**Kristin Rae Swanson, Ph.D.**

Precision Neurotherapeutics Innovation Lab Twitter: @PNTLab @gliomath

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**VISION**

My research lab has served to pioneer the burgeoning field of Mathematical Neuro-oncology generating excellent data to support new approaches to personalize precision treatment choices and thus improve the lives of brain cancer patients.  We achieve this through the development of patient-specific mathematical models ideally applied to routinely-acquired clinical or research imaging to generate accurate predictions of disease course and response to therapy in individual patients that can be used inform optimized therapy design. Our mission is to transform survival in patients with brain tumors by developing predictive models that are actively used to design optimized patient-specific therapeutic strategies.

**EDUCATION**

**Postdoc** Mathematical and Computational Medicine 1999-2000

University of California, San Francisco, CA

**PhD** Mathematical Biology June 1999

University of Washington, Seattle, WA

Advisor: Professor J. D. Murray, FRS, FRSE

Thesis: “Mathematical Modeling of the Growth and Control of Tumors”

**MS** Mathematical Biology June 1998

University of Washington, Seattle, WA

**BS** Mathematics (Minor: Physics) May 1996

Tulane University, New Orleans, LA

Magna Cum Laude with University & Departmental Honors

**PROFESSIONAL EXPERIENCE**

**Professor of Neurological Surgery** May 2015 — Present

**Vice Chair of Research, Neurological Surgery Department**

**Co-Director, Precision NeuroTherapeutics (PNT) Innovation Program**

**Director, Mathematical NeuroOncology (MNO) Lab**

**Member, Mayo Clinic Cancer Center**

**Senior Associate Consultant II**

Mayo Clinic, Phoenix, AZ

**Professor of Mathematical and Statistical Sciences** May 2015 — Present

Arizona State University, Tempe, AZ

**Adjunct Professor of Cancer and Cell Biology** May 2015 — Present

Translational Genomics Institute (TGen), Phoenix, AZ

**Professor of Neurological Surgery** 2012 — 2015

**Vice Chair of Research, Neurological Surgery**

**Member, Robert H. Lurie Comprehensive Cancer Center**

**Member, Northwestern University Brain Tumor Institute**

**Professor of Radiology** 2014 — 2015

**Member, Chemistry of Life Processes Institute**

Northwestern University Feinberg School of Medicine, Chicago, IL

**Professor of Engineering Sciences and Applied Mathematics** 2013 — 2015

Northwestern University McCormick School of Engineering and Applied Sciences, Evanston, IL

**Affiliate Professor of Applied Mathematics** 2012 — Present

Applied Mathematics, University of Washington, Seattle, WA

**James D. Murray Endowed Chair of Applied Mathematics in Neuropathology** 2011 — 2012

**Associate Research Professor of Pathology (Neuropathology)** 2008 — 2012

**Shaw Professorship in Investigative Neuropathology** 2004 — 2005

**Assistant Research Professor of Pathology (Neuropathology)** 2002 — 2008

Pathology (Neuropathology), University of Washington School of Medicine

**Adjunct Associate Research Professor of Applied Mathematics** 2008 — 2012

**Adjunct Assistant Research Professor of Applied Mathematics** 2002 — 2008

Applied Mathematics, University of Washington

**Affiliate Investigator of Computational Biology** 2009 — 2012

Computational Biology Program, Fred Hutchinson Cancer Research Center

**Acting Instructor / Senior Fellow / NSF Postdoctoral Fellow** 2000 — 2002

Pathology (Neuropathology) and

Applied Mathematics, University of Washington, Seattle, WA

**NSF Mathematical Sciences Postdoctoral Fellow** 1999 — 2000

Medicine, University of California, San Francisco, CA

**NSF Mathematical Biology Graduate Research Fellow /** 1996 — 1999

**Boeing Research Fellow / Graduate Research Associate/ Teaching Assistant**

Applied Mathematics, University of Washington, Seattle, WA

**CURRENT RESEARCH FUNDING**

**NIH U01** (MPI) 10/01/2017 – 09/31/2022

“Quantifying Multiscale Competitive Landscapes of Clonal Diversity in Glioblastoma”

MPI: *K. R. Swanson* (contact), *L. Hu, R. Mitchell, N. Tran* (Mayo)

**Total Costs**: $3.4M over 5 years

**NIH/NCI Physical Sciences Oncology Center** U54 CA143970 10/01/2015 – 09/31/2020

“Cancer as a complex adaptive system”

PD: *R. Gatenby* (Moffitt Cancer Center)

MPI of Project 2: K. R. Swanson

**Total Costs**: $10M over 5 years

**NIH/NCI Physical Sciences Oncology Center** U54 (PI of Project 1) 10/01/2016 – 09/31/2020

“Cancer as a complex adaptive system”

PD: *F. White* (MIT) J. Sarkaria (Mayo)

PI of Project 1 and co-I of Integration Core: *K. R. Swanson*

**Total Costs**: $9.7M over 5 years

**Ivy Foundation** (PI) 10/01/2016 – 09/31/2020

“The Mathematical NeuroOncology Program: Towards Precision Neurotherapeutics”

PI: K. R. Swanson

Total Costs: $2M over 4 years

**Arizona Biomedical Research Consortium** (MPI) 03/01/2017 – 02/01/2020

“Patient-Specific Neuro-Oncology: Forecasting Tumor Growth and Recurrence in Individual Patients” MPI: *K. R. Swanson*, *E. Kostelich* (ASU)

Total Costs: $750K over 3 years

**James S. McDonnell Foundation** (PI) 09/01/2014 – 03/31/2018

“The ENDURES Study: Environmental dynamics underlying responsive extreme survivors of glioblastoma”

PD: K. R. Swanson

Co-PIs: P. Canoll (Columbia), R. Gatenby (Moffitt), K. Egan (Moffitt)

**Total Costs**: $1,850,584 over 3.5 years

**PENDING RESEARCH FUNDING**

**NIH/NCI R35** (PI) 10/01/2017 – 09/31/2024 “Translational Innovations in Mathematical Neuro Oncology: Towards Quantitative Precision Medicine”

PI: *K. R. Swanson*

**NIH/NCI Center for Cancer Systems Biology U54** (PD) 12/01/2017 – 11/31/2022 “Integrative Tumor Modeling and Imaging Physics to Decouple Tumor Biology from Clinical Imaging”  
PDs: *K. R. Swanson, P.* Canoll (Columbia)

Project PIs: Hu (Mayo), Tran (Mayo), Li (ASU), Wu (ASU)

Total Costs: $12M

**NIH Program Project Grant P01** (PI of Core) 09/01/2015 – 08/31/2020

“Novel Therapeutic Approaches for HER2+ Brain Metastases”

PD: *M. Lesniak* (U Chicago),

PI of Mathematical Oncology Core: *K. R. Swanson*

**PAST RESEARCH FUNDING**

**NIH/NCI R01 Grant** (MPI) – R01 CA16437 09/30/2011 – 07/31/2017

“Patient-specific predictive modeling that integrates advanced cancer imaging”

(NCE) MPIs: K. R. Swanson, P. Kinahan (Radiology, University of Washington)

**Total Costs**: $4,497,606 over 5 years

**Supplement to NIH/NCI R01 Grant** (MPI) – R01 CA16437 08/01/2013 – 07/31/2017

“Patient-specific predictive modeling that integrates advanced cancer imaging”

(NCE) MPIs: K. R. Swanson, P. Kinahan(Radiology, University of Washington)

**Total Costs**: $500,000 over 4 years

**Mayo NIH/NCI Brain SPORE Developmental Research Project** (co-I) 05/01/2016 – 04/31/2017

“Patterns of Recurrence”

PI: L. Hu (Mayo)

**Total Costs**: $100K over 1 year

**NIH/NINDS R01 Grant** (Consultant) – R01 NS073610 09/15/2012 – 08/31/2016

“Myosin II and Glioma Dispersion”

MPIs: S. Rosenfeld (Cleveland Clinic) & P. Canoll (Columbia University)

**Total Costs**:

**NIH T32 Neuroscience of Human Cognition** (Mentor) 09/01/2014 – 08/31/2016

“Neural Capacity as Predictors of Cognition in Extreme Survivors of Glioblastoma Multiforme”

MSTP Student: C. Paula de Los Angeles

Co-Mentors: L. Wang (Psychiatry), K. R. Swanson

**NIH/NINDS R01 Research Grant** (PI) – R01 NS060752 (NCE) 08/05/2009 – 07/31/2015

“Novel Tools for Evaluation and Prediction of Radiotherapy Response in IndividualGlioma Patients”

PI: K. R. Swanson

Total Costs: $1,647,115

**NIH/NCI Physical Sciences Oncology Center** (PI Project 3) U54 CA143970 09/01/2009 – 08/31/2015 “The Physical Microenvironment in Cancer Biology and Therapy”

(NCE) *Project 3:* “Clinical Imaging and the Tumor Physical Microenvironment”

PD: *R. Gatenby* (Moffitt Cancer Center)

PI of Project 3: *K. R. Swanson*

**Total Costs**: $6,083,591, Project 3: $913,706

**James S. McDonnell Foundation Collaborative Activity Award** (PI) 06/01/2011–02/28/2015 “BONK: Predicting and Controlling Glioma Recurrence: The Role of Heterogeneity and Microenvironment”

PI: *K. R. Swanson*, Co-PIs: *P. Canoll* (Columbia), *A. Anderson* (Moffitt)

**Total Costs**: $1,590,000

**Dixon Translational Research Grant** (MPI) 01/01/2014 – 12/31/2014

“Predicting the Storm: Patient-Specific Mathematical Modeling of Pediatric High Grade Gliomas to Determine Early Predictors of Response to Therapy”

MPIs: *K. R. Swanson, S. Goldman* (Lurie Children’s Hospital)

**Total Costs**: $49,994

**Phase II Irving Institute Grant for Collaborative and Multidisciplinary Pilot   
Research (CaMPR)** (Consulting Investigator) 07/01/2012 – 06/31/2013

“Improving imaging biomarkers for brain tumor resection.”

MPIs: *E. Hillman, P. Canoll, G. McKhann (Columbia)*

**Total Costs**: $75,000

**NSF Research Coordination Network Incubator Award** (Collaborator/Member)

“Interdisciplinary Communication Laboratory for Undergraduate Biology (iCLUB)”

MPIs: *H. Gaff, J. Alonzo (Old Dominion)*  06/01/2011 – 05/31/2012

**Total Costs**:

**James S. McDonnell Foundation Planning Award** (PI) 10/01/2009 – 09/30/2012

“Brain Oncology Network of Knowledge (BONK)”

PI: K. R. Swanson

**Total Costs**: $50,000

**NIH/NINDS R56 Grant** (Co-Investigator) – R56 NS066992 09/01/2010 – 08/31/2012 “The Role of Myosin II in Glioma Invasion”

MPIs: *S. Rosenfeld & P. Canoll* (Columbia University)

Total Costs (UW subcontract): $18,552

**Planning Grants for Collaborative and Multidisciplinary Pilot Research (CaMPR)** (Consulting Investigator) 11/14/2011 – 03/14/2012

“Uncovering the hemodynamic signature of glioma with ultra-fast multispectral optimal imaging”

MPIs: *E. Hillman, P. Canoll, G. McKhann (Columbia)*

**Total Costs**: $15,000

**NIH/NCI U54 Physical Sciences Oncology Center Pilot Grant** (PI) 09/01/2010 – 08/31/2011

“In Silico Investigation of Novel Anti-angiogenic Therapeutic Strategies for Gliomas”

PI: K. R. Swanson

**Total Costs**: $58,766

**Brain Tumor Funders’ Collaborative Award** (PI) 01/01/2010 – 12/31/2010

“Patient-specific metrics of treatment response”

PI: *K. R. Swanson*

**James F. McDonnell Foundation 21st Century Research Award** (PI) 08/15/2005 – 12/01/2010

“Dynamics of Glioma Growth and Invasion”

PI: *K. R. Swanson*

**NIH/NCI Program Project Grant** (Co-Investigator) – P01 CA42045 05/10/2004 – 02/28/2010

“Molecular Imaging of Cancer and Its Response to Therapy”

PI: *K. Krohn* (Radiology, University of Washington)

**Ivy Foundation** (co-PI) 12/01/2008 – 11/30/2009

“Quantitatively Connect *In Vivo* Behavior with Protein Expression in Malignant Gliomas”

Co-PI’s: *J. Zhang /* *K. R. Swanson*

**U****niversity of Washington-Fred Hutchison Cancer Research Center** 02/01/2008 – 01/31/2009

**Cancer Consortium Molecular Diagnostics Pilot Award** (PI)

“An Innovative Means to Connect *In Vivo* Behavior with Protein Expression in Malignant Gliomas”

05/01/2003 – 09/01/2006

**Dana Foundation Program in Brain and Immuno-Imaging Grant** (PI)

“Integration of MR and PET Imaging Characteristics with Mathematical Modeling to Define the Extent of Invasion of Gliomas”

PI: *K. R. Swanson*

**NIH K01 Award** (Consultant) 09/01/2001 – 08/31/2006

“MRI/MRSI and Molecular Analysis of Low Grade Gliomas”  
PI: *K. R. Swanson*

**University of Washington-Fred Hutchison Cancer Research Center** 11/01/2004 – 12/31/2005

**Cancer Consortium Pilot Award** (PI)

“Glioma Growth, Invasion and Angiogenesis: Integrating Mathematical Modeling and Imaging”

PI: *T. McKnight* (Magnetic Resonance Sciences Center, UCSF)

**French Ministry of Science Grant** (Investigator) 09/01/2002 – 08/31/2005  
“Interaction Between the Functional Brain and Glioma Growth: A Modeling of the Static and Temporal Metabolic, Electrophysiological and Hemodynamic Parameters”  
PI: *R. Costalat* (Université Pierre et Marie Curie, Paris)

### AWARDS, FELLOWSHIPS, SCHOLARSHIPS AND OTHER HONORS

2017 **Mayo Clinic Service Award for Diversity & Inclusion**

2014 **Most Accessed Paper of all time "Modeling Tumor-associated Edema in Gliomas During Anti-angiogenic Therapy and its Impact on Imageable Tumor."** **- Frontiers in Molecular and Cellular Oncology**

2013 **No. 3 Ranked Paper in Journal, “From Patient-specific Mathematical Neuro-Oncology Towards Precision Medicine.”- Frontiers in Molecular Cellular Oncology**

2013 **Ranked No. 1 as Pater in this Journal, “Modeling Tumor-associated Edema in Gliomas During Anti-angiogenic Therapy and its Impact on Imageable Tumor.”- Frontiers in Molecular Oncology**

2011 – 2012 **James. D. Murray Endowed Chair of Applied Mathematics in Neuropathology**

2011 **Best Abstract for Western Regional Society for Nuclear Medicine Annual Meeting**

2010 **Awarded Best Clinical Investigation of 2009 – Journal of Nuclear Medicine**

2009 **William E. Schiesser Endowed Lecture – Lehigh University**

2009 **Finalist – Hoshino Award – World Federation of Neuro-Oncology**

2008 **Undergraduate Research Mentor of the Year, University of Washington**

2007 **Nominated for Paul Marks Prize in Cancer Research**

2005-2010 **James F. McDonnell Foundation 21st Century Research Award**

2004-2005 **Shaw Professorship in Investigative Neuropathology**

2001 **Burroughs Welcome Fund Career Awards at the Scientific Interface Finalist**

* 1. **NSF Mathematical Sciences Postdoctoral Research Fellowship**

1999 **Landahl/Busenberg Travel Grant**

1998 **NSF Mathematical Biology Training Grant**

**Program in Mathematics and Molecular Biology Fellowship Alternate**

1997 **Boeing Research Fellowship**

1996 **Kappa Kappa Gamma Prize in Mathematics** (1st in graduating class – Math)

