

Jill A. Gallaher, Ph.D.

Applied Research Scientist

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Department of Integrated Mathematical Oncology
Moffitt Cancer Center, Tampa, FL

EDUCATION

2004-2010	Ph.D. Biomedical Physics <i>Thesis: Ion Traffic Across Cellular Membranes.</i>	East Carolina University Greenville, NC
1998-2004	B.S. Physics <i>Concentration in biophysics, minor in Spanish.</i>	University of Missouri Columbia, MO

RESEARCH EXPERIENCE

2015-current	Applied Research Scientist Department of Integrated Mathematical Oncology	Moffitt Cancer Center Tampa, FL
2010-2015	Postdoctoral Fellow Department of Integrated Mathematical Oncology	Moffitt Cancer Center Tampa, FL

CURRENT RESEARCH

Moffitt trial	Adaptive therapy of vismodegib in advanced basal cell carcinoma (MCC 21997) <i>Build decision-making pipeline based on photographic lesion analysis, a newly defined burden metric, and a calibrated mathematical model based on treatment sensitive and resistant cells and the drug's pharmacokinetics.</i>
Moffitt trial	Evolutionary Tumor Board (NCT04343365) <i>Build, calibrate, and test mathematical models for patients in the ETB to guide evolutionary strategies, especially adaptive therapy. Provide decision support to clinicians on possible outcomes, treatment response, and timing.</i>
Moffitt trial	Adaptive BRAF-MEK inhibitor therapy for advanced BRAF mutant melanoma (NCT03543969) <i>Analyze patient biomarkers and advise adaptive targeted therapy schedule. Compare arms: continuous triplet immunotherapy with BRAF-MEK treatment, and continuous immunotherapy with adaptive BRAF-MEK treatment. Build mathematical model to guide treatment and predict recurrence.</i>
Moffitt trial	Intermittent androgen deprivation therapy for stage IV sensitive prostate cancer (NCT03511196) <i>Build a mechanistic mathematical model to understand patient response to adaptive therapy and uncover possible resistance mechanisms to guide treatment.</i>
Basic research	Evolvability in tumor growth and treatment response <i>Investigating the role of evolution speed during growth and treatment. Determine how heterogeneity, tradeoffs, and treatment scheduling affects evolutionary trajectory of tumor population using a spatial agent-based model.</i>

FUNDING

2019	\$50K pilot grant <i>Preventing relapse in pediatric metastatic osteosarcoma using evolutionary-informed approaches</i>	Moffitt IMO workshop
2018	\$32K pilot grant renewal <i>Investigating phenotypic & microenvironmental mechanisms for immunotherapy response</i>	Moffitt PSOC
	\$50K pilot grant <i>Inference of evolutionary tumor-immune dynamics to predict treatment strategies in BRAF-mutant melanoma</i>	Moffitt IMO workshop
2017	\$10K pilot grant <i>Investigating phenotypic & microenvironmental mechanisms for immunotherapy response</i>	Moffitt PSOC
2013	\$50K Pilot grant <i>A real-time adaptive treatment platform to extend survival in lung cancers with EGFR mutation</i>	Moffitt IMO workshop
2012	\$50K Pilot grant <i>Improving treatment strategies for patients with metastatic castrate resistant prostate cancer through personalized computational modeling</i>	Moffitt IMO workshop

AWARDS

2020	Travel grant - poster presenter AACR Evolutionary Dynamics in Carcinogenesis & Therapy Response	Moffitt Quantitative Science Division Denver, CO
2017	Travel grant - workshop participant Women Advancing Mathematical Biology Travel grant - invited speaker Maths in the CSBC & PSOC	MBI at OSU Columbus, OH The Mayo Clinic Scottsdale, AZ
2015	Travel grant - invited speaker Cancer Evolution through Space and Time Travel grant - workshop participant Many-cell Systems Modelling Travel grant - workshop participant Tumor Heterogeneity and the Microenvironment	Max Planck Institute Plön, Germany NIMBioS at UT Knoxville, TN MBI at OSU Columbus, OH
2014	Travel grant - invited Speaker Ecology and Evolution of Cancer	MBI at OSU Columbus, OH
2013	Travel grant - invited minisymposium speaker Society for Mathematical Biology	ASU Tempe, AZ
2012	Travel grant - contributed speaker Society for Mathematical Biology	UT Knoxville, TN
2011	Travel grant - contributed speaker ECMTB & SMB Joint meeting	Jagiellonian University Krakow, Poland
2006	Travel grant - poster presenter American Society for Laser Medicine and Surgery	Boston, MA

