

# JEFFREY WEST

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**Assistant Member, Integrated Mathematical Oncology**  
H. Lee Moffitt Cancer Center & Research Institute

## RESEARCH INTERESTS

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- Develop clinically relevant evolutionary mathematical models of multi-drug adaptive cancer therapies.
- Construct agent-based models to better understand the impact of spatial competition in tumor heterogeneity.
- Validation of an antifragile therapy modeling framework to quantify second-order effects of dose scheduling.

## CURRENT

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<b>H. Lee Moffitt Cancer Center &amp; Research Institute</b> <i>Assistant Member in Integrated Mathematical Oncology</i>	Aug. 2022 - Present
<b>The Mathematical Oncology Newsletter</b> <i>Founding Editor</i>	Dec. 2017 – Present
<b>The Mathematical Oncology Blog</b> <i>Co-Editor</i>	Jul. 2019 – Present

## EDUCATION & TRAINING

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<b>H. Lee Moffitt Cancer Center &amp; Research Institute</b> <i>Postdoctoral Fellowship in Integrated Mathematical Oncology</i> <ul style="list-style-type: none"><li>• <i>Advisor:</i> Dr. Alexander (Sandy) R. A. Anderson</li></ul>	Aug. 2017 - Aug. 2022
<b>University of Southern California</b> <i>Ph.D. &amp; M.S. in Mechanical Engineering</i> <ul style="list-style-type: none"><li>• <i>Advisor:</i> Dr. Paul K. Newton</li><li>• “<i>Computational tumor ecology: a model of tumor evolution, heterogeneity, and chemotherapeutic response</i>”</li></ul>	Aug. 2012 - Aug. 2017
<b>Ohio Northern University</b> <i>B.S. in Mechanical Engineering</i>	Aug. 2008 - May 2012

## GRANTS & FUNDING

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<b>Center for Evolutionary Therapy, Moffitt Cancer Center</b> <ul style="list-style-type: none"><li>• <i>Virtual patient cohort generation for radiation therapy using probability distribution convolution</i></li><li>• \$25,000 Center for Evolutionary Therapy Pilot Grant</li><li>• PI: Dr. Jeffrey West</li></ul>	Jan. 2024 - Jun. 2024
<b>American Cancer Society</b> <ul style="list-style-type: none"><li>• <i>Evolutionary therapy in ER+ breast cancer guided by second-order reasoning</i></li><li>• \$30,000 Institutional Research Grant</li><li>• PI: Dr. Jeffrey West</li></ul>	Jan. 2024 - Dec. 2024
<b>IMO Workshop 11, Moffitt Cancer Center</b> <ul style="list-style-type: none"><li>• <i>AR-agonist pre-treatment enables evolutionary steering in metastatic ER+ breast cancer</i></li><li>• \$50,000 Center for Evolutionary Therapy Pilot Grant</li><li>• PI: Dr. Jeffrey West</li></ul>	Jan. 2024 - Dec. 2024

**Center for Evolutionary Therapy, Moffitt Cancer Center** Dec. 2022 - Jun. 2023

- *Investigating the feasibility of a first-strike, second-strike extinction therapy in ER+ breast cancer*
- \$75,000 Center for Evolutionary Therapy Pilot Grant
- Co-PI's: Dr. Jeffrey West, Dr. Ana Gomes

**Cancer Biology and Evolution Program, Moffitt Cancer Center** Dec. 2022 - Jun. 2023

- *Integrative modelling for directed tumor microenvironment engineering and enhanced anti-tumor immunity*
- \$50,000 Cancer Biology and Evolution Program Pilot Grant
- Co-PI's: Dr. Jeffrey West, Dr. Tony Amelio