**Elsie Field Dupre Memorial Prize in Physics** (1st in graduating class – Physics)

**Tulane University Senior Scholar in Mathematics**

**Tulane University Outstanding Senior Mathematics Major**

**National Physical Sciences Consortium Fellowship Alternate**

1995 **Mortar Board National Senior Honor Society**

**Newcomb College Daisy Chain Commencement Honor**

**Martha Gilmore Robinson Honorary Scholarship**

1. **Viola V. Knapp Honorary Scholarship**
2. **Florence Kerwin Honorary Scholarship**

**Student Initiated - Newcomb Fellows Research Grant**

1992-1996 **Tulane University Dean's List / Honors Program**

### Publications

**Patents**

“Method and system for characterizing tumors”   
**K. R. Swanson**. E. C. Alvord, Jr, J. D. Murray, R. Rockne

File date: 2/19/2010

Application #: US 12/709,367

Publication Date: October 29, 2013

**Theses**

1. **K. R. Swanson**. Mathematical Modeling of the Growth and Control of Tumors, PhD Dissertation, University of Washington, 1999
2. **K. R. Swanson**. Turing Model of Pattern Formation with Periodic Conditions, Undergraduate Honors Thesis, Tulane University, 1996

**Books**

1. J. M. Gottman, J. D. Murray, C. C. Swanson, R. Tyson, **K. R. Swanson**. The Mathematics of Marriage: Dynamic Nonlinear Models, MIT Press (Bradford Books): Cambridge, 2003

**Articles – Peer Reviewed**

1. J. D. Murray, **K. R. Swanson**: On the Mechanochemical Theory of Biological Pattern Formation with Applications to Wound Healing and Angiogenesis. In: *On Growth and Form: Spatio-temporal Patterning in Biology*, edited by Drs. M. A. J. Chaplain, J. McLauchlan, G. D. Singh, Wiley (London), 1999, pp. 251-285
2. **K. R. Swanson**, E. C. Alvord Jr, J. D. Murray: A Quantitative Model for Differential Motility of Gliomas in Grey and White Matter. *Cell Proliferation*, 2000, 33: 317-329 PMID: 11063134
3. **K. R. Swanson**, J.D. Murray, D. Lin, L. D. True, K. Buhler, R. Vessella: A Quantitative Model for the Dynamics of Serum Prostate-Specific Antigen as a Marker for Cancerous Growth: An Explanation for a Medical Anomaly**.** *American Journal of Pathology*, 158(6): 2195-9, 200. PMCID: PMC2216460
4. **K. R. Swanson**, E. C. Alvord Jr, J.D. Murray: Virtual Brain Tumors (Gliomas) Enhance the Reality of Medical Imaging and Highlights Inadequacies of Current Therapy. *British Journal of Cancer*, 86:14-18, 2002 [Selected to be featured in the 2003 Yearbook of Oncology, Elsevier Science]
5. J. M. Gottman, C. Swanson, **K. R. Swanson**: A General Systems Theory of Marriage: Nonlinear Difference Equation Modeling of Marital Interactions. *Personality and Social Psychology Review*, 6(4): 326-340, 2002
6. **K. R. Swanson**, E. C. Alvord Jr, J. D. Murray: Quantifying Efficacy of Chemotherapy of Brain Tumors (Gliomas) with Homogeneous and Heterogeneous Drug Delivery. *Acta Biotheoretica*, 50(4): 223-237, 2002. PMID: 12675529
7. **K. R. Swanson**, L. D. True, J. D. Murray: On the use of quantitative modeling to help understand PSA dynamics and other medical problems. *American Journal of Clinical Pathology*, 119(1):14-7, 2003. PMID: 12520692
8. E. Mandonnet, J-Y Delattre, M-L Tanguy, **K. R. Swanson**, A. F. Carpentier, H. Duffau, P. Cornu, R. Van Effenterre, E. C. Alvord, Jr., L. Capelle: Continuous growth of mean diameter in a subset of WHO grade II gliomas. *Annals of Neurology*, 53:524 – 528, 2003
9. J. M. Gottman, R. Levenson, C. Swanson, **K. R. Swanson**, R. Tyson, D. Yoshimoto: Observing Gay, Lesbian and Heterosexual Couples' Relationships: Mathematical Modeling of Conflict Interaction. *Journal of Homosexuality*, 45(1):65-91, 2003. PMID: 14567654
10. **K. R. Swanson**, E. C. Alvord Jr, J. D. Murray: Virtual Resection of Gliomas: Effect of Extent of Resection on Recurrence. *Mathematical and Computer Modelling*, 37(11):1177-1190, 2003 [Special Issue: “Modeling and Simulation of Tumor Development, Treatment, and Control”]
11. **K. R. Swanson**: Clinical Application of a Mathematical Model for Glioma Growth and Invasion. In: Mathematical Modelling and Computing in Biology and Medicine, V. Capasso (ed.), Milan Research Center for Industrial and Applied Mathematics, Progetto Leonardo, pp. 629-636, 2003
12. **K. R. Swanson**, C. Bridge, J. D. Murray, E. C. Alvord Jr.: Virtual and Real Brain Tumors: Using Mathematical Modeling to Quantify Glioma Growth and Invasion. *Journal of the Neurological Sciences*, 216(1):1-10, 2003
13. J. M. Gottman, K. Ryan, C. Swanson, **K. R. Swanson**: Proximal change experiments with couples: a methodology for empirically building a science of effective interventions for changing couples’ interaction. *Journal of Family Communication*, , 5(3), 163-190, 2005
14. **K. R. Swanson**, E. C. Alvord Jr., J. D. Murray: Dynamics of a Model for Brain Tumors Reveals a Small Window for Therapeutic Intervention, *Discrete and Continuous Dynamical Systems - Series B,* 4(1):289—295, 2004
15. A. M. Spence, M. Muzi, D. A. Mankoff, S. Finbarr O’Sullivan, J. M. Link, T. K. Lewellen, B. Lewellen, P. Phan, S. Minoshima, **K. R. Swanson**, K. A. Krohn. FDG-PET Imaging of Gliomas at Delayed Intervals: Improved Distinction Between Tumor and Normal Gray Matter, *Journal of Nuclear Medicine*, 45: 1653-1659, 2004. PMID: 15471829
16. S. Palfi, **K. R. Swanson**, S. De Bouard, F. Chretien, R. Oliveira, C. Le Guerinel, J. M. Kros, M. Peschanski, R. Gherardi, C. Christov. Correlation of in vitro infiltration with glioma histological type in organotypic brain slices. *British Journal of Cancer*, 91, 745 - 752, 2004. PMCID: PC2364801
17. **K. R. Swanson**: Anatomic Determinants of Tumor Growth: Integrating Quantitative Modeling and Imaging. *Proceedings of the American Society for Neuroradiology* 2004
18. A. M. Spence, D. A. Mankoff, M. Muzi, **K. R. Swanson**: Nuclear Imaging of Gliomas. in Barnett GH, ed. *High-Grade Gliomas: Diagnosis and Treatment*, Humana Press Inc, Totowa, NJ, 2005
19. H. Hatzikirou, A. Deutsch, C. Schaller, M. Simon, **K. R. Swanson**: Mathematical Modelling of Glioblastoma Tumour Development: A Review. *Mathematical Models and Methods in Applied Sciences*, 15(11), 1779-1794, November 2005.
20. S. Jbabdi, E. Mandonnet, H. Duffau, L. Capelle, **K. R. Swanson**, M. Pelegrini-Issac, R. Guillevin, H. Benali: Diffusion Tensor Imaging Allows Anisotropic Growth Simulations of Low-Grade Gliomas. *Magnetic Resonance in Medicine,* 54:616–624, 2005
21. **K. R. Swanson,** H. L. P. Harpold, L. D. True: Prostate Specific Antigen: A Clinical and Mathematical Conundrum. *American Journal of Clinical Pathology, 125* (3): 331-333, 2006. PMID: 16613335
22. H. L. P. Harpold, P. Vicini, **K. R. Swanson**: Kinetic Modeling of FLT-PET to Generate Parametric Maps of Proliferation. *Journal of Undergraduate Research in Bioengineering,* 6(1):49-68, 2006
23. E.C. Alvord Jr, **K.R. Swanson.** Using mathematical modeling to predict survival of low-grade gliomas. Ann Neurol. 2007 May:61(5):496; author reply 496-7. PMID: 17252546.
24. H. L. P. Harpold, E. C. Alvord, Jr., **K. R. Swanson**: The Evolution of Mathematical Modeling of Glioma Growth and Invasion. *Journal of Neuropathology and Experimental Neurology*, 66(1):1-9, 2007. PMID: 17204931
25. K. A. Krohn, F. O’Sullivan, J. Crowley, J. Eary, H. M. Linden, J. M. Link, D. Mankoff, M. Muzi, J. G. Rajendran, A. M. Spence, **K. R. Swanson.** Challenges in Clinical Studies with Multiple Imaging Probes. *Nuclear Medicine and Biology,* 34:879-85, 2007. PMCID: PMC2099630
26. **K. R. Swanson**: Quantifying glioma cell growth and invasion *in vitro*. *Mathematical and Computer Modeling* , 47:638-48, 2008, doi:10.1016/j.mcm.2007.02.024
27. R. Rockne, E. C. Alvord, Jr, J. K. Rockhill, **K. R. Swanson**. A mathematical model for brain tumor response to radiation therapy. *Journal of Mathematical Biology*, 2008 doi:10.1007/s00285-008-0219-6
28. R. Rockne, E. C. Alvord, Jr, M. Szeto, S. Gu, G. Charkraborty, **K. R. Swanson**. Modeling Glioma Growth and Invasion. Chapter in Edited Book: Selected Topics on Cancer Modelling: Genesis – Evolution – Immune Competition - Therapy. Nicola Bellomo, Mark Chaplain, and Elena De Angelis Eds., ISBN 0817647120, Sept 25, 2008
29. R. Rockne, E. C. Alvord, Jr, P. J. Reed, **K. R. Swanson**. Modeling the growth and invasion of gliomas, from simple to complex: the Goldie Locks paradigm. Chapter in Edited Book: BIOMAT 2007 - International Symposium on Mathematical and Computational Biology. World Scientific Co. Pte. Ltd., 2008
    1. **K. R. Swanson**, R. Rostomily, E. C. Alvord, Jr.: Predicting Survival of Patients with Glioblastoma by Combining a Mathematical Model and Pre-operative MR imaging Characteristics: A Proof of Principle. *British Journal of Cancer*, 98, 113-9, 2008, doi:10.1038/sj.bjc.6604125
    2. **K. R. Swanson**, H. L. P. Harpold, D. L. Peacock, R. Rockne, C. Pennington, L. Kilbride, R. Grant, J. Wardlaw, E. C. Alvord, Jr. Velocity of Radial Expansion of Contrast-Enhancing Gliomas and Effectiveness of X-Irradiation in Individual Patients: A Proof of Principle. *Clinical Oncology*, 20:301-8, 2008
    3. A. M. Spence, M. Muzi, **K. R. Swanson**, F. O’Sullivan, J. K. Rockhill, J. G. Rajendran, T. Ch. Adamsen, J. M. Link, P. E. Swanson, K. J. Yagle, R. C. Rostomily, D. L. Silbergeld, K. A. Krohn. Regional Hypoxia in Glioblastoma Multiforme Quantified with [F-18]-Fluoromisonidazole (FMISO) PET before Radiotherapy: Correlation with Time to Progression and Survival. *Clinical Cancer Research,* 14(9):2623-30, 2008
    4. **K. R. Swanson**, G. Chakraborty, C. Wang, R. Rockne, H. L. P. Harpold, M. Muzi, T. C. Adamsen, K. A. Krohn, A. M. Spence. Complementary but Distinct Roles for Magnetic Resonance Imaging and [18F]-fluoromisonidazole PET in the Assessment of Human Glioblastomas. *Journal of Nuclear Medicine,* 50(1):36-44, 2009 - ***Awarded Journal of Nuclear Medicine Best Clinical Investigation of 2009***
    5. P. Hinow, P. Gerlee, L. J. McCawley, V. Quaranta, M. Ciobanu, S. Wang, J. M. Graham, B. P. Ayati, J. Claridge, **K. R. Swanson**, M. Loveless, A. R. A. Anderson: A spatial model of tumor-host interaction: application of chemotherapy. *Mathematical Biosciences and Engineering*, 6(3):521-46, 2009. PMCID: PMC1981353
    6. M. Szeto,G. Chakraborty, J. Hadley, R. Rockne, M. Muzi, E. C. Alvord Jr, K. A. Krohn, A. M. Spence, **K. R. Swanson**. Quantitative metrics of net proliferation and invasion link biological aggressiveness assessed by MRI with hypoxia assessed by FMISO-PET in glioblastomas.*Cancer Research,* 69(10):4502-9, 2009. PMCID: PMC3760276
    7. M. Assefa, R. Rockne, M. Szeto, **K. R. Swanson**. Mathematical Modeling of Glioma Proliferation and Diffusion. *Ethnicity and Disease*, 19(2) Supplement 3:60-1, 2009
    8. C.H. Wang, J. K. Rockhill, M. Mrugala, D. L Peacock, A. Lai, K. Jusenius, J. M. Wardlaw, T. Cloughesy, A. M. Spence, R. Rockne, E. C. Alvord, Jr, **K. R. Swanson**. Prognostic Significance of Growth Kinetics in Glioblastoma: Novel Insights from Combining Serial MR Imaging with a Bio-mathematical Model for Glioma Growth and Invasion. *Cancer Research*, 69:9133-9140, 2009
    9. R.Sodt, R. Rockne, M.L Neal, I. Kalet, **K.R Swanson**, M. Garbey, B.L. Bass, C. Collect, M.Mathelin, R. Tran-Son-Tay. New York: Springer;2010 Quantifying the role of antisotropic invasion in human glioblastoma.
    10. G. Chakraborty, R. Sodt, S. Massey, S. Gu, R. Rockne, E. C. Alvord, Jr., **K. R. Swanson**. Bridging from Multi-scale Modeling to Practical Clinical Applications in the Study of Human Gliomas. Chapter in Edited Book: Multi-Scale Cancer Modeling. Editors: T.S.Deisboeck, G. Stamatakos. Chapman & Hall, 2010 ISBN 9781439814406
    11. R. Rockne, J. K. Rockhill, I. Kalet, E. C. Alvord, Jr, **K. R. Swanson**. Predicting Efficacy of Radiotherapy in Individual Patients with Gliomas. *Physics in Medicine and Biology.* 2010 June 21;55(12):3271-85. doi: 10.1088/0031-9155/55/12/001. Epub 2010 May 18. PMID: 20484781 PMCID: PMC3786554 - ***Awarded Top 10 Best Publication in PMB for 2010;*** ***Finalist for Roberts’ Prize from Institute of Physics and Engineering in Medicine***
    12. M. Assefa, R. Rockne, E. C. Alvord Jr., G. Chakraborty, **K. R. Swanson**. A Bio-Mathematical Analysis of the Velocity of Glioma Growth before and After Contrast-Enhancement. *Ethnicity and Disease.* In Press
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**Articles-Under Review**

1. B. Desai, C. Rayfield, R. C. Rockne, A. W. Rademaker, J. J. Raizer, N. Paleologos, R. Merrell, S. Grimm, S. Azeem, W. F. Hartsell, P. Sweeney, **K. R. Swanson**, V. Gondi. Diffuse invasion mediates response to large-volume proton therapy (PBRT) re-irradiation for recurrent glioma
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3. W. Yang, N. M. Warrington, S. J. Taylor, E. Carrasco, K. W. Singleton, N. Wu, J. D. Lathia, M. E. Berens, A. H. Kim, J. S. Barnholtz-Sloan, **K. R. Swanson**, Ji. Luo, J. B. Rubin Sex-specific effects of gene expression on GBM outcome revealed by independent clustering of male and female transcriptomes