TEACHING EXPERIENCE

2010	Technical Assistant Math & Physics Department	Pitt Community College Greenville, NC
2008-2009	Instructor Math & Physics Department	Pitt Community College Greenville, NC
2004-2009	Teaching Assistant Physics Department	East Carolina University Greenville, NC
2005, 2006	Freelance Editor	Prentice Hall Online

MENTORING High School

	High School Internship Program	Moffitt Cancer Center
	2023 Trisha Sakmuri, Middleton High School, Tampa, FL	
	2019 John McDonald, East Lake High School, Tarpon Springs, FL	
	2018 Neha Gupta, Solon High School, Cleveland, OH	
	2017 Sri Vaishnavi Rayarao, Tampa, FL	
	2015 Rebecca Titus, Plant High School, Tampa, FL	
Undergraduate	2016 Future Leaders in Interdisciplinary Cancer Research	Moffitt Cancer Center
Graduate	2023 Mariyah Pressley PhD committee	Medical Engineering USF/Moffitt Cancer Center
	2022 Juan Jimenez International PhD committee	Mathematical Oncology University Castilla - La Mancha, Spain

ORGANIZED WORKSHOPS

“ICML Workshop on Computational Biology.” Organization committee. *International Conference on Machine Learning*, 2020-2021, Virtual.

ORGANIZED MINISYMPOSIA

“The cancer ecosystem: optimizing treatment based on evolution .” Co-organized with Alexander R. A. Anderson. *Society for Mathematical Biology*, Jul 2018, Sydney Australia.

“Predicting therapeutic outcomes using mathematical models of cancer.” Co-organized with Jana Gevertz. *SIAM Life Sciences*, Jul 2016, Boston, MA.

“Zooming in and out: connecting individual and population behavior.” *European Society for Mathematical and Theoretical Biology*, Jun 2014, Gothenburg, Sweden.

“Agent-based simulations in oncology: applications to therapeutics.” Co-organized with MunJu Kim. *Society for Mathematical Biology*, Jun 2013, Tempe, AZ.

REVIEWING

Acta Biotheoretica	Bulletin of Mathematical Biology
BMC Bioinformatics	British Lung Foundation
Cell Reports	Clinical and Translational Medicine
Interdiscip Sci Comp Life Sci	ICML Workshop for Comp Bio
J of Can Res & Clin Onc	JRS Interface
Journal of Theoretical Biology	J Translational Medicine
Mathematical Biosciences	Micromachines
Nature Communications	PLOS Computational Biology
PLOS One	Scientific Reports

SERVICE

2020-2023 Data Dashers Fundraising Team co-captain for Miles for Moffitt
2017 Moffitt Postdoctoral Association Social committee: website design