**Body Engineering Los Angeles GK-12 Fellowship** Aug. 2016

- Graduate Student Fellowship at University of Southern California

**Tau Beta Pi Graduate Fellowship** Aug. 2012

- Graduate Student Fellowship at University of Southern California

## PREPRINTS

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6. K. Luddy, **J. West\***, M. Robertson-Tessi, A. Anderson, L. Marignol, R. Gatenby, C. O'Farrelly, 2024, "Evolutionary double-bind treatment using radiotherapy and NK cell-based immunotherapy in prostate cancer," *BioRxiv*.
5. S. Marzban, S. Srivastava, S. Kartika, R. Bravo, R. Safriel, A. Zarski, A. Anderson, C. Chung, A. Amelio, **J. West**, 2024, "Spatial interactions modulate tumor growth and immune infiltration," *BioRxiv*.
4. M. Robertson-Tessi, J. Brown, M. Poole, M. Johnson, A. Marusyk, J. Gallaher, K. Luddy, C. Whelan, **J. West**, M. Strobl, V. Turati, H. Enderling, M. Schell, A. Tan, T. Boyle, R. Mankanji, J. Farinhas, H. Soliman, D. Lemanne, R. Gatenby, D. Reed, A. Anderson, C. Chung, 2023, "Feasibility of an Evolutionary Tumor Board for Generating Novel Personalized Therapeutic Strategies," *medRxiv*.
3. G. Kimmel, **J. West**, M. Damaghi, A. Anderson, P. Altrock, 2021, "Local contact inhibition leads to universal principles of cell population growth," *arXiv*.
2. **J. West**, B. Desai, M. Strobl, L. Pierik, R. Vander Velde, C. Armagost, R. Miles, M. Robertson-Tessi, A. Marusyk, A. Anderson, 2020, "Antifragile Therapy," *BioRxiv*.
1. C. Gatenbee, **J. West\***, M. Robertson-Tessi, A. Baker, N. Guljar, T. Graham, A. Anderson, 2018, "Macrophage-mediated immunoediting drives ductal carcinoma evolution: Space is the game changer," *BioRxiv*.

## PEER REVIEWED JOURNAL PUBLICATIONS

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31. C. Axenie, O. Lopez-Otrasenda, M. Makridis, M. Akbarzadeh, M. Saveriano, A. Stancu, **J. West**, 2024, "Antifragility in complex dynamical systems.," *npjComplexity*.
30. M. Park, C. Whelan, S. Ahmed, T. Boeringer, J. Brown, S. Crowder, C. Gregg, H. Jim, A. Judge, T. Mason, N. Parker, S. Pillai, S. Rajasekhara, G. Rasool, S. Tinsley, M. Schabath, P. Stewart, **J. West**, P. McDonald, J. Permuth, 2024, "Defining and Addressing Research Priorities in Cancer Cachexia through Transdisciplinary Collaboration.," *Cancers*.
29. M. Strobl, A. Martin, **J. West**, J. Gallaher, M. Robertson-Tessi, R. Gatenby, R. Wenham, P. Maini, M. Damaghi, A. Anderson, 2024, "To modulate or to skip: De-escalating PARP inhibitor maintenance therapy in ovarian cancer using adaptive therapy," *Cell Systems*.
28. L. Pierik, P. McDonald, A. Anderson, **J. West**, 2024, "Second-order effects of chemotherapy pharmacodynamics and pharmacokinetics on tumor regression and cachexia," *Bulletin of Mathematical Biology*.
27. **J. West**, F. Rentzeperis, C. Adam, R. Bravo, K. A. Luddy, M. Robertson-Tessi, A. Anderson, 2024, "Tumor-immune metaphenotypes orchestrate an evolutionary bottleneck that promotes metabolic transformation," *Frontiers in Immunology*.