**Articles – In Final Preparation**

1. E. C. Alvord, Jr, R. Rockne, M. L. Neal, J. K. Rockhill, M. M. Mrugala, R. Rostomily, **K. R. Swanson.** Know thy enemy: Paradoxes to be exploited in the war against glioblastoma.
2. A. Hawkins-Daarud, E. C. Alvord, Jr, **K. R. Swanson**. Combining a Mathematical Model and MR Imaging Characteristics to Predict the Course of an Untreated Glioblastoma: A Novel Case Study with Histopathological Validation.
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5. J. Hadlock, C. Murthy, A. Hawkins-Daarud, **K. R. Swanson**. A Spatial Analysis of Hypoxia: Using MRI and [18F]-Fluoromisonidazole PET to Predict the Location of Radiation Therapy Resistance in Glioblastoma Multiforme
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**Letters to the Editor**

1. **K. R. Swanson**, E. C. Alvord, Jr**:** Using Mathematical Modeling to Predict Survival of Low Grade Gliomas. *Annals of Neurology*, 61(5): 496, 2007
2. SC Massey, SK Johnston, PD Canoll, JN Bruce, BR Bendok, **KR Swanson**. Letter: Surgical Decision Making from Image-Based Biophysical Modeling of Glioblastoma: Not Ready for Primetime. *Neurosurgery* 2017 Sep 29. doi: 10.1093/neuros/nyx481. PMID: 29029349

**Other Publications**

1. J. A. Sonnen, C. D. Keene, **K. R. Swanson**, J. Zhang, C. M. Shaw, T. J. Montine**:** Ellsworth “Buster” Alvord, Jr (1923-2010) Obituary. *Brain Pathology*, 20(5): 993-4, 2010