PROFESSIONAL MEMBERSHIPS	Society for Mathematical Biology (2011-2013, 2018-2022)
	American Association for Cancer Research (2011, 2014, 2020,2023)
	International Society for Evolution, Ecology and Cancer (2017)
	Society for Industrial and Applied Mathematics (2016)
	European Society for Theoretical and Mathematical Biology (2012, 2014,2023)
	Biophysical Society (2008-2009)
	American Society for Lasers in Surgery and Medicine (2006)
LANGUAGES & SOFTWARE	Java, MATLAB, Python, Jupyter, R, C++, FORTRAN, Mathematica, L ^A T _E X, HTML, Processing, ImageJ.
	<i>Spoken:</i> English, Spanish
PUBLICATIONS	Strobl, M. A. R., Martin, A., West, J., Gallaher, J., Robertson-Tessi, M., Gatenby, R., Wenham, R., Maini, P., Damaghi, M., and Anderson, A. R. A. “Adaptive therapy for ovarian cancer: An integrated approach to PARP inhibitor scheduling.” <i>Submitted to Cancer Research</i> . (2023).
	Strobl, M.A.R., Gallaher, J., Robertson-Tessi, M., West, J., Anderson, A.R.A. “Treatment of evolving cancers requires dynamic decision support.” <i>Submitted to Annals of Oncology</i> . (2023).
	Gallaher, J., Strobl, M.A.R., West, J., Zhang, J., Gatenby, R. A., Robertson-Tessi, M., Anderson, A.R.A. “The sum and the parts: dynamics of multiple and individual metastases during adaptive therapy.” <i>Provisionally accepted to Cancer Research</i> . (2023).
	Robertson-Tessi, M., Brown, J. S., Poole, M. I., Johnson, M., Marusyk, A., Gallaher, J. A., Luddy, K. A., Whelan, C. J., West, J., Strobl, J., Turati, V., Enderling, H., Schell, M. J., Tan, A., Boyle, T., Mankanji, R., Farinhas, J., Soliman, H., Lemanne, D., Gatenby, R. A., Reed, D. R., Anderson, A. R. A., Chung, C. H.. “Feasibility of an Evolutionary Tumor Board for Generating Novel Personalized Therapeutic Strategies.” <i>Submitted to Nature Cancer</i> . (2022).
	West, J., Adler, F., Gallaher, J., Strobl, M., Brady-Nicholls, R., Brown, J. S., Robertson-Tessi, M., Kim, E., Noble, R., Viossat, Y., Basanta, D., Anderson, A.R.A. “A survey of open questions in adaptive therapy: bridging mathematics and clinical translation.” <i>eLife</i> . (2023).
	Zhang, J., Gallaher, J., Cunningham, J. J., Choi, J. W., Ionescu, F., Chatwal, M. S., Jain, R., Kim, Y., Wang, L., Brown, J. S., Anderson, A. R. A., Gatenby, R.. “A phase 1b adaptive androgen deprivation therapy trial in metastatic castration sensitive prostate cancer.” <i>Cancers</i> . (2022).
	Strobl, M.A.R., Gallaher, J., West, J., Robertson-Tessi, M., Maini, P.K., Anderson, A.R.A. “Spatial structure impacts adaptive therapy by shaping intr-tumoral competition.” <i>Communications Medicine</i> . (2022).
	Pressley, M., Gallaher, J.A., Brown, J.S., Tomaszewski, M.R., Borad, P., Damaghi, M., Gillies, R.J., Whelan, C.J. “Cycling hypoxia selects for constitutive HIF stabilization.” <i>Scientific Reports</i> . (2021).
	Gallaher, J., Hawkins-Daarud, A., Massey, S., Swanson, K.R.S., Canoll, P., and Anderson, A.R.A. “From cells to tissue: How cell scale heterogeneity impacts glioblastoma growth and treatment response.” <i>PLOS Computational Biology</i> . (2020).
	Bravo, R. R., Baratchart, E., West, J., Schenck, R. O., Miller, A., Gallaher, J., Gatenbee, C. D., Basanta, D., Robertson-Tessi, M., Anderson, A. R. A. “Hybrid Automata Library: A modular platform for efficient hybrid modeling with real-time visualization.” <i>PLOS Computational Biology</i> . (2020).
	Gallaher, J., Brown, J., and Anderson, A.R.A. “The impact of proliferation-migration tradeoffs on phenotypic evolution in cancer.” <i>Scientific Reports</i> . 9(2019). *In the Top

100 most downloaded articles from Scientific Reports - 2019.

Massey, S. C., Hawkins-Daarud, A., Gallaher, J., Anderson, A. R. A., Canoll, P., Swanson, K. R. "Lesion Dynamics Under Varying Paracrine PDGF Signaling in Brain Tissue." *Bull Math Biol.* (2019).

Gallaher, J., Larripa, K., Renardy, M., Shtylla, B., Tania, N., White, D., Wood, K., Zhu, Li., Passey, C., Robbins, M., Bezman, N., Shelat, S., Cho, H. J., Moore, H. "Methods for determining key components in a mathematical model for tumor-immune dynamics in multiple myeloma", *Journal of Theoretical Biology.* 458 (2018): 31-46.

