancer

- *Scientific Advisory Committee Member*, 2025 Society for Mathematical Biology Annual Meeting
- *Mathematical Oncology Subgroup Co-Chair*, Society for Mathematical Biology, 2024-2026
- Workshop Proposal Reviewer, Banff International Research Station (BIRS), 2023 and 2025
- *Facilitator*, Project NExT Teaching Support Group, sponsored by the Mathematical Association of America, 2022-2023
- *External Reviewer*, Tenure Application, Florida Polytechnic University, 2021
- *Founding Editorial Board Member*, Computational and Systems Oncology, 2021-
- *Treasurer*, The Society for Mathematical Biology, 2020-2023
- *Doctoral Thesis Committee Member*, Elpiniki Nikolopoulou at Arizona State University's School of Mathematical and Statistical Sciences, 2020
- *Program Co-Chair*, International Symposium on Mathematical and Computational Oncology (ISMCO'20), 2020
- *Program Committee Member*, International Symposium on Mathematical and Computational Oncology (ISMCO'19), 2019
- *Grant Reviewer*, the Institut National de la Santé et de la Recherche Médicale (French Institute of Health and Medical Research), 2019 and 2020
- *Associate Editor*, SIAM Undergraduate Research Online (SIURO), 2018-2020
- *Speaker*, Math League International Summer Tournament, 2016-2018
- *Grant Reviewer*, Medical Research Council (UK medical funding agency), 2017
- *Mini-symposium Co-Organizer* (with Karen Clark and Christina Lee), "Varying Perspectives on a Mathematics Modeling Course" at the SIAM Conference on Applied Mathematics Education, Philadelphia, PA, 2016
- *Mini-symposium Co-Organizer* (with Jill Gallaher), "Predicting Therapeutic Outcomes using Mathematical Models of Cancer" at the SIAM Conference on the Life Sciences, Boston, MA, 2016
- *Doctoral Thesis Committee Member*, Zahra Aminzare at Rutgers University's Department of Mathematics, 2014
- *Mini-symposium Co-Organizer* (with Jasmine Foo, Kevin Leder, Marc Ryser): "Spatial Models in Cancer Biology" at the 9th European Conference on Mathematical and Theoretical Biology, Gothenburg, Sweden, 2014
- *Director* (co-directed with Kaaren Finberg through 2016), NJ-NExT (New Experiences in Teaching) professional development program sponsored by the Mathematical Association of America – NJ, 2014-2019

- *Judge,* Triage Round of Moody's Mega Math (M3) Challenge, 2013-2015
- *Reviewer*, Book chapter of "Calculus: Early Transcendentals" by Jon Rogawski (W. H. Freeman/Macmillan), 2013
- *Organizing Committee*, TCNJ's Sonya Kovalevsky Day, 2012
- *Co-Organizer* (with Leona Harris), Mathematical Biology Workshop at TCNJ's Sonya Kovalevsky High School Day, 2011
- *Speaker*, Bridge to Employment Summer Institute Program for Trenton High School Students, TCNJ, 2010

Select Service at TCNJ

- *Steering Committee,* Member, 2024-2027
  Vice chair: 2025-2026
- *Department of Mathematics & Statistics Promotion and Reappointment Committee*, 2014-2015, 2016-2022, 2023-
  Chair: 2025-2026
- *School of Science Data Science Committee*, Member, 2024-2025
- *Statistics & Data Science Committee,* (Co-)Chair, 2023-
- *Initiatives & Special Projects Committee*, Member, 2023-2034
- *Strategic Planning Working Group*, 2021-2022
- *Health and Safety Readiness Task Force*, 2020-2022
- *Committee on Strategic Planning and Priorities*, Vice Chair, 2020-2022
- *Applied Mathematics Faculty Search Committee*, Co-Chair (with Karen Clark), 2020-2021, 2019-2020, 2018
- *Calculus & Developmental Mathematics Committee*, 2019-2020
- *Honors Thesis Committee*, Alina Kuvelkar, 2018
- *Presidential Search Committee*, 2017
- *Faculty Representative to the Board of Trustees*, 2016-2020
- *Faculty Senate*, 2014-2015, 2016-2017 (elected), 2017-2020 (ex officio), 2020-2022 (elected)
- *Faculty Senate Executive Board*, 2016-2020
- *Committee on Faculty Affairs*, 2014-2015, 2016-2017
  Disciplinary Standards Subcommittee Chair, 2015
- *Applied Mathematics Committee*, 2010-2013, 2016-2022
  Co-Chair: 2018-2019, Chair: 2016-2017
- *Applied Mathematics Search Committee*, 2016
- *Mathematics Committee*, 2016-2022, 2009-2010
- *Mathematics & Statistics Program Review Committee*, 2014-2015
- *Mathematics & Statistics Recruitment Committee*, 2014-2015
- *Celebration of Women in Science Organizational Committee*, 2014
- *School of Science Colloquium Committee*, Co-Chair (with Danielle Guarracino), 2011-2014

- *Teaching and Learning Program Council*, 2011-2014
  Chair, Learning Communities Subcommittee, 2012-2013
- *Mathematics & Statistics Curriculum Committee*, 2013-2014
- *Mathematics Faculty Search Committee*, 2013
- *Biomedical Engineering Faculty Search Committee*, 2012-2013
- *Honors Thesis Committee*, Edward Lee, 2012
- *Department of Mathematics & Statistics Honors Committee*, 2012
- *Phi Beta Kappa*, Application Reviewer, 2010-2015
- *Honors and Scholars Program Council*, Vice Chair, 2010-2011
- *Biomedical Engineering Faculty Search Committee*, 2009-2010