**Published Abstracts and Conference Papers**

1. **K. R. Swanson**, E. C. Alvord, Jr, J. D. Murray. “Mathematical Modeling of the Growth and Control of Gliomas,” Gordon Conference on Theoretical Biology and Biomathematics, June 1998
2. **K. R. Swanson**, E. C. Alvord, Jr, J. D. Murray. “Modeling the Growth and Diffusion of Gliomas on Anatomically Accurate Domains,” Year in Mathematical Biology Pattern Formation Workshops, Institute for Mathematics and It's Application (Minneapolis), October 1998
3. **K. R. Swanson**, E. C. Alvord, Jr, J. D. Murray. “Predicting In Vitro Behavior of Brain Tumor Growth and Invasion,” Theory and Mathematics in Biology and Medicine (Amsterdam), June 1999
4. **K. R. Swanson**, J. M. McCune, S. M. Blower. “Quantifying the Contribution of the Thymus in T-Cell Reconstitution,” STIs at the Millennium: Past, Present and Future (Baltimore), May 2000
5. **K. R. Swanson**, E. C. Alvord, Jr. “Correlations of a 3D Quantitative Model for Brain Tumor Growth and Invasion with Clinical Behavior,” Cancer Modeling Workshop (Corsica), June 2000
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5. **K. R. Swanson,** R. Rostomily, E. C. Alvord, Jr. “Confirmation of a theoretical model describing the relative contributions of net growth and dispersal in individual infiltrating gliomas”, Canadian Journal of the Neurological Science, In Press, 2003   
   Platform presentation at the Annual Meeting of the Canadian Association of Neuropathology (Kingston, Ontario), October 2003
6. **K. R. Swanson**, E. C. Alvord, Jr. “Interpreting the Dynamics of Tumor Recurrence Following Radical Resection Through a Theoretical Model for Glioma Growth and Invasion”, Society for Neuro-Oncology (Keystone, CO), November 2003
7. A. M. Spence, M. Muzi, K. A. Krohn, **K. R. Swanson**, J. M. Link, S. C. Schoner, C. M. Vernon, D. A. Mankoff. “Initial assessment of 1-[C-11]acetate PET imaging of membrane biosynthesis as a measure of growth in glioma-bearing patients”, AACR-NCI-EORTC International Conference (Boston, Massachusetts), November 2003 *– Clinical Cancer Research* 9 (16): 6254S-6254S Part 2 Suppl. S DEC 1 2003
8. C. A. Bridge, E. C. Alvord, **K. R. Swanson**. “ Validation of a Mathematical Model for Brain Tumor Growth and Invasion: Serial Followup of an Untreated Glioma”, American Association for the Advancement of Science (Seattle, WA), February 2004
9. H. L. P. Harpold, A. Lai, E. C. Alvord, **K. R. Swanson**. “Interpreting Serial Magnetic Resonance Imaging (MRI) of a Treated Glioblastoma: A Quantitative Modeling Perspective”, American Association for the Advancement of Science (Seattle, WA), February 2004
10. **K. R. Swanson**, E. C. Alvord, Jr. “Growth of Glioblastomas Predicted from Diagnostic MRIs”, Growth & Death in the CNS International Conference (St. Moritz, Switzerland), March 2004
11. A. M. Spence, M. Muzi, J. R. Grierson, **K. R. Swanson**, J. M. Link, D. A. Mankoff, F. O’Sullivan, S. Minoshima, K. A. Krohn. “Initial assessment of [18F]3’deoxy-3’-fluorothymidine (FLT) for PET imaging of DNA synthesis in glioma patients”, 51st Annual Mtg of Society for Nuclear Medicine (Philadelphia, PA), June 2004
12. **K. R. Swanson**, M. Muzi, A. M. Spence, J. G. Rajendran, J. R. Grierson, K. A. Krohn. “Imaging Glioma Patients with F-MISO and MRI Provides Distinct Information in the Assessment of Radiation Therapy”, 51st Annual Mtg of Society for Nuclear Medicine (Philadelphia, PA), June 2004
13. **K. R. Swanson**, M. Muzi, A. M. Spence, J. G. Rajendran, J. R. Grierson, K. A. Krohn. Concordance of FMISO-PET and MR Imaging Abnormalities in Glioma Patients. Society for Neuro-Oncology (Toronto, Canada), November 2004 - Neuro-Oncology 6 (4): 368-369 OCT 2004
14. **K. R. Swanson**, H. Harpold, S. Nissen, C. Bridge, A. Lai, T. Cloughesy, E. C. Alvord, Jr. Monitoring the Effects of Treatment in Glioblastomas: Integrating Mathematical Modeling with Clinical Imaging. Society for Neuro-Oncology (Toronto, Canada), November 2004 -  
    *Neuro-Oncology*, 6(4):369, 2004
15. **K. R. Swanson**, H. Harpold, M. Muzi, A. M. Spence, J.G. Rajendran, K. A. Krohn. Concordance of FMISO and MRI Imaging Abnormalities in Malignant Gliomas. AACR Molecular Targets and Cancer Therapeutics: Discovery,Biology,and Clinical Applications, November 2005 -   
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16. A. M. Spence, M. Muzi, J. Grierson, **K. R. Swanson**, J. Link, D. A. Mankoff, F. O’Sullivan, K. A. Krohn. [18F]3 ' deoxy-3 '-flurothymidine (FLT) for PET imaging DNA synthesis in glioma patients. AACR Molecular Targets and Cancer Therapeutics: Discovery,Biology,and Clinical Applications, November 2005 – *Clinical Cancer Research* 11 (24): 9130S-9130S Part 2 Suppl. S, DEC 15 2005
17. H. Harpold, A. R. A. Anderson, E. C. Alvord, Jr., **K. R. Swanson**. *In Silico* Model Integrating the Angiogenic Cascade Accurately Simulates Low and High-Grade Human Gliomas. AACR Annual Meeting, April 2006
18. **K. R. Swanson**, H. Harpold, G. Chakraborty, C. Wang, M. Muzi, A. M. Spence, K. A. Krohn. Discordance of FMISO-PET and MRI Regions in Malignant Gliomas. 52nd Annual Meeting of the Society for Nuclear Medicine, June 2006
19. A. M. Spence, M. Muzi, **K. R. Swanson**, J. K, Rockhill, J.G. Rajendran, T. C. Adamsen, D. L. Silbergeld, R. C. Rostomily, J. A. Scharnhorst, K. A. Krohn. Hypoxia Assessed with [F-18]-Fluormisonidazole (FMISO) PET Before Radiotherapy (RT) in Malignant Glioma Patients. 52nd Annual Meeting of the Society for Nuclear Medicine, June 2006
20. **K. R. Swanson.** Mathematical Modeling in Clinical Oncology, SIAM Conference on the Life Sciences, August 2006
21. H. Harpold, A. R. A. Anderson, E. C. Alvord, Jr., **K. R. Swanson**. *In Silico* Model Integrating the Angiogenic Cascade Accurately Simulates Low and High-Grade Human Gliomas. International Congress on Neuropathology, September 2006. *Brain Pathology* 16: S4-S4 007 Suppl. 1 SEP 2006
22. **K. R. Swanson**, E. C. Alvord, Jr. Quantifying the Behavior of Gliomas: Comparing Theoretical Predictions with Actual Patient Observations. International Congress on Neuropathology, September 2006. *Brain Pathology* 16: S39-S39 085 Suppl. 1 SEP 2006
23. H. L. P. Harpold, A. R. A. Anderson, E. C. Alvord, Jr., **K. R. Swanson.** Simulating low- and high-grade human gliomas: An in silico model integrating the angiogenic cascade.  Society for Neuro-Oncology, *Neuro-Oncology* 8 (4): 493-493 OCT 2006
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25. **K. R. Swanson**, R. Rockne, J. K. Rockhill, E. C. Alvord, Jr. Mathematical modeling of radiotherapy in individual glioma patients: quantifying and predicting response to radiation therapy. AACR Annual Meeting, 2007
26. **K. R. Swanson**,G. Chakraborty, R. Rockne, C. Wang, D. L. Peacock, M. Muzi, E. C. Alvord Jr, K. Krohn, A. M. Spence. A Mathematical Model for Glioma Growth and Invasion Links Biological Aggressiveness Assessed by MRI with Hypoxia Assessed by FMISO-PET. 53nd Annual Meeting of the Society for Nuclear Medicine (Platform Presentation), June 2007 – *Journal of Nuclear Medicine 2007*; 48 (Supplement 2):151P
27. A. M. Spence, M. Muzi, **K. R. Swanson**, J. K. Rockhill, J. G. Rajendran, T. Ch. Adamsen, J. M. Link, J. D. Scharnhorst, D. Silbergeld, R. Rostomily, K. A. Krohn: Imaging Resistance from Hypoxia in Glioblastoma Multiforme (GM) with [F-18]-Fluromisonidazole (FMISO) PET before and after Radiotherapy(RT). 59th American Academy of Neurology Annual Meeting, 2007 – *Neurology* 68(12):A287 Suppl 1 Mar 20, 2007
28. **K. R. Swanson**, R. Rockne, J. K. Rockhill, E. C. Alvord, Jr. Combining mathematical modeling with serial MR imaging to quantify and predict response to radiation therapy in individual glioma patients. Society for Neuro-Oncology Annual Meeting, 2007 – *Neuro-Oncology* 9(4):575, 2007
29. L-E Bohman, C. Mandigo, T. Hankinson, M. Assanah, **K. R. Swanson**, P. Canoll, J. N. Bruce. Preoperative MRI Characteristics of Glioblastoma Multiforme: Implications for Understanding Glioma Ontogeny. Society for Neuro-Oncology Annual Meeting, 2007 – *Neuro-Oncology* 9(4):579, 2007
30. E. C. Alvord, Jr, J. Claridge, A. R. A. Anderson, **K. R. Swanson**. Cell Kinetics Underlying Grading of Gliomas. American Association of Neuropathologists Annual Meeting, San Diego, 2008 – *Journal of Neuropathology and Experimental Neurology* 67(5):502, 2008
31. C. Wang, D. L. Peacock, J. K. Rockhill, M. Mrugala, A. M. Spence, E. C. Alvord, Jr., **K. R. Swanson.** Prognostic Significance of Growth Kinetics in Glioblastoma Patients: Insights from a Novel Mathematical Modeling Approach. Society for Neuro-Oncology, Lake Las Vegas, 2008 - *Neuro-Oncology* 10(5): 759, 2008
32. R. Rockne, **K. R. Swanson.** Predicting efficacy of radiotherapy in individual glioma patients in vivo: a pilot study. European Society for Mathematical and Theoretical Biology Annual Meeting, Edinburgh, 2008
33. R. Rockne, J. L. Moore, **K. R. Swanson.** Three-dimensional simulation of glioma growth and response to radiation therapy: a case study. Society for Mathematical Biology Annual Meeting, Toronto, Canada, 2008
34. S. Massey, P. Canoll, **K. R. Swanson.** Parameter sensitivity investigation of a mathematical model of glioma tumorigenesis mediated by platelet-derived growth factor. Society for Mathematical Biology Annual Meeting, Toronto, Canada, 2008
35. **K. R. Swanson**, R. Rockne, J. K. Rockhill, M. Mrugala, E. C. Alvord, Jr. Patient-specific virtual controls can be used to simulate and predict response to radiation therapy in individual glioblastoma patients. World Federation of Neuro-Oncology, Yokohama, Japan, 2009 ***– Hoshino Award Finalist***
36. **K. R. Swanson**, R. Rockne, J. K. Rockhill, M. Mrugala, E. C. Alvord, Jr. Prognostic significance of growth kinetics in newly diagnosed gioblasoma: A role for patient-specific virtual controls. World Federation of Neuro-Oncology, Yokohama, Japan, 2009
37. **K. R. Swanson.** Bridging from Anatomic Imaging to Molecular Imaging through Multi-scale Models for Brain Tumor Growth and Invasion. Society for Mathematical Biology Annual Meeting, Vancouver, Canada, 2009
38. **K. R. Swanson.** Predictive Modeling of Brain Tumor Growth and Invasion: Optimizing Treatment in Individual Patients. Society for Mathematical Biology Annual Meeting, Vancouver, Canada, 2009
39. S. Massey, P. Canoll, **K. R. Swanson**. Paracrine PDGF signaling and progression in experimental gliomas. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
40. R. Rockne, **K.R. Swanson**. The role of delay and observation timing in assessing glioma response to radiation therapy. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
41. G. Chakraborty, S. Gu, R. Rockne, **K.R. Swanson**. Predicting metabolic growth patterns from patient-specific anatomic imaging and mathematical modeling of glioblastomas. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
42. S. Gu, G. Chakraborty, R. Rockne, **K.R. Swanson**. Spatiotemporal Pharmacokinetic/Pharmacodynamic Radioactive Tracer and Brain Tumor Modeling: A Method for Generating Patient-specific Simulated PET Images. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
43. A. Boone, R. Rockne, M.M. Mrugala, J.K. Rockhill, E.C. Alvord Jr, **K.R. Swanson**. The Clinical Significance of Mathematical Models in the Treatment and Management of Gliomas: A Case Study in Translating Applied Mathematics Research into Clinically Relevant Solutions. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
44. M. Szeto, R. Rockne, **K.R. Swanson**. Anatomic Variation in Quantitative Measures of Glioma Aggressiveness. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
45. M. Simon, R. Rockne, **K.R. Swanson**. A comparison between volumetric and localized spatial analysis techniques for assessing model parameters. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
46. R. Sodt, R. Rockne, I. Kalet, **K.R. Swanson**. Simulation of Anisotropic Growth of Gliomas Using Diffusion Tensor Imaging. International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, University of British Columbia, Vancouver July 2009.
47. A. E. Boone, R. Rockne, M. M. Mrugala, J. K. Rockhill, E. C. Alvord, Jr, **K. R. Swanson**. Opportunities for Personalized Treatment and Management of Malignant Gliomas:The Clinical Significance of Mathematical Models. Society for Neuro-Oncology, New Orleans, LA 2009; *Neuro-Oncology,* 11(5):648, 2009
48. S. C. Massey, P. Canoll**, K. R. Swanson.** Modeling the effects of progenitor cell recruitment on glioma growth and progression. Society for Neuro-Oncology, New Orleans, LA 2009, *Neuro-Oncology* 11(5):574, 2009
49. A. E. Boone, R. Rockne, M. M. Mrugala, **K. R. Swanson**. Pre-treatment glioblastoma proliferation and invasion kinetics: A mechanism to predict pseudo progression. Society for Neuro-Oncology, 2010., *Neuro-Oncology*, 12(Supp 4):118, 2010
50. **K. R. Swanson,** S. Gu, G. Chakraborty, K. Champley, A. Alessio, J. Claridge, R. Rockne, M. Muzi, K. A. Krohn, A. M. Spence, E. C. Alvord, Jr, A. R. A Anderson, P. Kinahan**.** In Silico PET Imaging: From anatomic glioma growth dynamics to metabolic tumor activity via bio-mathematical modeling. Society for Neuro-Oncology, 2010, *Neuro-Oncology*, 12(Supp 4):118, 2010
51. R. Rockne, J. K. Rockhill, M. Mrugala**, K. R. Swanson**. Predicting spatial patterns of tumor recurrence following radiation therapy: a hybrid clinical imaging and mathematical modeling approach. Society for Neuro-Oncology, 2010, *Neuro-Oncology*, 12(Supp 4):111, 2010
52. S. Massey, R. Rockne, P. Canoll, **K. R. Swanson.** In silico glioma model reveals that environmentally targeted therapies may be more effective at altering disease kinetics. Society for Neuro-Oncology, 2010, *Neuro-Oncology*, 12(Supp 4):25, 2010
53. S. Ivkovic, C. Beadle, S. C. Massey, **K. R. Swanson**, P. Canoll, S. S. Rosenfeld. Direct inhibition of non-muscle myosin II effectively blocks glioma invasion in the presence of multiple motogens. *Neuro-Oncology*, 12(Supp 4):4, 2010
54. **K. R. Swanson**, A. E. Boone, R. Rockne, M. M. Mrugala. Predicting pseudoprogression in glioblastoma patients: A mathematical and clinical perspective. European Society of Mathematical and Theoretical Biology
55. R. Rockne, S. Massey, M. Mrugala, A. R. A. Anderson, **K. R. Swanson.** Response to anti-angiogenic therapy in human brain tumors: the role of the microenvironment and heterogeneity.European Society of Mathematical and Theoretical Biology
56. **K. R. Swanson,** S. Gu, G. Chakraborty, K. Champley, A. Alessio, R. Rockne, M. Muzi, K. A. Krohn, P. Kinahan. Predictive simulation of patient-specific [18F]FMISO-PET: Integrating imaging with predictive mathematical models of the tumor microenvironment. Annual Meeting of the Society for Nuclear Medicine (SNM) – *Platform Presentation*
57. C. H. Holdsworth, D. Corwin, R. D. Stewart, R. Rockne, **K. R. Swanson**, M. Phillips. Biologically Optimized 4D Dose Distributions for the Treatment of Incurable Glioblastoma. Annual Meeting of American Association of Physicists in Medicine (AAPM)
58. R. Rockne, J. K. Rockhill, M. Mrugala, **K. R. Swanson**. Patient-specific virtual radiation oncology: predicting and quantifying treatment response in individual glioblastoma patients. Annual Meeting of American Association of Physicists in Medicine (AAPM)
59. R. Rockne, J. K. Rockhill, M. Mrugala, **K. R. Swanson**. Patient-specific virtual radiation oncology: novel metrics of response provide a means to stratify patients within a single RTOG RPA class. Annual Meeting of the American Association of Cancer Research (AACR)
60. **K. R. Swanson**, R. Rockne, C. H. Holdsworth, D. Corwin, R. D. Stewart, M. H. Phillips. Improving Treatment Response by Designing Patient-Specific Optimized Radiation Therapy Dose Distributions Informed by Glioma Proliferation and Invasion Kinetics: A Case Study. Annual Meeting of the Radiological Society of North America (RSNA)
61. J. Parker, K. Dionne, R. Massarwa, M. Klassen, L. Niswander, **K. R. Swanson**, P. Canoll, BK Kleinschmidt-DeMasters, A. Waziri. *Ex Vivo* Evaluation of Tumor Cell Migratory Characteristics in a Human Glioblastoma Slice Culture Model. Annual Meeting of the Society for Neuro-Oncology, 2011
62. E. C. Alvord, Jr, Russell Rockne, J. K. Rockhill, M. M. Mrugala, R. Rostomily, A. Lai, T. Cloughesy, J. M. Wardlaw, A. M. Spence, **K. R. Swanson.** Know thy enemy: Paradoxes to be exploited in glioblastoma. Annual Meeting of the Society for Neuro-Oncology, 2011
63. R. Rockne, A. R. A. Anderson, **K. R. Swanson**. Predictive integration of tumor growth kinetics on clinical imaging with histological features through patient-specific simulation. Annual Meeting of the Society for Neuro-Oncology, 2011
64. D. Corwin, C. Holdsworth, R.D. Stewart, R. Rockne, **K. R. Swanson**. Patient-Specific Mathematical Radiation Oncology: 4D Optimized Dose Distributions Informed by Glioma Kinetics of Proliferation and Invasion. Annual Meeting of the Society for Neuro-Oncology, 2011
65. A. Baldock, R. Rockne, P. Canoll, D. Born, K. Yagle, **K. R. Swanson**. Cystic Gliomas are Quantitatively Less Biologically Aggressive. Annual Meeting of the Society for Neuro-Oncology, 2011
66. M. L. Neal, R. Rockne, A.D. Trister, **K. R. Swanson.** Predicting outcomes following therapy for glioblastoma using response metrics from patient-specific, 3D tumor models. Annual Meeting of the Society for Neuro-Oncology, 2011 Neuro-Oncology. 2011;13(suppl 3):iii76-iii84.
67. R. Rockne, K. Champley, A. Alessio, M. Muzi, K. A. Krohn, P. E. Kinahan, **K. R. Swanson**. Patient-specific simulations allow prediction of hypoxia and [18F]FMISO-PET in human glioblastoma., University of Washington Medical Center, Seattle, WA. **\*Awarded Best Abstract for 2011 Western Regional Society for Nuclear Medicine Annual Meeting**
68. A. Hawkins-Daarud, R. Rockne, M. Muzi, S. Partridge, P. E. Kinahan, **K. R. Swanson**. Patient-Specific Untreated Virtual Imaging Controls for [18F]-FMISO PET imaging of Glioblastoma, University of Washington Medical Center, Seattle, WA. 2012 Annual Meeting of the Society for Nuclear Medicine (SNM)
69. R. Rockne, A. Hawkins-Daarud, M. Muzi, S. Partridge, P. E. Kinahan, **K. R. Swanson**. Predictive Simulation of MRI and FMISO-PET Imaging Changes During Anti-Angiogenic Therapy for Glioblastomas, University of Washington Medical Center, Seattle, WA. 2012 Annual Meeting of the Society for Nuclear Medicine (SNM)
70. P. E. Kinahan R. Rockne, A. Hawkins-Daarud, M. Muzi, S. Partridge, **K. R. Swanson**. Integrating models of cancer biology with advanced PET and MR imaging methods to assess response to therapy. IEEE International Symposium on Biomedical Imaging 2012 (Barcelona, Spain)
71. A. D. Trister, M. L. Neal, T. Cloke, A. L. Baldock, S. Ahn, M. M. Mrugala, J. K. Rockhill, R. Rockne, K. R. Swanson. A Novel Metric Of Patient-specific Response To Treatment For Glioblastoma Discriminates Patients With Pseudo-progression. American Society for Radiation Oncology (ASTRO) (Boston, MA)
72. S. K. Johnston, C. A. Bridge, R. Rockne, L. Guyman, A. Baldock, J. K. Rockhill, M. Mrugala, S. Adair, H-PP. Kiem, **K. R Swanson**. Enabling the Detection of Treatment Benefit in Novel Therapeutic Studies through Patient-Specific Mathematical Modeling: Analysis of Chemoprotective Hematopoietic Stem Cell Gene Therapy in Human Glioblastomas. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
73. M. L. Neal, A. D. Trister, S. Ahn, C. Bridge, J. Lange, A. Baldock, R. Rockne, M. Mrugala, J. K. Rockhill, A. Lai, T. Cloughesy, **K. R. Swanson**. A Response Metric Based on a Minimal Model of Glioblastoma Growth is Prognostic for Time to Progression and Overall Survival. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
74. A. Baldock, S. Ahn, R. Rockne, M. Neal, D. Corwin, K. Clark-Swanson, G. Sterin, A. D. Trister, H. Malone, V. Ebiana, A. M. Sonabend, M. Mrugala, J. K. Rockhill, D. L. Silbergeld, A. Lai, T. Cloughesy, G. M. McKhann, J. N. Bruce, R. Rostomily, P. Canoll, **K. R. Swanson**. Patient-specific invasiveness metric predicts benefit of resection in human gliomas. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
75. A. Hawkins-Daarud, R. Rockne, **K. R. Swanson**. Interpreting Intensity Modulation on T2/FLAIR Imaging of Gliomas: Deconvolving MR imaging changes from treatment effect through mathematical modeling. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