26. M. Strobl, J. Gallaher, M. Robertson-Tessi, **J. West**<sup>†</sup>, A. Anderson<sup>†</sup>, 2023, “Treatment of evolving cancers will require dynamic decision support.,” *Annals of Oncology*.
25. P. Bayer, **J. West**, 2023, “Games and the treatment convexity of cancer,” *Dynamical Games and Applications*.
24. N. Gillis, E. Padron, T. Wang, K. Chen, S. Spellman, S. Lee, C. Kitko, M. MacMillan, **J. West**, Y. Tang, M. Teng, S. McNulty, T. Druley, J. Pidala, A. Lazaryan, 2023, “A pilot study of donor-engrafted clonal hematopoiesis evolution and clinical outcomes in allogeneic hematopoietic cell transplant recipients using a national registry,” *Transplantation and Cellular Therapy*.
23. J. Gallaher, M. Strobl, **J. West**, J. Zhang, R. Gatenby, M. Robertson-Tessi, A. Anderson, 2023, “Inter- and intra-metastatic heterogeneity shapes adaptive therapy cycling dynamics,” *Cancer Research*.
22. **J. West**, F. Adler, J. Gallaher, M. Strobl, R. Brady-Nicholls, J. Brown, M. Robertson-Tessi, E. Kim, R. Noble, Y. Viosat, D. Basanta, A. Anderson, 2023, “A survey of open questions in adaptive therapy: bridging mathematics and clinical translation,” *eLife*.
21. N. Taleb, **J. West**, 2023, “Working With Convex Responses: Antifragility From Finance to Oncology,” *Entropy*.
20. **J. West**, M. Robertson-Tessi, A. Anderson, 2023, “Agent-based methods facilitate integrative science in cancer,” *Trends in Cell Biology*.
19. R. Schenck, E. Kim, R. Bravo, **J. West**, S. Leedham, D. Shibata, A. Anderson, 2022, “Homeostasis limits keratinocyte evolution,” *Proceedings of the National Academy of Sciences*.
18. S. Prabhakaran, C. Gatenbee, M. Robertson-Tessi, **J. West**, A. Beg, J. Gray, S. Antonia, R. Gatenby, A. Anderson, 2022, “Mistic: an open-source multiplexed image t-SNE viewer,” *Cell Patterns*.
17. R. Schenck, G. Brosula, **J. West**, S. Leedham, D. Shibata, A. Anderson, 2021, “Gattaca: Base pair resolution mutation tracking for somatic evolution studies using agent-based models,” *Molecular Biology and Evolution*.
16. C. Gatenbee, A. Baker, R. Schenck, M. Strobl, **J. West**, M. Neves, S. Hasan, E. Lakatos, P. Martinez, W. Cross, M. Jansen, M. Rodriguez-Justo, C. Whelan, A. Sottoriva, S. Leedham, M. Robertson-Tessi, T. Graham, A. Anderson, 2021, “Immunosuppressive niche engineering at the onset of human colorectal cancer,” *Nature Communications*.
15. M. Strobl, J. Gallaher, **J. West**, M. Robertson-Tessi, P. Maini, A. Anderson, 2020, “Spatial structure impacts adaptive therapy by shaping intra-tumoral competition,” *Communications Medicine*.
14. **J. West** R. Schenck, C. Gatenbee, M. Robertson-Tessi, A. Anderson, 2021 “Normal tissue architecture determines the evolutionary course of cancer.,” *Nature Communications*.
13. M. Damaghi, **J. West**, M. Robertson-Tessi, L. Xu, M. Ferrall-Fairbanks, P. Stewart, E. Persi, B. Fridley, P. Altrock, R. Gatenby, P. Sims, A. Anderson, R. Gillies, 2020, “The harsh microenvironment in early breast cancer selects for a Warburg phenotype,” *Proceedings of the National Academy of Sciences*.
12. **J. West**, Y. Ma, A. Kaznatcheev, A. Anderson, 2020, “IsoMaTrix: a framework to visualize the isoclines of matrix games and quantify uncertainty in structured populations,” *Bioinformatics*.
11. M. Strobl, **J. West**, J. Brown, R. Gatenby, P. Maini, A. Anderson, 2020, “Turnover modulates the need for a cost of resistance in adaptive therapy,” *Cancer Research*.
10. R. Bravo, E. Baratchart, **J. West**, R. Schenck, A. Miller, J. Gallaher, C. Gatenbee, D. Basanta, M. Robertson-Tessi, A. Anderson, 2018, “Hybrid Automata Library: A flexible platform for hybrid modeling with real-time visualization,” *PLOS Comp. Bio.*
9. **J. West**, L. You, J. Zhang, R.A. Gatenby, J. Brown, P.K. Newton, A. Anderson, 2020, “Towards multi-drug adaptive therapy,” *Cancer Research*.
8. **J. West**, M. Dinh, J. Brown, J. Zhang, A. Anderson, R. Gatenby, 2018, “Multidrug cancer therapy in metastatic castrate-resistant prostate cancer: An evolution-based strategy,” *Clinical Cancer Research*.