Gallaher, J., Larripa, K., Ledzewicz, U., Renardy, M., Shtylla, B., Tania, N., White, D., Wood, K., Zhu, Li., Passey, C., Robbins, M., Bezman, N., Shelat, S., Cho, H. J., Moore, H. "A mathematical model for tumor-immune dynamics in multiple myeloma", In *Understanding Complex Biological Systems with Mathematics.* Springer, 2018.

Gallaher, J., Enriquez-Navas, P. M., Luddy, K. A., Gatenby, R. A., and Anderson, A. R. A. "Spatial Heterogeneity and Evolutionary Dynamics Modulate Time to Recurrence in Continuous and Adaptive Cancer Therapies." *Cancer Research.* 78(2018): 2127-39.

Juliano, J., Gil, O., Hawkins-Daarud, A., Noticewala, S. Rockne, R.C., Gallaher, J., Massey, S., Sims, P. A., Anderson, A.R.A., Swanson, K.R.S., and Canoll, P. "Comparative dynamics of microglial and glioma cell motility at the infiltrative margin of brain tumors." *JR Soc Interface.* 15 (2018): 2017058.

Massey, S. C., Rockne, R. C., Hawkins-Daarud, A., Gallaher, J., Anderson, A. R. A., Canoll, P., Swanson, K. R. "Simulating PDGF-Driven Glioma Growth and Invasion in an Anatomically Accurate Brain Domain." *Bull Math Biol.* (2017): 1-18.

Gallaher, J. A., Hawkins-Daarud, A., Massey, S. C., Swanson, K. R., and Anderson, A. R. A. "Hybrid approach for parameter estimation in agent-based models." *BioRxiv.* (2017): 1-3.

Saeed-Vafa, D., Bravo, R., Dean, J. A., El-Kenawi, A., Mon Pèrè, N., Strobl, M., Daniels, C., Stringfield, O., Damaghi, M., Tunali, I., Brown, L. V., Curtin, L., Nichol, D., Peck, H., Gillies, R. J., and Gallaher, J. A. "Combining radiomics and mathematical modeling to elucidate mechanisms of resistance to immune checkpoint blockade in non-small cell lung cancer." *BioRxiv.* (2017): 1-5.

Gatenbee, C., Folguera-Blasco, N., Daniels, C., Gallaher, J., Rockne, R., Nicholson, M., Maniati, E., Kennedy, J., Luddy, K., Locke, F. L., Robertson-Tessi, M. "Exploiting Homeostatic Repopulation to Increase DC Vaccine Efficacy in Multiple Myeloma." *BioRxiv.* (2016): 1-3.

Gallaher, J. and Anderson, A.R.A. "The role of contact inhibition in intratumoral heterogeneity: An off-lattice individual based model." *bioRxiv, 036467* (2016): 1-3.

Gallaher, J., Cook, L. M., Gupta, S. Araujo, A., Dillon, J. Park, J. Y., Scott, J. G., Pow-Sang, J., Basanta, D., and Lynch C. C. "Improving treatment strategies for patients with metastatic castrate resistant prostate cancer through personalized computational modeling." *Clinical & Experimental Metastasis.* 31 (2014): 991-999.

Gallaher, J., Babu, A., Plevritis, S., Anderson, A. R. A. . "Bridging population and tissue scale tumor dynamics: A new paradigm for understanding differences in tumor growth and metastatic disease." *Cancer Research.* 74 (2014): 426-435.

Gallaher, J., Anderson, A. R. A. . "Evolution of intratumoral phenotypic heterogeneity: the role of trait inheritance." *Interface Focus.* 3 (2013): 20130016.

Bier, M., Gallaher, J. "Ion Traffic Through a Cell Membrane - and How its 1/f Noise

Connects to Gambler's Ruin, Catalan Numbers and Zipf's Law." *Fluctuation and Noise Letters*. 10 (2011): 419-430.

Gallaher, J., Wodzińska, K., Heimbürg, T., and Bier, M. "Ion-channel-like Behavior in Lipid Bilayer Membranes at the Melting Transition." *Physical Review E* 81 (2010): 061925.

Gallaher, J., Bier, M., and Siegenbeek van Heukelom, J. "First Order Phase Transition and Hysteresis in a Cell's Maintenance of the Membrane Potential - An Essential Role for the Inward Potassium Rectifiers." *Biosystems* 101 (2010): 149-155.