76. A. Hawkins-Daarud, A. Baldock, C. Bridge, D. Corwin, J. Rockhill, M. Mrugala, R. Rockne, **K. R. Swanson**. Revealing the diffuse extent of gliomas to enable surgical and radiotherapy treatment design:Insights from a Patient-Specific Mathematical Model and an Untreated Glioblastoma. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
77. A. L. Baldock, K. Yagle. S. Ahn, D. Born, P. Swanson, R. Rockne, **K. R. Swanson**. Invasion and Proliferation Kinetics Predict IDH-1 Mutation in Contrast-Enhancing Gliomas. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC) **\*Platform Presentation**
78. D. M. Corwin, C. Holdsworth, R. D. Stewart, R. Rockne, **K. R. Swanson**. Virtual clinical trials: Implications for spatially optimizing radiotherapy using a paitient-specific model of glioma. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
79. D. M. Corwin, C. Holdsworth, R. D. Stewart, R. Rockne, **K. R. Swanson**. Reducing dose to normal tissue while improving tumor control in human glioblastomas using a patient-specific mathematical and radiotherapy optimization algorithm. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
80. A. Trister, B. Bot, K. Fontes, C. Bridge, J. K. Rockhill, M. Mrugala, R. Rockne, E. Huang, **K. R. Swanson**. A novel patient-specific model of glioma growth kinetics elucidates underlying biology as measured by gene expression microarray. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
81. A. Trister, B. Bot, A. Hawkins-Daarud, K. Fontes, C. Bridge, J. K. Rockhill, M. Mrugala, R. Rockne, E. Huang, **K. R. Swanson**. A novel patient-specific model of glioma growth kinetics elucidates underlying biology as measured by gene expression microarray. Markers in Cancer, October 11-13, 2012 (Hollywood, FL) **\*Awarded 2012 Conquer Cancer Foundation of ASCO Merit Award**
82. D. Corwin. C. Holdsworth, R. D. Stewart, M. Philips, R. Rockne, **K. R. Swanson**. Using patient-specific IMRT optimization and a mathematical model of glioma to improve tumor control and reduce normal tissue complications. Annual Meeting of the Radiation Research Society September 30 – October 4 , 2012 (Puerto Rico)
83. R. Rockne, M. Mrugala, J. K. Rockhill, **K. R. Swanson**. Patient-specific mathematical radiation oncology. Annual Meeting of the Radiation Research Society September 30 – October 4 , 2012 (Puerto Rico)
84. A. L. Baldock, K. Yagle, S. Ahn, D. Born, P. Swanson, R. Rockne, **K. R. Swanson.** Mathematical Model Predicts IDH-1 Mutation and Malignant Progression in Contrast-Enhancing Gliomas. Ninth AACR-Japanese Cancer Association Joint Conference: Breakthroughs in Basic and Translational Cancer Research, 21-26 February, 2013 (Maui, Hawaii)
85. R. Rockne, A. D. Trister, M. Neal, K. Hendrickson, M. M. Mrugala, J. K. Rockhill, K. A. Krohn, **K. R. Swanson.** Quantifying Hypoxia-Modulated Radiation-Resistance in Human Glioblastomas *In Vivo*. Ninth AACR-Japanese Cancer Association Joint Conference: Breakthroughs in Basic and Translational Cancer Research, 21-26 February, 2013 (Maui, Hawaii)
86. D. Corwin, C. Holdsworth, R. D. Stewart, R. Rockne, **K. R. Swanson**. A patient-specific, mathematical approach to optimizing IMRT dose plans for glioblastoma.  Feinberg School of Medicine Research Day, April 2013 (Chicago, IL)
87. J. E. Adair, B. C. Beard, S. K. Johnston, M. Mrugala, R. C. Rockne, **K. R. Swanson**, H-P. Kiem. Improved chemotherapy efficacy after MGMT(P140K) hematopoietic stem cell gene therapy in poor-prognosis glioblastoma revealed by patient-specific mathematical modeling. American Society of Gene and Cell Therapy, 15-18 May 2013 (Salt Lake City, UT) – *Oral Presentation*
88. D. Corwin, C. Holdsworth, R. Rockne, R. D. Stewart, M. Phillips, **K. R. Swanson**.  Optimizing radiotherapy for Glioblastoma using a patient-specific mathematical model.  Annual meeting of the American Association of Physicists in Medicine (AAPM), August 2013 (Indianapolis, IN)
89. D. Corwin, C. Holdsworth, R. D. Stewart, A. Hawkins-Daarud, M. Phillips, R. Rockne, **K. R. Swanson**. A patient-specific model for IMRT optimization is robust to uncertainty in data collection and radiobiological parameters. Annual Meeting of the Radiation Research Society (RRS), September 2013 (New Orleans, LA)
90. D. Corwin, C. Holdsworth, R. Rockne, M. Phillips, **K. R. Swanson**.  Combining mathematics, biology and physics to generate patient-specific, biologically optimized IMRT plans for glioblastoma. Horizons 2013 Joint AAPM-PSOC Annual Meeting, November 2013 (Bethesda, MD)
91. S. K. Johnston, J. E. Adair, C A. Bridge, L. Guyman, A. Hawkins-Daarud, R. C. Rockne, A. Baldock, J. K. Rockhill, M. M. Mrugala, B. C. Beard, H.-Pr. Kiem, **K. R. Swanson** Patient-specific mathematical modeling as a precision-medicine approach to evaluating therapeutic gains of a novel chemoprotection treatment in newly-diagnosed glioblastoma. Abstract #111972, American Society for Clinical Oncology (ASCO), 2013 (Chicago, IL)
92. A. L. Baldock, R. C. Rockne, S. Ahn, M. Neal, D. Corwin, K. Clark-Swanson, G. Sterin, A. D. Trister, H. Malone, A. Sonabend, M. M. Mrugala, J. K. Rockhill, D. L. Silbergeld, A. Lai, T. F. Cloughesy, G. McKhann, J. N. Bruce, R. Rostomily, P. Canoll, **K. R. Swanson**. Patient-specific biomathematical model predicts benefit of resection in human gliomas. Abstract #116930, American Society for Clinical Oncology (ASCO), 2013 (Chicago, IL)
93. D. Corwin, R. C. Rockne, M. M. Mrugala, J. K. Rockhill, **K. R. Swanson**. Training and validation cohort analysis for predicting radiation therapy response in human glioblastoma. Abstract #117018, American Society for Clinical Oncology (ASCO), 2013 (Chicago, IL)
94. A. Hawkins-Daarud, R. C. Rockne, P. Kinahan, M. Muzi, A. Alessio, K. A. Krohn, **K. R. Swanson**. Quantifying the impact of anti-angiogenic therapy on hypoxia and implications for radiation therapy in glioblastoma multiforme with a biomathematical model. Abstract #118015, , American Society for Clinical Oncology (ASCO), 2013 (Chicago, IL)
95. PR Jackson, A Hawkins-Daarud, R Rockne, R Gatenby, R Gillies, A Anderson, **KR Swanson**: Connecting MR Physics to Glioma Microenvironment: Simulating T2 MR signal intensity based on model predicted tumor associated vasogenic edema In: 4th Annual PS-OCs Network Investigators’ Meeting; 2013; Scottsdale, AZ, USA.
96. PR Jackson, A Hawkins-Daarud, R Rockne, R Gatenby, R Gillies, A Anderson, **KR Swanson**: Connecting MR Physics to Glioma Microenvironment: Simulating T2 MR signal intensity based on model predicted tumor associated vasogenic edema In: Feinberg School of Medicine Research Day; 2013; Chicago, IL, USA.
97. A. Baldock, K. Yagle, S. Ahn, D. Born, P. Swanson, R. Rockne, **K. R. Swanson**. "Invasion and Proliferation Kinetics Predict IDH-1 Mutation in Contrast-Enhancing Gliomas,"Feinberg School of Medicine Research Day, April 2013.
98. A. Baldock, S. Anh, R. Rockne, M. Neal, D. Corwin, K. Clark-Swanson, G. Sterin, A. D. Trister, H. Malone, V. Ebiana, A. M. Sonabend, M. Mrugala, J. K. Rockhill, D. L. Silbergeld, A. Lai, T. Cloughesy, G. M. McKhann, J. N. Bruce, R. Rostomily, P. Canoll, **K. R Swanson**. "Patient-Specific Biomathematical Model Predicts Benefit of Resection in Human Gliomas," Feinberg School of Medicine Research Day, April 2013.
99. P. Kumthekar, C. A. Bridge, V. Patel, A. Rademaker, I. Helenowski, M. M. Mrugala, J. K. Rockhill, S. Grimm, **K. R. Swanson**, J. Raizer. A Retrospective Study of Outcomes in Older Patients with Low-grade Gliomas. Annual Meeting of the Society for Neuro-Oncology, 2013 (San Francisco, CA)
100. R. Rockne, A. Hawkins-Daarud, J. Jacobs, C. Bridge, M. M. Mrugala, J. K. Rockhill, **K. R. Swanson.** Why aren’t all medial gliomas bilateral? Annual Meeting of the Society for Neuro-Oncology, 2013 (San Francisco, CA)
101. C. A. Bridge, A. L. Baldock, P. Kumthekar, P. Dilfer, S. K. Johnston, J. Jacobs, D.Corwin, L. Guyman, R. Rockne, A. Sonabend, M. Cloney, P. Canoll, **K. R. Swanson.** Characteristics of Long-term Survivors in Glioblastoma. Annual Meeting of the Society for Neuro-Oncology, 2013 (San Francisco, CA)
102. A. Hawkins-Daarud, P. Jackson, **K. R. Swanson**. Elucidating Glioblastoma Regional Edema and Hypoxia Changes Induced by Anti-angiogenic Treatment through Mathematical Modeling Combined with Clinical Imaging. Annual Meeting of the Society for Neuro-Oncology, 2013 (San Francisco, CA)
103. PR Jackson, A Hawkins-Daarud, R Rockne, A. Anderson, **K.R. Swanson**. Connecting MRI Physics to Glioma Microenvironment: Exploring Modeling Schemes for Capturing Expanding Extracellular Space and its Impact on a Simulated T2-weighted MRI. In: Horizons 2013: Connecting AAPM & PS-OCs; 2013; Bethesda, MD, USA
104. A. Hawkins-Daarud, R. Rockne, A.R.A. Anderson, and **K.R. Swanson**. Modeling tumor-associated edema in gliomas during anti-angiogenic therapy and its impact on imageable tumor. Feinberg School of Medicine Research Day; 2013; Chicago, IL, USA.
105. A. Hawkins-Daarud, R. Rockne, and **K.R. Swanson**. Combining Mathematics and Biology to Create a New Weapon in the Fight Against Brain Cancer. Conference in Honor of Thomas Thompson and Kenneth Wiggins; 2013; Walla Walla, WA, USA.
106. A. Hawkins-Daarud, R. Rockne, J. Jacobs, and **K.R. Swanson.** The role of necrosis in inferring patient-specific glioblastoma growth kinetics. PSOC Site Visit; 2013; Tampa, FL, USA.
107. J. E. Adair, M. Mrugala, B. E. Storer, S. K. Johnston, **K. R. Swanson**, H-P Kiem. MGMT(P140K) Hematopoietic Stem Cell Gene Therapy Enhances Tolerance and Efficacy of Temozolomide in Combination with O6-benzylguaninein Glioblastom Patients. Annual Meeting of American Society of Gene and Cell Therapy, 2014 **\*Platform Presentation**
108. R. Rockne, D. Corwin**, K. R. Swanson.** A Data-Driven Calibration of a Nolinear Mechanistic Model for DNA Damage and Repair: Applications to Radiosurgery and Heavy Ion Irradiation Treatment for Glioblastoma. European Conference on Mathematical and Theoretical Biology, Gothenburg, Sweden, June 2014 – Invited Minisymposium
109. **K. R. Swanson.** Mathematical Neuro-Oncology: Translating Patient-Specific Mathematical Modeling of Brain Tumors to Clinical Care, European Conference on Mathematical and Theoretical Biology, Gothenburg, Sweden, June 2014 – Invited Minisymposium
110. A. Hawkins-Daarud, **K. R. Swanson**. Quantifying Changes in Glioma Biology with Treatment using Modeling of Edema Formation and Clinical Imaging, European Conference on Mathematical and Theoretical Biology, Gothenburg, Sweden, June 2014 – Invited Minisymposium
111. R. C. Rockne, I. Bacchus, C. Bridge, P. D. Brown. D. Corwin, B. Desair, K. Hendrickson, M. Kim, E. Kokkinos, M. P. Mehta, M. Marymont, J. K. Rockhill, A. Rosenberg, A. D. Trister, C. K. Williams, R. Williamson, L. Young, **K. R. Swanson**. An Evalulation of Multi-Insititutional Data-Tranfer to Facilitate Personalized Computational Modeling. American Society for Theoretical and Radiation Oncology (ASTRO) 56th Annual Meeting. San Francisco, CA September 14-16, 2014
112. PR Jackson, A Hawkins-Daarud, R Rockne, A. Anderson, **K.R. Swanson**. Connecting MRI Physics to Glioma Microenvironment: Exploring Modeling Schemes for Capturing Expanding Extracellular Space and its Impact on a Simulated T2-weighted MRI. In: 5th Annual PS-OCs Network Investigators’ Meeting; 2014; Bethesda, MD, USA
113. **K. R. Swanson**. Engineering a Parallel Universe: Simulating Patient-Specific Virtual Controls to Predict and Optimize Cancer Therapy. IEEE Engineering in Medicine and Biology Society, Chicago, IL, August 26-30, 2014 – Invited Miniymposium Speaker
114. B .Desai, R. Rockne, C. Bridge, D. Corwin, I. Helenowski, E. Kokkinos, C. Peters, A. Rosenberg, D. Scharfman, V. Gondi, **K. R. Swanson.** Application of a growth-rate based response metric to recurrent malignant gliomas treated with large-volume re-irradiation using proton beam therapy. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
115. J. Juliano, R. C. Rockne, A. J. Hawkins-Daarud, P. Jackson, S. K. Johnston, J. Jacobs, E. Kokkinos, A. Rosenberg, J. Crisman, C. Peters, D. Sharfman, M. Sondag, S. Badhe, M. Lester, T. Gallagher, P. Kumthekar, **K R. Swanson.** Growth Kinetics of Contrast Enhancing Gliomas Associate Invasive Growth with Seizure Presentation. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL) – Platform Presentation
116. A. Hawkins-Daarud, R. Rockne, **K. R. Swanson.** *In Silico* Analysis of AVAglio and RTOG 0825 Phase III Clinical Trials Suggests Signatures of Patients to Receive Benefit from Combined Bevacizumab and Radiation Therapies Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
117. J. Jacobs, A. J. Hawkins-Daruud, S. K. Johnston, R. C. Rockne, **K. R. Swanson**. Improved Anatomical Model Prediction of Glioma Growth Utilizing Tissue-Specific Boundary Effects. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
118. R. Rockne, D. Corwin, B. Desai, A. Hawkins-Daarud, **K. R. Swanson**. Conducting virtual clinical trials to evaluate hypofractionated radiotherapy for newly diagnosed glioblastoma. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
119. J. Juliano#, O. Gil#, A. Hawkins-Daarud, R. C. Rockne, J. Gallaher, S. Massey, A. R. A. Anderson, P. Canoll\*, **K. R. Swanson\***. Dynamic Evidence of Tumor Induced Microglia Activation at the Infiltrative Margins of Glioma. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
120. B. M. Desai, R. C. Rockne, A. W. Rademaker, W. F. Hartsell, P. Sweeney, J. J. Raizer, N. Paleologos, R. Merrell, S. Grimm, S. Azeem, D. Corwin, **K. R. Swanson**, V. Gondi. Overall survival (OS) and toxicity outcomes following large-volume re-irradiation using proton therapy (PT) for recurrent glioma. Annual Meeting of the Society for Neuro-Oncology, 2014 (Miami, FL)
121. V. Gondi, B. M. Desai, R. Rockne, A. Rademaker, **K. R. Swanson**. Outcomes following large-volume re-irradiation using proton therapy for recurrent malignant glioma Particle Therapy Oncology Group North America (PTCOG-NA), Oct 27-29, 2014 (Houston, TX)
122. F Grady, P Jackson, J Jacobs, C Bridge, E Kokkinos, A Rosenberg, M Lester, P Kumthekar, **K Swanson**: Differing MRI Edema Profiles of Brain Metastases. In: ASNR 53rd Annual Meeting; 2015; Chicago, IL, USA. 1508.
123. A. Hawkins-Daarud, H.R. Malone, T. Ung, A. Rosenberg, J. Jacobs, J. Bruce, P. Canoll, **K.R. Swanson**. Correlating a patient-specific mathematical model of glioblastoma proliferation-invasion with image-guided biopsies. In: SNO Annual Meeting 2015, Neuro-Oncology 17(suppl 5):v161-v161.
124. C. Rayfield, S. Johnston, S. Whitmire, L. Guyman, **K. Swanson**. Treatment response kinetics and Exceptional survival in glioblastoma. Annual Meeting of the Society for Neuro-Oncology, 2015 (San Antonio, TX)
125. Rayfield C, Rockne R., Jacobs J., Rosenberg T., Benbassat E., **Swanson K**. Growth Kinetics in Glioblastoma multiforme: Response to Radiation and the Quantification of Treatment Response. Presented at Advances in Brain Tumor Research, May 27-30th, 2015; Washington DC. American Association for Cancer Research:
126. Rayfield C, **Swanson K**. Predicting the Response to Treatment in Glioblastoma: Machine Learning on Clinical Images. Rapid Report Presentation at Society of Neuro-Oncology, November 22, 2015; San Antonio, TX. Society for Neuro-Oncology.
127. Rayfield C, **Swanson K**. “Mathematical Modeling as a Tool to Generate Biologically-Conformal Radiotherapy Dose Plans,” Mathematical Biosciences Institute at the Ohio State University, February, 2015 (Columbus, OH).
128. S. C. Massey, P. Canoll, **K. R. Swanson**. Biomathematical model of proneural tumors suggests PDGF¬inhibitors should be given earlier in disease course. 2016 Annual Meeting of the Society for Neuro-Oncology.
129. P Jackson, A Hawkins-Daarud, T Ung, H Malone, J Jacobs, L DeGirolamo, E Benbassat, A Baldock, A Rosenberg, J Crisman, J Kim, O Stringfield, R Gatenby, S Partridge, P Canoll, **K Swanson**. Presence of high ADC (low cellularity) tumor regions increases with diffuse appearance of GBMs on routine MRI. Annual Society for Neuro-Oncology Meeting
130. L Curtin, A Hawkins-Daarud, A Porter, J Jacobs, M Owen, K van der Zee, R Aoun, B Bendok and **KR Swanson**: Simulating Patterns of Recurrence Following Ischemia in Brain Tumors. Annual Society for Neuro-Oncology Meeting
131. A. Hawkins-Daarud, L. DeGirolamo, J. Jacobs, K. Clark-Swanson, J. M. Eschbacher, K. Smith, P. Nakaji, L. C. Baxter, J. P. Karis, J. R. Mitchell, J. Li, T. Wu, L. Hu, **K. R. Swanson**. Histological evidence for a bio-mathematical model of glioblastoma invasion. AACR/PSOC Joint conference in Engineering and Physical Sciences in Oncology, Boston, June 2016
132. PR Jackson, A Hawkins-Daarud, J Jacobs, T Ung, H Malone, J Kim, O Stringfield, L DiGirolamo, E Benbassat, A Rosenberg, J Crisman, R Gatenby, S Partridge, P Canoll, **K Swanson**: Glioblastoma Growth and Invasion Kinetics Correlate with ADC metrics. In: ISMRM 23rd Scientific Meeting and Exhibition; 2016; Singapore. 2654.
133. Rayfield C., Rockne R., **Swanson K**. Growth rate reveal changes in phenotype resulting from chemoradiation in recurrent glioblastoma. Poster Presentation at Organization for Human Brain Mapping, June 2016; Geneva, Switzerland.
134. Rayfield C., Grady F., Jackson P., Bendok B., Vora S., **Swanson K**. Clustering of Patients with GBM on Treatment Response Reveals Underlying Phenotypic Differences. Poster Presentation at Mayo Clinic Young Investigators Symposium, March 19th 2016; Rochester, MN.
135. Rayfield C., Grady F., Jackson P., Bendok B., Vora S., **Swanson K**. Clustering of Patients with GBM on Treatment Response Reveals Underlying Phenotypic Differences. Poster Presentation at ASTRO National Meeting, 2016.
136. S. Johnston, S. Ranjbar, A. Hawkins-Daarud, R. Rostomily, D. Silbergeld, M. Mrugala J. Chandler, P. Kumthekar, B. Bendok, J. R. Mitchell, **K. R. Swanson**. Predictors of Seizure in Glioma at Initial Tumor Presentation. 2016 Annual Meeting of the Society for Neuro-Oncology
137. A Fleming, J Chapman, S Massey, P Jackson, S Gupta, A Tuma, L He, F Jin, A Johnson, J Sarkaria, **K Swanson**. Math Model of Brain Tumor Growth Facilitates Tumor Cell Quantification from Bioluminescence Imaging. Biomedical Engineering Society 2017 Annual Meeting, Phoenix, AZ.
138. S Massey, H White, C Rayfield, C Rickertsen, K Clark-Swanson, S Whitmire, S Johnston, A Porter, M Mrugala, B Bendok, **K Swanson**. Extent of Glioblastoma Invasion Predicts Overall Survival Following Upfront Radiotherapy Concurrent with Temozolomide. 2017 Annual Meeting of the Society of Neuro-Oncology, San Francisco, CA.
139. P Jackson,N Gaw, A Hawkins-Daarud, L DeGirolamo, L Baxter, K Smith, P Nakaji, S McGee, K Clark-Swanson, B Bendok, T Wu, L Hu, J Li, **K Swanson**. P53 Amplification Modifies the Glioblastoma Microenvironment: Differentiating the Contribution of Cells vs Edema in the T2 Weighted MRI Signal. 2017 Annual Meeting of the Society of Neuro-Oncology, San Francisco, CA.
140. K Singleton, S Johnston, A Hawkins-Daarud, C Rickertsen, G De Leon, L Kunkel, S Whitmire, K Clark-Swanson, B Bendok, M Mrugala, A Porter, **K Swanson**. Discrimination of Clinically Impactful Treatment Response in Recurrent Glioblastoma Patients Receiving Bevacizumab Treatment. 2017 Annual Meeting of the Society of Neuro-Oncology, San Francisco, CA.
141. K Singleton, S Johnston, C Rickertsen, G De Leon, L Kunkel, J Rockhill, M Mrugala, B Bendok, N Patel, A Porter, **K Swanson**. Role of Pretreatment Tumor Dynamics and Imaging Response in Discriminating Glioblastoma Survival Following Gamma Knife. 2017 Annual Meeting of the Society of Neuro-Oncology, San Francisco, CA.
142. J Sarkaria, L Hu, I Parney, D Pafundi, D Brinkmann, N Laack, C Giannini, T Burns, S Kizilbash, J Laramy, **K Swanson**, T Kaufmann, P Brown, N Agar, E Galanis, J Buckner, W Elmquist. Is the Blood-Brain Barrier Really Disrupted in all Glioblastomas? – A Critical Assessment of Existing Clinical Data. 2017 Annual Meeting of the Society of Neuro-Oncology, San Francisco, CA.
143. G De Leon, SK Johnston, KW Singleton, CR Rickertson, S Bayless, S Yee, A Khalifa, K Clark-Swanson, A Porter, B Bendok, A Rodriguez, B Badie, P Sahoo, MM Mrugala, RC Rockne, C Brown, **KR Swanson**. Discrimination of Response to CAR T-Cell Therapy Using a Novel Response Metric Incorporating Tumor Growth Kinetics in Recurrent GBM Patients. 2018 Annual Meeting of the American Association for Cancer Research. San Diego, CA