7. **J. West**, P.K. Newton, 2019, “Cellular interactions constrain tumor growth,” *Proceedings of the National Academy of Sciences*.
6. **J. West**, M. Robertson-Tessi, K. Luddy, D. Park, D. Williamson, C. Harmon, H. Khong, J. Brown, A. Anderson, 2018, “The immune checkpoint kick start: Optimization of neoadjuvant combination therapy using game theory,” *Journal of Clinical Oncology: Clinical Cancer Informatics*.
5. **J. West**, Y. Ma, P.K. Newton, 2017, “Capitalizing on Competition: An Evolutionary Model of Competitive Release in Metastatic Castrate Resistant Prostate Cancer Treatment,” *Journal of Theoretical Biology*.
4. **J. West**, P.K. Newton, 2017, “Chemotherapeutic dose scheduling based on tumor growth rates provides a case for low-dose metronomic high-entropy therapies,” *Cancer Research*.
3. **J. West**, Z. Hasnain, P.K. Newton, 2016, “The prisoner’s dilemma as a cancer model,” *Convergent Science: Physical Oncology*.
2. **J. West**, Z. Hasnain, P.K. Newton, 2016, “An evolutionary model of tumor cell kinetics and the emergence of molecular heterogeneity driving Gompertzian growth,” *SIAM Review*.
1. John-David Yoder, **J. West**, E. Baumgartner, M. Perrollaz, M. Seelinger, M. Robinson, 2013, “Experiments comparing precision of stereo-vision approaches for control of an industrial manipulator,” *Spring Tracts in Advanced Robotics*.

## BOOK CHAPTERS

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1. **J. West**, J. Gallaher, M. Strobl, M. Robertson-Tessi, A. Anderson, 2024, “The Fundamentals of Evolutionary Therapy in Cancer.” *Cancer Systems Biology and Translational Mathematical Oncology*, Oxford University Press.

## TECHNICAL REPORTS & CONFERENCE PROCEEDINGS

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6. **J. West**, D. Park, C. Harmon, D. Williamson, P. Ashcroft, D. Maestrini, A. Ardaseva, R. Bravo, P. Sahoo, H. Khong, K. Luddy, M. Robertson-Tessi, 2017, “Evolutionary exploitation of PD-L1 expression in hormone receptor positive breast cancer,” *Biorxiv*.
5. E. Kim, R. Schenck, **J. West**, W. Cross, V. Harris, J. McKenna, H. Cho, E. Coker, S. Lee-Kramer, K. Tsai, E. Flores, C. Gatenbee, 2017, “Targeting the Untargetable: Predicting Pramlintide Resistance Using a Neural Network Based Cellular Automata,” *Biorxiv*.
4. **J. West**, P.K. Newton, 2017, “Optimizing chemo-scheduling based on tumor growth rates,” *Mathematical Oncology Handbook*.
3. Y. Ma, **J. West**, P.K. Newton, 2017, “Competitive release in tumors,” *Mathematical Oncology Handbook*.
2. **J. West**, M. Hromatka, M. Holt, S. Biaz., 2012, “A Fuzzy Logic approach to collision avoidance in smart UAVs,” *Technical Report #CSSE12-05*, Auburn University.
1. **J. West**, P. Ling, P. Grewal, 2010, “Urban Food Production season extension techniques,” *Internship Program (ORIP) Technical Report*.