Barakat, I., Gallaher, J., Chen, H., and Lee, R. C. "In Vivo Electroporation: An Important Injury Mechanism in Electrical Shock Trauma." In *Advanced Electroporation Techniques in Biology and Medicine*, edited by A. Pakhomov, D. Miklavcic, and M. Markov. Boca Raton, FL: CRC Press, 2010.

Gallaher, J., Bier, M., and Siegenbeek van Heukelom, J. "The Role of Chloride Transport in the Control of the Membrane Potential in Skeletal Muscle - Theory and Experiment." *Biophysical Chemistry* 143 (2009): 18-25.

INVITED TALKS "Strategies for adaptive therapy in advanced basal cell carcinoma". *Invited by Tom Yankeelov at the University of Texas in Austin*, Feb 2024, Virtual.

"Agent-based modelling in glioblastoma". *Keynote speaker at Workshop on Computational Modelling of Cancer Biology and Treatments*, July 2021, Virtual.

"Using tumor dynamics to characterize and treat metastatic cancer". *Invited by Suzanne Sindi at the University of California, Merced Applied Mathematics department meeting*, May 2021, Virtual.

"Dynamics of spatial metastatic systems during adaptive therapy". *Cancer Adaptive Therapy Models*, December 2020, Virtual.

"Improving systemic measures of tumor burden in metastatic prostate cancer: connecting PSA, AR, and testosterone dynamics to resistance mechanisms". *Moffitt Virtual Scientific Symposium*, May 2020, Virtual.

"Applied mathematics in biology and cancer". *May 12: A celebration of Women in Mathematics in honor of Miryam Mirzakhani*, May 2020, Virtual.

"Evolutionary Therapies". *Darwin Days - Hillsborough County Schools*, Feb 2020, Tampa, FL.

"Systemic dynamics of multiple metastases during adaptive therapy". *Society for Mathematical Biology*, Jul 2019, Montreal, Quebec, Canada.

"Growth-factor driven glioblastoma: connecting a hybrid agent-based model to multi-scale data". *BIRS Workshop: Mathematical and Statistical Challenges of connecting models to biological data*, Nov 2018, Banff, Alberta, Canada.

"Modeling growth and treatment dynamics in PDGF-driven glioblastoma: how heterogeneity manifests across scales". *Society for Mathematical Biology*, Jul 2018, Sydney, Australia.

"Adaptive vs continuous cancer therapy: Exploiting space and trade-offs in drug scheduling". *International Society for Evolution, Ecology, and Cancer*, Dec 2017, Tempe, AZ.

"Adaptive therapy for heterogeneous tumors: exploiting trade-offs and space in drug scheduling". *Modeling Biological Evolution*, Apr 2017, Leicester, England.

"Growth-factor driven glioblastoma across scales: from the bulk to single cells in growth and treatment". *Maths of the PSON & ICBP Meeting*, Feb 2017, Scottsdale,

AZ.

“How a tumor’s phenotypic distribution can guide treatment strategy”. *Society for Industrial and Applied Mathematics*, Jul 2016, Boston, MA.

“Targeting the phenotype: treatment strategies for heterogeneous tumors”. *American Institute of Mathematical Sciences*, Jul 2016, Orlando, FL.

“How a tumor’s phenotypic distribution can guide treatment strategy”. *Invited by Rick Durrett to the Duke University Mathematics department meeting*, May 2016, Durham, NC.

“Steering phenotypic evolution in heterogeneous tumors”. *Cancer Evolution through Space and Time at the Max Planck Institute for Evolutionary Biology*, Sept 2015, Plön, Germany.

“Steering tumor heterogeneity: phenotypic selection vs clonal targeting ”. *Ecology and Evolution of Cancer workshop at the Mathematical Biosciences Institute*, Sept 2014, Columbus, OH.

“Understanding the relative role of intrinsic and extrinsic heterogeneity in glioblastoma”, in the minisymposium: Spatial Models in Cancer. *European Conference on Mathematical and Theoretical Biology*, Jun 2014, Gothenburg, Sweden.