**INVITED LECTURES AND OTHER CONTRIBUTED PRESENTATIONS**

2018 Invited Speaker – Mayo Clinic Convergence (Orlando, FL)

Invited Speaker – UNITO-POLITO Conference Series in Cancer: Imaging of Cancer Dynamics (Torino, Italy)

Invited Speaker – 4th Minnesota Neuro-Oncology Symposium (Minneapolis, MN)

2017 Visiting Professor – University of Arizona Quantitative Biology Program (Tucson, AZ)

Visiting Professor – Case Western University Biomedical Engineering (Cleveland, OH)

Visiting Professor – Mayo Clinic Florida Neurosurgery (Jacksonville, FL)

Invited Speaker – Mayo Neurosciences and Oncology Summit (Orlando, FL)

Invited Speaker – NCI Cancer Systems Biology Consortium Annual Meeting (Boston, MA)

Invited Speaker – NCI Physical Sciences Oncology Annual Meeting (Boston, MA)

Invited Speaker and Panelist – National Brain Tumor Society Scientific Summit (Boston, MA)

2016 Invited Speaker – Physical Sciences in Oncology Program Kickoff (NIH, Bethesda, MD)

Visiting Professor – SAMSI Precision Medicine (Raleigh/Durhan, NC)

Invited Speaker – CNS Anticancer Drug Discovery Symposium (Scottsdale, AZ)

Invited Speaker – Mayo Clinic Cancer Center Grand Rounds (Phoenix, AZ)

Invited Speaker – Biomedical Engineering Society (Minneapolis, MN)

Invited Speaker – INFORMS Conference (Kona, HI)

2015 Invited Speaker – Tumor Kinetics Modeling Symposium (Cambridge, MA)

Invited Speaker – ASU Mathematical Biology Seminar Series (Tempe, AZ)

Visiting Professor – Henry Ford (Detroit, MI)

Visiting Professor – Washington University School of Medicine (St. Louis, MO)

Invited Plenary Speaker – Glioblastoma Multiforme 2015 (Toledo, Spain)

Invited Speaker – Mathematical Biosciences Institute Workshop on Stem Cells, Development and Cancer (Columbus, OH)

Workshop Organizer and Speaker - Mathematical Biosciences Institute Workshop on Clinical Trials, Treatment and Resistance in Cancer (Columbus, OH)

2014 Invited Speaker – Mayo Clinic NeuroOncology Seminar (Rochester, MN)

Invited Seminar – Engineering in Medicine and Biology Conference (Chicago, IL)

Invited Speaker – Learning for Life Series (Chicago, IL)

Invited Speaker – Brain Tumor Patient and Caregiver Forum (Chicago, IL)

TEDx Invited Speaker – TEDx at University of Chicago (Chicago, IL)

Invited Speaker – ECOG ACRIN Brain Tumor Working Group (Chicago, IL)

Visiting Professor – Bioengineering (Northwestern University)

Plenary Invited Speaker – Society for Industrial and Applied Mathematics in Life Sciences Annual Meeting (Raleigh, NC)

Invited Minisymposium Lecture (x2) – European Society for Mathematical and Theoretical Biology (Gothenburg, Sweden)

Invited Speaker – Northwestern University Graduate School (Evanston, IL)

Invited Minisymposium Speaker - IEEE Engineering in Medicine and Biology Society (Chicago, IL)

Invited Speaker – Evolution of Resistance in Cancer (Kavli Institute of Theoretical Physics, Santa Barbara, CA)

2013 Invited Seminar – Mathematical Biology Research Training Group (Duke University)

Visiting Professor – Neurosurgery (Dartmouth – Hitchcock Medical Center, Lebanon, NH)

Visiting Professor – Princess Margaret Cancer Centre Radiation Medicine Program (Ontario Cancer Institute)

Invited Symposium Lecture – 2nD Gray Institute Symposium (Oxford, UK)

Invited Symposium Lecture – Mathways in Cancer II (Sevilla, Spain)

Visiting Professor – Consortium for Computational Oncology, University of Southern California (Los Angeles, CA)

Visiting Professor – Engineering and Applies Sciences Seminar Series (Northwestern University, Evanston, IL)

Invited Seminar – Tumor Biology Seminar Series (Lurie Cancer Center, Chicago, IL)

Invited Seminar – Center for Translational Imaging (Northwestern University, Chicago, IL)

Invited Minisymposium Lecture – Mathematical Models for Cancer and Therapy (Annual Meeting of the Society for Mathematical Biology, Tempe, AZ)

Invited Seminar – Faculty & Fellows Research Conference

Anne & Robert Lurie Children’s Hospital of Chicago (Chicago, IL)

2012 Invited Symposium Lecture – Radiation Research Society (Puerto Rico)

Invited Symposium Lecture – James S McDonnell Foundation Meeting: Envisioning the Future Through a Retrospective Lens: Lessons from 15 Years of JSMF Support for Brain Cancer Research (Houston, TX)

Invited Lecture – Eastern North American Region (ENAR) of the International Biometric Society (Washington, DC)

Visiting Professor – Bioengineering Department Seminar (Columbia University)

Visiting Professor – Information Sciences in Imaging, Radiology (Stanford, Palo Alto, CA)

Visiting Professor – Northwestern University Brain Tumor Institute (Chicago, IL)

Invited Symposium Lecture – Rice University's Innovations in Cellular Systems Biology (Houston, TX)

2011 Invited Lecture – Investigative Workshop Solid Tumor Modeling: Biological, Computational and Clinical Challenges (National Institute for Mathematical and Biological Synthesis – NimBIOS, Knoxville, TN)

Visiting Professor – Radiation Medicine Seminar (Oregon Health Sciences University, Portland, OR)

Invited Seminar – Pathology Presents Seminar (University of Washington)

Invited Symposium Lecture – American Association of Cancer Research (AACR) (Orlando, FL)

Invited MiniSymposium Lecture – International Congress of Industrial and Applied Mathematics (Vancouver, BC)

Invited Symposium Lecture – American Association of Physicists in Medicine (Vancouver, BC)

Visiting Professor – NeuroOncology (University of California, San Diego, CA)

Contributed Platform Presentation - Annual Meeting of Society for Nuclear Medicine (San Antonio, TX)

Visiting Professor – Neurosurgery Grand Rounds (Columbia University School of Medicine, NY)

Visiting Professor – Brain Tumor Program (Memorial Sloan Kettering Cancer Center, NY)

Invited Lecture – Recent Advances in Biologically Guided Radiation Therapy Symposium (University of Washington, Seattle)

Visiting Professor – Martinos Center for Biomedical Imaging, Massachusetts General Hospital and Harvard-MIT Division of Health Sciences and Technology (Boston, MA)

Invited Seminar – Northwestern University Brain Tumor Institute, Robert H. Lurie Comprehensive Cancer Center (Chicago, IL)

Invited Seminar – Neurosurgery Grand Rounds - University of Colorado (Denver, CO)

Invited Seminar – 40 Years and Counting: AWM's Celebration of Women in Mathematics Conference (Brown University, Providence, RI)

Invited Symposium Lecture – American Academy of Neurological Surgery Annual Meeting (Scottsdale, AZ)

Invited Symposium Lecture - National Cancer Research Institute Annual Meeting (Liverpool, UK)

* 1. Invited Seminar – Undergraduate Mathematical Sciences Seminar (UW)  
     Invited Seminar – Neurosurgery Grand Rounds (UW)  
     Invited Seminar – Imaging Science Research Lecture (UW)

1. Visiting Professor – William E. Schiesser Seminar, Lehigh University (Bethlehem, PA)  
   Visiting Professor – Computational Biology Program, Fred Hutchinson Cancer Research Center (Seattle, WA)  
   Visiting Professor – Integrative Mathematical Oncology Department (Moffitt Cancer Center, FL)  
   Invited Seminar – Pathology Presents Seminar (UW)

Invited Lecture – Centro de Investigación en Computación del IPN, National Polytechnic Institute of México (Mexico)

Invited Minisymposium Lecture – SIAM Computer Science and Engineering Annual Meeting (Miami, FL)

Invited Minisymposium Lecture (x2) – Society of Mathematical Biology Annual Meeting (Vancouver, BC)

Invited Lecture – Oregon Health Sciences University (OHSU) Blood-Brain-Barrier Consortium Annual Meeting (Gleneden Beach, Oregon)

Invited Dean’s Seminar – Old Dominion University (Norfolk, VA)

Keynote Lecture – BIOMAT 2009 (Brasilia, Brazil)

2008 Invited Lecture – Workshop on Modeling Tumour Response to Irradiation (Cross Cancer Institute, Edmonton, Alberta)

Invited Lecture – Annual Meeting of the European Society for Mathematical and Theoretical Biology (Edinburgh, UK)

Invited Lecture – Applied Physics Laboratory (UW)

Visiting Professor – Neuro-Oncology (Moffitt Cancer Research Center, Tampa, Florida)

Invited Lecture – Radiology (UWMC)

Invited Lecture – 1st Transatlantic Workshop on Multiscale Cancer Modeling (Brussels, Belgium)

2007 Keynote Lecture – BIOMAT 2007 (Rio de Janeiro, Brazil)

Contributed Platform Presentation – Society for Nuclear Medicine Annual Meeting (Washington, DC)

Invited Lecture – McDonnell Foundation Tango Lessons for Brain Cancer Workshop (Cordoba, Argentina)

Invited Lecture – Mathematics, University of Arizona (Tucson, AZ)

Invited Symposia Lecture – Society for Mathematical Biology (San Jose, CA)

Invited Workshop Lecturer – VICBC Workshop (Nashville, TN)

Invited Lecture – Neurology Grand Rounds (UW)

Invited Lecture – Molecular Imaging Seminar (UW)

2006 Invited Major Symposia Lecture – American Association for Cancer Research (AACR) Annual Meeting (Washington, DC)

Plenary Lecture – Second Young Researchers Workshop in Mathematical Biology (Mathematical Biosciences Institute, Ohio State University, Columbus, Ohio)

Invited Plenary Lecture – Gordon Research Conference on Mathematical and Theoretical Biology (Tilton, New Hampshire)

Invited Lecture – Workshop on Mathematical Models and Problems in Cell Motility and Tumor Growth (National Center for Theoretical Sciences, Taiwan)

Minisymposia Organizer – Joint Annual Meeting of the Society for Mathematical Biology and the SIAM Conference on the Life Sciences (Raleigh, North Carolina)

2005 Keynote Lecture – International Conference on Mathematical and Theoretical Biology Joint Annual Meeting of the Society for Mathematical Biology and the

European Society for Theoretical and Mathematical Biology (Dresden, Germany)

Symposia Organizer– “Mathematical Oncology”: American Association for the Advancement of Science (AAAS) Annual Meeting (Washington, DC)

Visiting Professor – Radiology, University of Arizona School of Medicine (Tucson, AZ)

Invited Lecture – Symposium on "Modeling in Chronic and Infectious Disease: Biology and Outcomes” at the Fred Hutchinson Cancer Research Center (Seattle, WA)

Visiting Professor – Barrow Neurological Institute (Phoenix, AZ)

Visiting Professor – Mathematics, Arizona State University (Tempe, AZ)

Invited Lecture – Cancer Dynamics Workshop, University of Michigan (Ann Arbor, MI)

Invited Lecture – Matematica e Cultura 2005 International Conference (Venice, Italy)

Invited Lecture – Applied Mathematics, University of Washington (Seattle, WA)

Invited Lecture – Epidemiology and Preventive Medicine, University of Maryland School of Medicine (College Park, MD)

Visiting Professor – Applied Mathematics, University of Waterloo (Waterloo, Canada)

Invited Lecture – Centre for Mathematical Medicine, Fields Institute (Toronto, Canada)

Invited Lecture – NeuroSurgery Grand Rounds, University of Washington (Seattle, WA)

Invited Lecture – Canadian Mathematical Society Winter Meeting (Victoria, BC, Canada)

Invited Lecture – MITACS Cancer Modeling Workshop (Banff, Canada)

Invited Lecture – Center for Mathematical Medicine Cancer Modeling Workshop (Toronto, Canada)

2004 Invited Symposia Lecture – American Association for the Advancement of Science (AAAS)

Annual Meeting (Seattle, WA)

Invited Symposia Lecture – Neuroradiology Education and Research (NER) Foundation

Symposium 2004: “Integration of Imaging Strategies in Neuroradiology”

and 42nd Annual American Society for Neuroradiology Annual Meeting (Seattle, WA)

Invited Lecture – NeuroOncology, Pitie-Salpetriere Hospital (Paris, France)

Invited Lecture – Workshop on Mathematical Oncology, Fields Institute (Toronto, Canada)

Visiting Professor – Bioengineering, University of Washington (Seattle, WA)

Invited Lecture – Applied Mathematics, University of Washington (Seattle, WA)

Invited Lecture – Neuropathology Research-in-Progress (Seattle, WA)

Contributed Platform Presentation –Growth & Death in the CNS International Conference (St.  
Moritz, Switzerland)

2003 Keynote Lecture – European Union International Conference on “Linking Mathematical and

Biological Models in Cancer Research” (Magdeburg, Germany)

Invited Lecture – NeuroOncology Colloquia at the Pitie-Salpetriere Hospital (Paris, France)

Society for Nuclear Medicine Annual Meeting (New Orleans, LA)

Invited Lecture – Neurosurgery Grand Rounds (Harborview Medical Center, Seattle, WA)

Invited Lecture – Neuropathology Research-in-Progress Seminar (Harborview Medical Center, Seattle, WA)

Invited Lecture – Society for Mathematical Biology (Dundee, Scotland)

Visiting Professor – Washington State University, Mathematics (Pullman, WA)

2002 Society for Neuro-Oncology (San Diego, CA)

Canadian Association of Neuropathology – Oral Contribution (Vancouver, BC)

International Congress of Neuropathology (Helsinki, Finland)

Mathematical Modeling & Computing in Biology and Medicine Conference (Milan, Italy)

Invited Lecture – Applied Mathematics – University of Washington (Seattle, WA)

Invited Lecture – Steele Laboratory – Harvard Medical School (Boston, MA)

Life Sciences Meeting of Society for Industrial and Applied Mathematics (Boston, MA)

2001 Invited Lecture – Biostatistics – Fred Hutchison Cancer Research Center (Seattle, WA)

Keynote Lecture at International Conference – Using Mathematical Modelling and Computer Simulation to Improve Cancer Therapy (Corsica, France)

Annual Society for Mathematical Biology Meeting (Hilo, HI)

Invited Lecture – Molecular Imaging Laboratory – University of Washington (Seattle, WA)