\* indicates co-first authorship, † indicates co-corresponding authorship

## BLOG POSTS

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6. **Games and the Treatment Convexity of Cancer: Behind the Paper**, *The Mathematical Oncology Blog*, J. West. URL: <https://mathematical-oncology.org/blog/games-and-treatment-convexity.html>.

5. **Adaptive Therapy in 2021: Math Modeling: Year in Review**, *The Mathematical Oncology Blog*, J. West. URL: <https://mathematical-oncology.org/blog/adaptive-therapy-modeling.html>.
4. **The past 185 weeks in MathOnco: The road to 1000 subscribers**, *The Mathematical Oncology Blog*, J. West. URL: <https://mathematical-oncology.org/blog/one-thousand.html>.
3. **Adaptive dose personalization: What's first, what's second?**, *The Mathematical Oncology Blog*, J. West & M. Strobl. URL: <https://mathematical-oncology.org/blog/adaptive-dose-personalization.html>.
2. **HAL + EvoFreq: A tutorial on modeling & visualizing tumor evolution**, *The Mathematical Oncology Blog*, J. West. URL: <https://mathematical-oncology.org/blog/evofreq-and-hal.html>.
1. **Space Accelerates Evolution: Realized Darwinian Fitness**, *The Mathematical Oncology Blog*, J. West. URL: <https://mathematical-oncology.org/blog/space-accelerates-evolution.html>.

## INVITED TALKS

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36. **SIAM Life Sciences (Eco-evolutionary Processes in Biology Minisymposia)** Portland, OR  
Invited Talk: "Evolution-Based Treatment Strategies in Cancer" Feb. 2024
35. **Innovators in Cancer Seminar Series** The Broad Institute  
Invited Talk: "Steering the evolutionary dynamics of cancer through space and time" Feb. 2024
34. **Radiation Biophysics Seminar** MGH, Harvard Medical School  
Invited Talk: "Evolutionary therapy using targeted, radiation, and immunotherapies" Feb. 2024
33. **Center of Excellence for Evolutionary Therapy** Moffitt Cancer Center  
Invited Talk: "Evolutionary double-bind treatment using radiotherapy and NK cell-based immunotherapy in prostate cancer" Jan. 2024
32. **Joint Mathematics Meeting (JMM)** San Francisco, CA  
Invited Talk: "Designing cancer treatment schedules using the principles of convexity and concavity" Jan. 2024
31. **AACR Special Conference in Cancer Research** Boston, MA  
Contributed Talk: "Cell state transitions drive the evolution of disease progression in B-cell acute lymphoblastic leukemia" Dec. 2023
30. **Society for Mathematical Biology Annual Meeting** The Ohio State University  
Contributed Talk: "Markov models predict minimal residual disease in Adult B-Lymphoblastic Leukemia" Jul. 2023
29. **Cancer Evolution Working Group (Virtual)** American Association for Cancer Research (AACR)  
Invited Talk & Panel Discussion: "Tumor heterogeneity & evolvability" May 2023
28. **MathOnc23** Mayo Clinic (Phoenix)  
Invited Talk: "Applying the principles of convexity and concavity to guide treatment scheduling of ALK inhibitors in non-small cell lung cancer" May 2023
27. **Cancer Biology and Evolution Program** Moffitt Cancer Center  
Invited Talk: "Convexity predicts the evolution of dose efficacy and resistance to targeted therapy" Mar. 2023
26. **Spring School for Mathematical Applications to Ecology** Universidad Nacional Autonoma de Mexico  
Plenary: "Mathematical oncology and antifragility" Mar. 2023
25. **Christina Curtis Lab** Stanford University  
Invited Talk (Virtual): "Spatial structure accelerates tumor evolution" Feb 2023