“Hurry up and wait!: an agent-based model of glioblastoma with saltatory migration of single cells”, in the minisymposium: Brain Oncology Network of Knowledge. *Society for Mathematical Biology*, Jun 2013, Tempe, AZ.

“Innate Sensitivity or acquired acclimation.” *Integrated Cancer Biology Program Math Meeting*, Mar 2012, Tampa, FL.

“Competition breeds insight: elucidating trait inheritance through environmental stress.” *Integrated Cancer Biology Program Jr Investigators Meeting*, Oct 2011, Cambridge, MA.

“From populations to cells and back again: linking primary growth rates to metastatic burden.” *Integrated Cancer Biology Program PI Meeting*, Sept 2011, New York, NY.

“Phenotypic Inheritance in a growing tumor.” *CWI Life Sciences seminar*, Jul 2011, Amsterdam, The Netherlands. Invited by Roeland Merks of the Biomodeling and Biosystems Analysis Group.

CONTRIBUTED TALKS

“Coupling PSA and testosterone dynamics to better classify tumor resistance in prostate cancer.” *Society for Mathematical Biology and European Society for Mathematical and Theoretical Biology Joint Meeting*, Sep 2022, Heidelberg, Germany.

“Using adaptive therapy to characterize collective and individual characteristics of metastases.” *Society for Mathematical Biology Annual Meeting*, Jun 2021, Virtual.

“Traversing Scales: combining population statistics with tissue dynamics to link primary and metastatic disease.” *Society for Mathematical Biology Annual Meeting*, Jul 2012, Knoxville, TN.

“Phenotypic Inheritance Transforms heterogeneity in tumor growth.” *European Conference on Mathematical and Theoretical Biology & Society for Mathematical Biology Joint Meeting*, Jun 2011, Krakow, Poland.

“An analytic study of the bistable transmembrane voltage with hypokalemia.” *ECU Research and Creative Achievement Week*, Mar 2009, Greenville, NC.

POSTERS

Gallagher, J., Strobl, M., West, J., Robertson-Tessi, M., Gatenby, R., Zhang, J., and Anderson, A. R. A. “Predicting progression in metastatic castrate-sensitive prostate cancer by coupling PSA and testosterone dynamics to a mathematical model” *Bio-*

engineering at Moffitt, Feb 2023, Tampa, FL.

Gallaher, J., Strobl, M., West, J., Robertson-Tessi, M., Zhang, J, and Anderson, A. R. A. "Coupling PSA and testosterone dynamics to better classify resistance modes in prostate cancer." *Moffitt Scientific Symposium*, May 2022, Tampa, FL.

Gallaher, J., Strobl, M., West, J., Robertson-Tessi, M., and Anderson, A. R. A. "The sum and the parts: dynamics of multiple and individual metastases during adaptive therapy." *Moffitt Scientific Symposium*, Apr 2021, Virtual.

Gallaher, J., and Anderson, A. R. A. "The impact of metastatic seeding on adaptive therapy." *PSOC Annual Investigator's Meeting*, Sept 2019, Tampa, FL.

Gallaher, J., Gatenby, R. A., and Anderson, A. R. A. "Systemic versus local dynamics of multiple metastases during adaptive therapy." *Moffitt Scientific Symposium*, May 2019, Tampa, FL.

Gallaher, J., Tunalı, I., Bravo, R., Anderson, A. R. A., Gillies, R. J., Robertson-Tessi, M., and Damaghi, M. "Investigating phenotypic and microenvironmental mechanisms for immunotherapy response ." *Moffitt Cancer Biology and Evolution Symposium*, Jun 2018, Tampa, FL.

Gallaher, J., Hawkins-Daarud, A., Massey, S., Swanson, K. R., Canoll, P., and Anderson, A. R. A. "Heterogeneity across scales in GBM: Multiscale modeling post-treatment dynamics in PDGF-driven glioblastoma ." *Moffitt Scientific Symposium*, May 2018, Tampa, FL.

Gallaher, J., Enriquez-Navas, P. M, Luddy, K. A. Gatenby, R. A. and Anderson, A. R. A. "Adaptive Therapy for Heterogeneous Cancer: exploiting space and trade-offs in drug scheduling." *Moffitt Scientific Symposium*, May 2017, Tampa, FL.