Invited Lecture – International Brain Tumor Modeling Workshop (Edinburgh, Scotland)

2000 Invited Lecture – Neuro-Oncology Research – University of Washington (Seattle, WA)

Invited Lecture – Applied Mathematics – University of Washington (Seattle, WA)

Annual Society for Industrial and Applied Math Meeting (Rio Grande, Puerto Rico)

Using Mathematical Modeling and Computer Simulation to Improve Cancer Therapy (Corsica, France)

Invited Lecture – Math Modeling Journal Club – University of California (San Francisco, CA)

Invited Lecture – Biomedical Engineering – Washington University (St. Louis, MO)

Invited Lecture – Courant Institute of Mathematical Sciences – New York University (NY)

Invited Lecture – Information Technology – Merck and Company (Rahway, NJ)

Invited Lecture – Quantitative Modeling – Physiome Sciences, Inc (Princeton, NJ)

Invited Lecture – Engineering Sciences & Applied Mathematics – Northwestern (Evanston, IL)

Invited Lecture – Quantitative Modeling – Entelos, Inc. (Menlo Park, CA)

1999 Invited Lecture – Neurology Grand Rounds – University of Washington (Seattle, WA)

Contributed Platform Presentation – Theory and Mathematics in Biology and Medicine 99   
(Amsterdam, The Netherlands)

Invited Lecture – Neuropathology Grand Rounds – Harborview Medical Center (Seattle, WA)

Brain Awareness Week Open House – University of Washington (Seattle, WA)

1998 Zoology – University of Washington (Seattle, WA)

Applied Mathematics – University of Washington (Seattle, WA)

Pattern Formation– Institute for Mathematics and its Application (Minneapolis, MN)

Gordon Research Conference, Theoretical Biology and Biomathematics (Tilton, NH)

1996 Honors Thesis Defense – Mathematics, Tulane University (New Orleans, LA)

1995 Research Experience for Undergraduates – Carnegie Mellon University (Pittsburgh, PA)

**PROFESSIONAL MEMBERSHIPS**

Association for Women in Mathematics (AWM), Advisory Board  
American Association for Cancer Research (AACR)

Society for Mathematical Biology (SMB), Board of Directors

Society for Neuro-Oncology (SNO)

Society for Nuclear Medicine (SNM)

Women in Cancer Research (AACR-WICR)

Fred Hutchinson/University of Washington Cancer Consortium

- Program in Neuro-Oncology

- Program in Imaging

European Society for Theoretical and Mathematical Biology (ESTMB)

Centre for Mathematical Medicine (Fields Institute, Toronto, Canada)

Center for the Development of a Virtual Tumor (CViT.org)

Institute of Translational Health Sciences (ITHS)

Founding member of the National Science Foundation sponsored RCN-UBE Incubator: Interdisciplinary Communication Laboratory for Undergraduate Biology (iCLUB)

COSINE Society for Computational Surgery

**ACADEMIC SERVICE**

**International**

*Workshop Host Organizer*, Mathematics of the NCI’s PSOC-CSBC Programs, Phoenix, AZ 2017

*Member*, GBM Agile Consortium – Biomarkers Subcommittee 2016- Present

*Organizer and Contributor*, MICCAI Challenge for Brain Metastases, Munich, Germany 2015

*Workshop Organizer*, Tumor Kinetics Consortium, Cambridge, MA 2015

*Workshop Organizer*, Glioblastoma Heterogeneity, Toledo, Spain 2015

Co-Organizer/Editor of Mathematics of the NCI’s PSOC-ICBP Resource Booklet 2015-Present

Workshop Organizer, Mathematics of the NCI’s PSOC-ICBP Programs, Tampa, FL 2015

Grant Reviewer, Royal College of Surgeons in Ireland 2014

Grant Reviewer, Swiss National Science Foundation 2014

Grant Reviewer, French Aix-Marseille Excellence Initiative, A\*MIDEX 2013

Member, Ontario Cancer Institute 4th Investigator Award Retention and Promotion Committee

Toronto, Canada 2013

Grant Reviewer, Italian Association for Cancer Research (AIRC) 2011

Grant Reviewer, French Insitut National du Cancer 2010

Grant Reviewer, French National Research Agency (ANR) 2009

Board of Directors, The Society for Mathematical Biology 2007-2010

Scientific Committee, Mathematics and Medicine Workshop February 2009

CIRM, Marseilles (Luminy), France

Scientific Committee, Annual Meeting of the Society for Mathematical Biology 2008

Toronto, Canada

Grant Reviewer, National Natural Sciences and Engineering Research Council

of Canada (NSERC) 2006, 2013

Organizing Committee, MITACS/CMM Cancer Modeling Workshop October 2005

Workshop on Growth and Control of Tumours - Current Problems and Future Challenges

BIRS, Banff, Canada

**National**

**Standing Member, NIH Study Section – Modeling and Biological Systems (MABS)** 2017-2021

**Advisory Board, Association for Women in Mathematics** 2016-2019

**Workshop Organizer, Mathematical Biosciences Institute** 2015

Treatment, Clinical Trials and Resistance

**Study Section Panelist, Cancer Prevention Research Institute of Texas** 2016- Present

**Abstract Reviewer for Annual Meeting of the Society for Neuro-Oncology** 2014

**Workshop Organizer, Mathematical Biosciences Institute** 2014

Integrating Modalities and Scales in Life Science Imaging

**Abstract Reviewer for Annual Meeting of the American Association of Physics in Medicine** 2014

Science Council

**Grant Review Panelist, National Cancer Institute Study Section** 2014

Bridging the Gap Between Cancer Mechanism and Population Science

**Advisory Board, James S. McDonnell Foundation Mathematical and Complex Systems Approaches to Brain Cancer Program** 2012 - Present

**External Scientific Advisory Board, Moffitt Cancer Center pre-SPORE** 2012 - 2015

**Scientific Advisory Committee, Annual Meeting of the Society for Mathematical Biology** 2012

Knoxville, TN

**External Scientific Advisory Board, Moffitt Cancer Center Bankhead-Coley**

**Team Science Award** 2011- Present

**Grant Review Panelist, National Science Foundation** 2011

Mathematical Biology and the Computational Mathematics

**Grant Review Panelist, National Institutes of Health Study Section** 2011, 2014, 2016  
 Modeling and Biological Systems (MABS)

**Grant Review Panelist, National Science Foundation** 2010

RTG (Research Training Groups) component of the EMSW21 -   
Enhancing the Mathematical Sciences Workforce in the 21st Century

**Scientific Advisory Board, Vanderbilt University component of   
NCI’s Tumor Microenvironment Network (TMEN)** 2007-2011

Vanderbilt University, Nashville, Tennessee

**Chair and Organizer, Modeling Cancer and Angiogenesis Workshop** 2008-2009

Mathematical Biosciences Institute, Ohio State University

**Panelist, National Science Foundation Grant Review Panel** 2006

**Chair, Mathematical Oncology Symposium** February 2005

AAAS Annual Meeting, Washington, DC

**Local**

**Mayo Clinic Office of Research Diversity and Inclusion Advisory Committee** 2017 – Present

**Mayo Clinic Translational Neuro-Oncology Review Team** 2017 – Present

**Mayo-ASU Medical School Education Program Team** 2017 – Present

**Mayo Clinic Arizona Education Committee** 2017 – Present

**Mayo Clinic Center for Science of Health Care Delivery Advisory Board** 2016 – Present

**Mayo Clinic Enterprise Recruitment Task Force** 2016 – 2017

**Mayo Clinic Research Operations Management Team** 2016 – Present

**Mayo Clinic Neurosurgery Enterprise Research Committee** 2015 – Present

**Mayo Clinic Neurosurgery Spine Search Committee** 2015 – 2016

**Vice Chair for Research, Neurosurgery, Mayo Clinic** 2015 – Present

**Northwestern University MSTP Admissions Committee Member** 2014 – 2015

**Abstract Reviewer, Feinberg School of Medicine Research Day** 2014

**Search Committee for Director of Robert H. Lurie Cancer Center** 2014

**Grant Reviewer, American Cancer Society Institutional Research Grant Allotment** 2013

**Elected Member, Council on Research and Graduate Education** 2007 – 2010

University of Washington School of Medicine

**Graduate and Professional Student Senator** 1998 – 1999

University of Washington, Seattle, WA

**Mortar Board Senior Honor Society Treasurer** 1995 – 1996

Tulane University, New Orleans, LA

**Reviewer and Editorial Board Membership**

|  |  |  |
| --- | --- | --- |
| **Reviewer For:** | Journal of Theoretical Biology | |
| Acta Biotheoretica | Journal of Theoretical Medicine | |
| Acta Neuropathologica  Applied Mathematics Letters | Mathematics in Medicine and Biology | |
| Bulletin of Mathematical Biology | Mathematical Biosciences | |
| Cancer Detection and Prevention | Medical Image Analysis | |
| Cancer Letters | Microvascular Research | |
| Cancer Research  Clinical Cancer Research | Nature Reviews Cancer  Nonlinear Dynamics, Psychology and Life Sciences | |
| Computer Vision and Image Understanding  Cell Proliferation | Physical Review E  PLOS Computational Biology | |
| Journal of Clinical Oncology  Journal of Nonlinear Science | PLOS One  Scientific Reports | |
| Journal of the Royal Society Interface | Transactions on Medical Imaging | |
| **Editorial Board Member for:** Bulletin of Mathematical Biology – Associate Editor  Cancer Research – Associate Editor  Journal of Computational Surgery  Frontiers in Computational Physiology and Medicine  Frontiers in Molecular and Cellular Oncology | |  |

**In the News**

**Model Predicts Better Outcomes for Brain Tumors with Gene Mutation**

August 2014, Northwestern Feinberg School of Medicine News

[*http://www.feinberg.northwestern.edu/news/2014/08/Swanson\_IDH1\_mutation.html*](http://www.feinberg.northwestern.edu/news/2014/08/Swanson_IDH1_mutation.html)

**Every Cancer Patient Deserves Their Own Equation**

April 2014 TEDxUChicago Speaker

[*http://www.tedxuchicago.com/Kristin-Swanson*](http://www.tedxuchicago.com/Kristin-Swanson)

[*https://www.youtube.com/watch?v=9nmsSo2QbIs*](https://www.youtube.com/watch?v=9nmsSo2QbIs)

**Tumor Simulations Offer Insight into Treatment Options**

November 2013, Northwestern Feinberg School of Medicine News

[*http://www.feinberg.northwestern.edu/news/2013/11/swanson\_%20glioblastoma.html*](http://www.feinberg.northwestern.edu/news/2013/11/swanson_%20glioblastoma.html)

**Study of brain tumor adds up to better treatment**

February 2013 ***Chicago Tribune Article***

[*http://www.chicagotribune.com/health/ct-x-brain-tumors-20130213,0,7841206.story*](http://www.chicagotribune.com/health/ct-x-brain-tumors-20130213,0,7841206.story)

**Forecasting Brain Tumors**

January 2013 ***WGN TV*** – Medical Watch segment  
<http://wgntv.com/2013/01/30/forecasting-brain-tumors/>

**Forecasting Brain Tumors Like a Storm**

January 2013 ***Eureka Alert*** press release (1.6 millions hits on google)

<http://www.eurekalert.org/pub_releases/2013-01/nu-fbt011813.php>

<http://www.sciencedaily.com/releases/2013/01/130123195254.htm>

**Modelling predicts radiotherapy response**  
June 2010 ***MedicalPhysicsWeb***

<http://medicalphysicsweb.org/cws/article/research/42904>

**Modeling Plus MRI Data Characterize Brain Tumors in Patients**

December 2009 ***NCI Physical Sciences in Oncology Research News***

<http://physics.cancer.gov/news/2009/dec/po_news_c.asp>

**UW researchers discover groundbreaking approach to predicting life expectancy among patients with malignant brain tumors** by Clare Hagerty

November 30, 2009 ***University of Washington Health and Medicine News***

<http://uwnews.org/article.asp?articleID=53947>

**The Amgen Scholars Program: Encouraging a new generation of biomedical researchers**

By Robert Roseth – August 6, 2009 ***University Week***

<http://uwnews.org/uweek/article.aspx?id=51343>

**Radiation Options & Advances for Brain Cancer Patients**

An interview with Dr. Jason Rockhill discussing advances in radiation therapy in the treatment of gliomas and the role of the Swanson Lab's research – February 12, 2009 ***Patient power***

<http://www.patientpower.info/listenguestdetails.asp?Guest=945Rockhill,%20M.D.,%20Ph.D.&ID=R&fn=Jason%20K.&ln=Rockhill,%20M.D.,%20Ph.D>.

**Researcher outsmarts brain tumors with math** by Jean Enerson

December 2008 Healthlinks Special on ***NBC KING 5***

<http://www.king5.com/health/stories/NW_122408HEB_brain_tumors_KS.223c0bb.html>

**Can Mathematics Treat Cancer?** by Chen Sai

November 13, 2008 Issue of ***Life Week Magazine***

[Life Week] is China's best Newsweek Magazine, sponsored by China Publishing Group. [Life Week] publishes weekly, with 200 thousand circulation, all over China, including HK and Taiwan.

<http://www.lifeweek.com.cn/2008-12-08/0002423302.shtml>

**Comparing Invasive Species to Metastatic Cancers Inspires New Insights for Modelers** by Mike Martin - January 8, 2008

<http://jnci.oxfordjournals.org/cgi/content/full/100/2/88>

**Can Math Cure Cancer?** by Robert Langreth, Senior Editor

October 27, 2008 Issue of ***Forbes Magazine***

<http://www.forbes.com/forbes/2008/1027/074.html>

**Glint of Hope Compels Brain Cancer Clinical Trials (Against a Dim Prognosis)**

Fall 2008 Issue of University of Washington Medical Center ***Neuro-Oncology Consult***,

<http://www.pathology.washington.edu/research/labs/swanson/text/UWMCConsultFall08_BrainCancer.pdf>

**Modeling Cancer Biology** by Kristin Cobb, PhD

Spring 2007 Issue of ***Biomedical Computation Review***  
<http://biomedicalcomputationreview.org/3/2/4.pdf>

## The Right Equation: Mathematicians Work to Predict Tumor Growth

## *Journal of the National Cancer Institute* 2005 97(13):952-953; doi:10.1093/**jnci**/dji195

### <http://jnci.oxfordjournals.org/cgi/content/full/97/13/952>

## Mathematical Modeling of Cancer

## *SIAM News*, Volume 37, Number 1, Jan/February 2004

### <http://www.siam.org/pdf/news/203.pdf>

### Teaching Summary

**Undergraduate**

### Bioengineering Research/Capstone Design (UW - BIOEN 480)

### Co-supervised bioengineering senior on capstone project: Winter 2005, Spring 2005

Research Mentoring (UW - AMATH 499, PATH 499 or CSE 499)

Average of 3 students per quarter (8 credit hours per quarter) since 2003

Undergraduate Mathematical Sciences Seminar (UW - MATH 498)

Contributed 1 hour lecture: Winter 2005, Winter 2010

Research project mentorship (for credit) of an average of 10 undergrads at all times since 2005

### Graduate

### Bioengineering Seminar Series (UW - BIOEN 501):

### Contributed 1 hour lecture Spring 2004

### Applied Math Seminar Series (UW - AMATH 501):

### Regular contributions 2003 - 2012 Neuroanatomic Pathology (UW - PATH 571, MSTP Course)

Contributed 1.5 hour lecture Spring 2005

Environmental Pathology (UW - PATH 555):

Contributed 2 hour lecture Spring 2005

Modeling and Computation in the Biomedical Sciences Proseminar (UW - PATH 501)

Course director and designer - 10 weekly hour long lectures – Spring 2007

Virtual Human Research Seminar (UW)

Contributed 1 hour lecture Spring 2007

### Pathology Presents Graduate Seminar (UW - PATH 520)

### Contributed 1 hour lecture – Winter 2009, Summer 2009

### Cellular Biology (UW - PATH 507)

### Contributed 1 hour lecture Winter 2010

Engineering Sciences and Applied Mathematics (Northwestern)