24. **Computational Modelling of Cancer Biology and Treatments** Banff International Research Station  
Flash Talk: “Lenia as a cancer model” Jan. 2023
23. **Jasmin Fisher Lab** Cancer Institute in UCL  
Invited Talk (Virtual): “Can we use the principles of convexity to guide treatment?” Nov. 2022
22. **Center of Excellence for Evolutionary Therapy** Moffitt Cancer Center  
Invited Talk: “Dose convexity in targeted therapies” Aug. 2022
21. **Laboratory for Systems Medicine** University of Florida  
Invited Talk: “Dose response curvature predicts optimal adaptive treatment scheduling” Apr. 2022
20. **Oden Institute for Computational Engineering and Sciences** The University of Texas at Austin  
Invited Talk (Virtual): “Adaptive cancer therapy in the antifragile setting” Feb. 2022
19. **Science Club** Indian Institute for Bioinformatics and Biotechnology  
Invited Talk (Virtual): “Modeling cancer progression using agent-based Methods” Oct. 2021
18. **Society for Mathematical Biology Annual Meeting** University California, Riverside  
Talk (Virtual): “Antifragile therapy” Jun. 2021
17. **Evolutionary Therapy Center of Excellence Seminar** Moffitt Cancer Center  
Talk: “Adaptive cancer therapy in the antifragile setting” Feb. 2021
16. **Junior Investigator Annual Meeting** CSBC/PS-ON/BD-STEP, NIH  
Invited Speaker (Virtual): “Immune Predation Promotes Aggressive Metabolic Phenotypes” Aug. 2020
15. **Society for Mathematical Biology Annual Meeting** Virtual Meeting  
Minisymposium Speaker: “Anti-fragile Cancer Therapy” Aug. 2020
14. **Mathematical Biology Seminar** Duke University, Durham, North Carolina  
Invited Speaker: “Tissue structure accelerates evolution” Oct. 2019
13. **Society for Mathematical Biology Annual Meeting** University of Montreal, Montreal, Canada  
Talk: “Tissue structure accelerates evolution: premalignant sweeps precede neutral expansion” Jul. 2019
12. **Mathematical Oncology Meeting** Oregon Health & Science University, Portland  
Talk: “Tissue structure accelerates evolution: premalignant sweeps precede neutral expansion” May 2019
11. **Moffitt Scientific Symposium** Moffitt Cancer Center  
Selected Speaker: “Tissue structure accelerates evolution” May 2019
10. **European Society for Math. and Theoretical Bio.** Univ. Lisbon, Portugal  
• Talk: “Cellular cooperation shapes tumor growth: a statistical mechanics approach” Jul. 2018  
Talk: “The immune checkpoint kick start: optimization of combination therapy”
9. **Mathematics of Life Colloquium** Mathematikon, Heidelberg, Germany  
Invited Speaker: “Modeling the evolution of cancer from a game theoretic perspective” Feb. 2018
8. **Computational Genomics Summer Institute** UCLA, Los Angeles, CA  
Flash talk: “Modeling evolutionary principles in anticancer therapy” Dec. 2017
7. **Biology and Medicine through Mathematics Conference** Virginia Commonwealth Univ., Richmond, VA  
Talk: “Adaptive therapy: modeling evolutionary principles in anticancer therapy” May 2017
6. **Integrated Math Oncology Seminar** Moffitt Cancer Center, Tampa, FL  
Postdoctoral Interview: “The Prisoner’s dilemma in cancer: chemotherapeutic dose scheduling” May 2017
5. **Center for Applied Molecular Medicine Departmental Seminar** Univ. of Southern California, CA  
Talk: “The Prisoner’s dilemma in cancer: chemotherapeutic dose scheduling” Apr. 2017
4. **European Society for Math. and Theoretical Bio.** Univ. Nottingham, Nottingham, U.K.  
Talk: “The Prisoner’s dilemma as a cancer model” Jul. 2016

3. **Southern California Applied Mathematics Symposium** Claremont Grad. Univ., Claremont, CA  
Talk: “The Prisoner’s dilemma in cancer” Jun. 2016
2. **The Kuhn Laboratory Research Circle Seminar** The Bridge@USC, Los Angeles, CA  
Talk: “The Prisoner’s dilemma in cancer” May 2016
1. **Convergent Science Initiative in Cancer** Scripps Research Institute, La Jolla, CA  
Talk: “The Prisoner’s dilemma in cancer” Apr. 2016