Gallaher, J., Stringfield O., and Anderson, A. R. A. "Integrating patient-specific quantitative imaging with a dynamic mathematical tissue model to infer lung adenocarcinoma growth and outcome." *3rd Annual Moffitt Anatomic Pathology Symposium*, Jan 2017, Sarasota, FL.

Gallaher, J., Hawkins-Daarud, A., Massey, S., Swanson, K. R., Canoll, P., and Anderson, A.R.A. "How heterogeneity influences post-treatment dynamics in PDGF-driven glioblastoma." *Moffitt Scientific Symposium*, May 2016, Tampa, FL.

Gallaher, J., Massey, S., Hawkins-Daarud, A., Swanson, K. R., Canoll, P., and Anderson, A.R.A. "Fitting models with single cell data in growth factor driven glioblastoma." *Many-cell system modeling workshop at the National Institute for Mathematical and Biological Synthesis*, Jul 2015, Knoxville, TN.

Gallaher, J., Tyson, D., Quaranta, V, and Anderson, A.R.A. "Heterogeneous responses to anticancer drugs." *Joint PSOC/ICBP Maths meeting*, Feb 2015, Tampa, FL.

Gallaher, J. and Anderson, A.R.A. "The velocity of phenotypic evolution." *Tumor Heterogeneity and the Microenvironment workshop at the Mathematical Biosciences Institute*, Feb 2015, Columbus, OH.

Gallaher, J. and Anderson, A.R.A. "Treating Intratumor heterogeneity: evolution and drug resistance." *Moffitt Scientific Symposium*, May 2014, Tampa, FL.

Gallaher, J. and Anderson, A.R.A. "Exploiting evolution to develop better personalized therapeutic strategies." *American Association for Cancer Research session on Cellular Heterogeneity in the Tumor Microenvironment*, Feb 2014, San Diego, CA.

Gallaher, J. and Anderson, A.R.A. "Treatment of Heterogeneous Tumors: shaping the phenotype space." *Integrated Cancer Biology Program Principle Investigators Meeting*, May 2013, Rockville, MD.

Gallaher, J., Canoll, P., Swanson, K. R., Anderson, A.R.A. "Does preexisting heterogeneity in glioblastoma inform post-treatment dynamics?" *Society for Neuro-Oncology*, Nov 2012, Washington D.C.

Gallaher, J., Babu, A., Plevritis, S., Anderson, A.R.A. "Traversing Scales: combining population statistics with tissue dynamics to link primary and metastatic disease." *Moffitt Scientific Symposium*, Apr 2012, Tampa, FL.

Gallaher, J., Tyson, D., Quaranta, V., Anderson, A.R.A. "Trait selection in a serum-deficient environment." *Integrated Cancer Biology Program Principle Investigator's Meeting*, Sept 2011, New York, NY.

Gallaher, J., Anderson, A.R.A. "*In silico* investigation of the role of phenotypic inheritance in a heterogeneous tumor population." *Moffitt Scientific Symposium*, Apr 2011, Tampa, FL.

Gallaher, J., Bier, M., and Siegenbeek van Heukelom, J. "Uncovering an Analytical Description of the Transmembrane Voltage Bistability at Low Extracellular Potassium Concentrations." *Biophysical Society Annual Meeting*, Feb 2009, Boston, MA.

Gallaher, J., Bier, M., and Siegenbeek van Heukelom, J. "Control of the Membrane Potential by Chloride Transport in Skeletal Muscle - Theory and Experiment." *Biophysical Society Annual Meeting*, Feb 2008, Long Beach, CA.

Gallaher, J., Bier, M., and Siegenbeek van Heukelom, J. "Isoprenaline Eliminates Cellular Transmembrane Voltage Bistability - Theory and Experiment." *East Carolina University Research and Creative Achievement Week*, Mar 2007, Greenville, NC.

Gallaher, J. A., Bonnerup, C. A., Allison, R. R., and Sibata, C. H. "Fluorescence Response Quantification of Photofrin® Concentration in Optical Phantoms." In *American Society for Laser Medicine and Surgery Annual Meeting*, Mar 2006, Boston, MA.