## CONFERENCE POSTERS

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9. **AACR Annual Meeting** Orlando, FL  
Poster: “Antifragile therapy” Apr. 2023
8. **AACR: Evolutionary Dynamics in Carcinogenesis and Response to Therapy** Tampa, FL  
Poster: “Antifragile therapy” Mar. 2022
7. **NCI Cancer Systems Biology Consortium Annual Meeting** Virtual Meeting  
Poster: “Tissue structure modulates evolution: premalignant sweeps precede neutral expansion” Sept. 2020
6. **Evolutionary Biology and Ecology of Cancer** Wellcome Genome Campus, Cambridge, UK  
Flash talk / poster: “The immune checkpoint kick start: optimization of combination therapy” Jun. 2018
5. **Cancer Evolution and Ecology: Theory and Clinical Practice** St. Petersburg, FL  
Poster: “The immune checkpoint kick start: optimization of combination therapy” May 2018
4. **Understanding Cancer through Evolutionary Game Theory** Lorentz Center, Leiden, Netherlands  
Flash talk / poster: “The trade off between metastatic risk and tumor progression” Jan. 2018
3. **International Society for Evolution, Ecology and Cancer** Arizona State University, Tempe, AZ  
Flash talk / poster: “Sweeping through resistance: the impact of genetic instability on fixation” Dec. 2017
2. **Models for Oncogenesis, Clonality and Tumor Progression** Math. Bio. Inst. (OSU), Columbus, OH  
Poster: “Comparison of chemotherapeutic strategies using an evolutionary dynamics model” Sep. 2016
1. **Maths in the CSBC & PSON** The Mayo Clinic, Scottsdale, AZ  
Poster: “The prisoner’s dilemma as a cancer model” Apr. 2016

## TEACHING, LECTURES, & STUDENT MENTORING

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### Courses

USA 101: The United States: An American Culture Series Fall 2012, 2013, 2014

### Lectures

BSC 6882: Intro to MATLAB Aug. 31, 2023  
 BSC 6882: Stability Analysis Oct. 12, 2023  
 BSC 6882: Evolutionary Game Theory Nov. 9, 2023  
 BSC 6883: Simulated sequencing / neutral evolution Feb. 23, 2023  
 BSC 6883: Evolutionary Game Assay Feb. 21, 2023  
 BSC 6882: Stability Analysis Oct. 18, 2022  
 BSC 6882: Evolutionary Game Theory Nov. 10, 2022

AME 526: Engineering Analytical Methods	Feb. 9, 2015
AME 341b: Compressible Flow Dynamics	Apr. 7, 2014
AME 341b: Compressible Flow Dynamics	Apr. 1, 2013

**Teaching Assistant\***

AME 525: Engineering Analytical Methods I	Fall 2015
AME 525: Engineering Analytical Methods II	Spring 2015, Fall 2016
AME 341b: Mechoptronics, Laboratory Part A	Fall 2012, 2014
AME 341b: Mechoptronics, Laboratory Part B	Spring 2013, 2014
Body Engineering Los Angeles Fellowship (Grades 7-8)	Fall 2016, Spring 2017

\*Received Nomination for the “University Outstanding Teaching Assistant Award” 2016

**Student Mentoring**

Khorona Visiting Scholars Program; 1 mentee	Summer 2023
Moffitt High School Internship Program (HIP-IMO); 2 mentees	Summer 2023
Moffitt Undergraduate Research Internship; 1 mentee	Summer 2022
Air Force Academy Senior Capstone External advisor; 2 mentees	2020-2021
Moffitt-Dartmouth Internship Program; 1 mentee	Spring 2020
Moffitt High School Internship Program (HIP-IMO); 1 mentee	Summer 2019
Moffitt-PSOC Undergraduate Internship Program; 1 mentee	Summer 2018
Viterbi Undergraduate Merit Researcher Program; 3 mentees	2013 – 2015