Colloquium: Contributed 1 hr lecture 4Feb2013

**Medical Student/Resident**

UW Neurosurgery Grand Rounds: Regular contributions 2003 to 2012

UW Neuropathology Research in Progress: Regular contributions 2003 to 2012

UW Neuropathology Journal Club: Regular contributions 2003 to 2012

UW/FHCRC Imaging Sciences Research Seminar (Radiology)

Contributed 1 hour lecture Fall 2010

UW Independent Study in Medical Science (HUBIO 599) Spring 2004

UW Pathology Resident Didactics – *Intro to Biostatistics*  
Designed mini-course and contributed 4 one hour lectures - Winter 2005

Northwestern Neurological Surgery

Resident Lecture: Contributed 1 hr lecture

Academic Day: Contributed 1 hr lecture 15Mar2013

Northwestern Lurie Cancer Center TRIST

Tumor Biology Seminar Series: Contributed 1 hr lecture 31Jan2013

Anne & Robert Lurie Children’s Hospital of Chicago

Faculty & Fellows Research Conference: Contributed 1 hr lecture 25Jun2013

**Student Supervision and Mentoring**

**High School:**

Mahlet Assefa High School Student – Graduated 2010 2008 – 2010

Awards: NIH STEP-UP Fellow

Currently: Undergraduate Student – Yale University

Tyler Rockhill High School Student – Graduated 2011 2009 – 2011

Currently: Undergraduate Student – University of Portland

April Baldock High School Student 2011 – 2012

Simon Ricci Latin High School, Chicago, IL 2014

Mayur Vora BASIS High School, Scottsdale, AZ 2016

Connor Mitchell Scottsdale, AZ 2016

### Undergraduate Students:

### Carly A. Bridge Major: Neurobiology 2001 – 2004

Awards: Mary Gates Fellow

Currently: ND, 2009 – Bastyr;   
Clinical-Science Liason, Novocure, Inc

Hana L. P. Harpold Major:Bioengineering 2003 – 2007

Currently: MD, 2010 - University of Washington

Pediatrician, Chicago, IL

Sariah Khormaee Major:Neurobiology 2003 – 2005

Awards: Mary Gates Fellow  
 UW Presidential Scholar

Currently: Marshall Scholar

MD/PhD student at Cambridge University

Stephanie Nissen Major:Bioengineering 2003 – 2004

Awards: Mary Gates Fellow

Currently: Graduate Student – Genetics – UCSD

Patrick Reed Major:Biochemistry & Applied Math 2004 – 2007

Awards: Mary Gates Fellow

Currently: Graduate Student – University of Chicago

Melissa Cowan Major:Applied Mathematics 2004 – 2005

Awards: Mary Gates Fellow

Currently: Graduate Student – Electrical Engineering – UW

Nikhil Joshi Major:Bioengineering 2004 – 2006

Gargi Chakraborty Major:Biochemistry & Neurobiology 2005 – 2010

Awards: Mary Gates Fellow

Research for Advanced Undergraduates Fellow

NSF VIGRE Fellow

MS, Applied Mathematics, 2010 – University of Washington Currently: Software Developer at Boeing

Courtney Mitchell Major:Applied Mathematics 2005 – 2005

Danielle Peacock Major:Biochemistry 2005 – 2006   
 Currently: PhD (2014), University of Tennessee Health Sciences Center  
 Postdoctoral Fellow, NIH

Christina Wang Major:Bioengineering 2005 – 2009

Currently: Medical Student – University of Washington

Jeffrey Jacobs Major:Biology 2005 – 2007

Lily Chau Major:Psychology 2005 – 2006

Mindy Szeto Major:Biochemistry, Sociology & Biology 2005 – 2010

Awards: Mary Gates Fellow (2006, 2008)

Amgen Research Scholar (2008)

Washington Research Foundation Fellowship (2008)

NSF VIGRE Undergraduate Research Fellow (2009)

Currently: MSTP Student at U Colorado Denver

Stanley Gu Major:Bioengineering 2006 – 2010

Awards: Mary Gates Fellow

NSF VIGRE Undergraduate Research Fellow (2008, 2009)

MS Bioengineering (2010)

Currently: Scientist at Pfizer

Huo Shin John Tsui Major:Biostatistics 2006

Kevin Do Major:Sociology BS (2010) 2006 – 2010

Rita Sodt Major:Computer Science 2006 – 2011

Awards: Mary Gates Fellow (2008, 2010)

Levinson Emerging Scholars Award (2008)

Goldwater Scholarship UW Nominee (2008)

Amgen Scholar (2009)

BS (2010), MS (2011)

Currently: Developer at Google

Ivan Vulovic Major:Computer Science 2006 – 2007

Currently: Microsoft

Julia Moore Major:Molecular & Cellular Bio / Applied Math BS (2009) 2007 – 2009

Awards: Mary Gates Fellow

Amgen Research Scholar

NSF VIGRE Fellow

Goldwater Scholar

Currently: Graduate Student – UC Davis

Jennifer Hadley Major:Bioengineering 2007

Awards: Amgen Research Scholar

Currently: Medical Student at University of Alabama – Birmingham

Susan Massey Major:Mathematics BS(2010) 2007 – Present

Awards: Amgen Research Scholar

AMA Trjitzinsky Award

Boeing/OMA Research Scholar

McNair Scholar

NSF VIGRE Graduate Fellow

Individually awarded NSF Graduate Fellowship

Currently: Graduate Student – Applied Mathematics – Univ of Washington

Shokouh Pardakhtim Major:Mathematics / Pre-Med (2010) 2007 – 2010

Awards: STAR Scholar

NSF VIGRE Fellow

McNair Scholar

Jennifer Beers Major:Post-Bac/Pre-Med (2010) 2007 – 2010

Currently: Medical Student at University of Washington School of Medicine

Chunyan Zhou Major:Biology (2009) 2007 – 2009

Currently: Grad Student – Environmental Toxicology – Univ of Washington

Harkirat Sohi Major:Applied Mathematics (MS, 2010) 2008 – 2009

Awards: NSF VIGRE Fellow

NASA Research Grant

Brent Sandona Major:Computer Engineering 2008 – 2010

Brad Peterson Major:Biochemistry 2008 – 2010

Larissa Miller Major:Pre-Bioengineering 2008 – 2009

Amanda Ly Major:Chemical Engineering 2008 – 2009

Addie Boone Major: Medical Anthropology/Biochemistry 2009 – 2011

Currently: Medical Student at Northwestern University School of Medicine

Samantha Ryder Major: Geography/ Pre-Med 2009

Pratyusha Banik Major: Biochemistry 2009  
Jin Stedge Major: Applied Math & Music at MIT 2009

Anne Baldock Major:Neurobiology 2009 – 2013

Currently: MSTP Student at UCSD

Liz Hanley Major:Bioengineering 2009 – 2010

Zinnia Xu Major:Bioengineering 2009 – 2010

Kristin DeVleming Major:Applied Computational Mathematical Sciences 2009

Gina Tran Major: Undeclared 2009

Tyler Cloke Major:Computer Science and Engineering 2009 – 2012

Greg Sterin Major:Computer Science and Engineering 2010 – 2011

Christine Scullywest Major: Premed 2010

Misbah Uraizee Major:Biology & Mathematics at Yale 2010

Jason Uanon Major:Mathematics/Computer Science and Engineering 2010

Alex Kim Major:Neurobiology 2010 – 2012

Sam Sussman Major:Neurobiology 2010 – 2012

Dillon Eng Major: Mechanical Engineering at Rice University 2010

Jessica Forbes Major: Mathematics at Carroll College 2010

Awards: Amgen Research Summer Scholar

Theresa Kurtz Major: Neuroscience/Math at Rochester University 2011

Awards: Amgen Research Summer Scholar

Evan Leon Major: Computer Science and Engineering 2011 – 2012

Awards: NASA Summer Research Scholar

Jordan Lange Major: Computer Science Engineering 2011 – 2012

Aaron Nash Major: Computer Science Engineering 2011 – 2012

Kellie Fontes UW Student 2011 – 2012

Chantal Murphy UW Student 2011 – 2012

Michael Fisher UW Student 2011 – 2012

Joseph Juliano Major: Math and Molecular Biology, Arizona State University 2012 – 2014

Currently: Medical Student at U of Southern California

Fillan Grady Northwestern University Student 2013 – 2016

Currently: MD/PhD Student at U of Iowa

William Clark Loyola University 2013

Joe Crispin Loyola University 2014

Danielle Scharfman University of Wisconsin 2014

Melissa Dott Arizona State University 2016 – 2017

Haylye White Arizona State University 2016 – Present

Eduardo Carrasco Arizona State University Student 2016 – Present

Barrett Anderies Arizona State University Student 2016 – Present

Meriam Avades Arizona State University Student 2016 – Present

Tatum Doyle University of Michigan Student 2016

Mark Siadat Arizona State University Student 2016 – Present

Yash Suri Arizona State University Student 2016 – Present

Han Kim Arizona State University Student 2016 – Present

Corey Arnold University of Arizona 2016 – Present

Gustavo De Leon Arizona State University Student 2016 – Present

Lauren Kunkel Arizona State University Student 2016 – Present

Barrett Anderies Arizona State University Capstone Student 2016 – Present

Haylye White, BS Arizona State University Student 2016 – Present

Melissa Dott Arizona State University Student 2016 – Present

Nichole Emmons Arizona State University Capstone Student 2016 – Present

Jake Irvin Arizona State University Capstone Student 2016 – Present

Baijun Jaing Arizona State University Capstone Student 2016 – Present

Hans Hovanitzz Arizona State University Capstone Student 2016 – Present

Tyler Pinho Arizona State University Capstone Student 2016 – Present

Demetrius Jones-Shargani Arizona State University Capstone Student 2016 – Present

Meriam Avades Arizona State University Student 2016 – Present

Kelly Newman Arizona State University Student 2016 – Present

Han Kim Arizona State University Student 2016 – Present

Yash Suri Arizona State University Student 2016 – Present

Carly Sutton Arizona State University Student 2016 – Present

Sara Yee Arizona State University Student 2016 – Present

Farah Doulah Arizona State University Student 2016 – Present

Spencer Bayless Arizona State University Student 2016 – Present

Phillip Noel Arizona State University Student 2016 – Present

Destiney Kirby Arizona State University Student 2016 – Present

Brie Schilling Arizona State University Student 2016 – Present

Tasha Mohseni Arizona State University Student 2016 – Present

April Fleming Arizona State University Student 2017

Jamie Chapman Arizona State University Student 2017

Andrew Polican Arizona State University Student 2017

Julia Lorence Arizona State University Student 2017 – Present

Ali Khalifa Arizona State University Student 2017 – Present

Ainsley Ramsey Arizona State University Student 2017 – Present

Adam Johnston Arizona State University Student 2017 – Present

Isaiah Tesfay Arizona State University Student 2017 – Present

Cheyenne Piepmeyer Arizona State University Student 2017 – Present Lauren Kasle Arizona State University Student 2017 – Present

Sidney Brimhall Arizona State University Student 2017 – Present

Muhammad Jibrin Arizona State University Student 2017 – Present

Melissa Hernandez Arizona State University Student 2017 – Present

Haley Garcia Arizona State University Student 2017 – Present

Zack Patton Arizona State University Student 2017 – Present

Darian Takase Arizona State University Student 2017 – Present

### Graduate Students:

Erin Stretton Currently: Scientist (Philips) MS (2005)

Russell Rockne Currently: Tenure-Track Asst Prof (City of Hope) MS (2006), PhD (2013)

Jihyoun Jeon Currently: Research Scientist (Fred Hutchinson Cancer Center)PhD (2007)

Jonathan Claridge Awards: NSF VIGRE Graduate Fellow (2006 – 2007)

Currently: Google PhD (2011)

Gargi Chakraborty Currently: Boeing Research Analyst MS (2010)

Misha Kutzman Currently: Director of Math Immersion MS (2010)

Susan Massey Awards: NSF Graduate Fellow MS (2011), PhD (2016)

Currently: Postdoctoral Scientist (Mayo Clinic)

Sunyoung Ahn Currently: PhD Student (Texas) MS (2011)

David Corwin Currently: Developer at Launchpad Lab MS (2011)

Keith Curtis Currently: Boeing Research Analyst MS (2012)

Dillon Eng Currently: Software Engineer at Cobalt Lab MS (2012)

Josh Jacobs Currently: Engineer (Mayo Clinic) PhD (2012)

Mark Harmon Currently: Graduate Student at Northwestern 2013

C. Paula de Los AngelesCurrently: MD/PhD Student at Northwestern

Awards: NIH Training Grant (T32) 2013 – Present

Lee Curtin Visiting PhD Student from University of Nottingham (UK) 2016 – Present

Ramesh Tadyon Currently: PhD Student Bioengineering (ASU) 2016 – Present

Sarah El Jamous Currently: PhD Student Applied Math (ASU) 2017

**Postdoctoral Fellows:**

Maxwell Neal, PhD Currently: Research Scientist, UW 2010 – 2012

Kirsten Fagnan, PhD Currently: Research Scientist, LBNL 2010 – 2011

Andrew Trister, MD, PhD Currently: Physician in Residence, Apple 2010 – 2012

Andrea Hawkins-Daarud, PhD Awards: NSF Postdoctoral Fellow 2011 – Present

Pamela Jackson, PhD Awards: NIH Diversity Fellowship 2013 – Present

Russell Rockne, PhD Currently: Tenure-Track Assistant Prof, City of Hope 2013 – 2015

Susan Massey, PhD 2016 – Present

Kyle Singleton, PhD 2016 – Present

Sara Ranjbar, PhD 2017 – Present

**Medical Students:**

H. Sawyer Gillespie Currently: Cardiology Fellow (University of Washington) 2003 – 2004

Joe Juliano University of Southern California 2012 – Present

C. Paula de los Angeles Currently: Northwestern MD/PhD Student 2013 – Present

Paul Dilfer University of Illinois, Chicago 2013

Currently: Anesthesia Resident (UT Southwestern)

Erika Kokkinos Currently: Student University of Michigan 2013 – 2016

Anthony Rosenberg Currently: Student at U of Iowa 2013-2016

Corbin Rayfield University of Illinois, Chicago 2015 – Present

Currently: Resident (Mayo Clinic Arizona)

Aditya Khurana Mayo Clinic 2017 – Present

**Medical Residents:**

Andrew Trister, MD, PhD Currently: Physician in Residence at Sage Bionetworks 2010 – 2012

Omar Arnaout, MD NU Neurological Surgery Resident 2013 – 2014

Rohan Lall, MD NU Neurological Surgery Resident 2013 – 2014

Brijal Desai, MD NU Radiation Oncology Resident 2013 – 2016

Corbin Rayfield Mayo Clinic Resident 2015 - Present

**Junior Faculty:**

Priya Kumethkar, MD Assistant Professor, Northwestern University 2012 – Present

### Current Staffing Status

### Mayo Staff (15)

* + Gillian Murphy – Research Administrative Assistant
  + Scott Whitmire, MSE – Research Supervisor and Systems Architect
  + Andrea Hawkins-Daarud, PhD – Bioinformatics Specialist II
  + Susan Massey, MS, PhD – Bioinformatics Specialist I
  + Kamala Clark-Swanson – Research Supervisor and Systems Architect
  + Pamela Jackson, PhD – Senior Research Fellow
  + Cassandra Rickertsen, BA – Research Technologist
  + Gustavo DeLeon, BS – Data Coordinator
  + Yvette Morris – Senior Supervisor Research Tech
  + Lisa Paulson – Data Coordinator
  + Tatum Doyle – Data Coordinator
  + Kyle Singleton, PhD – Postdoctoral Fellow
  + Spencer Bayless – Research Associate
  + Paula Whitmire – Research Technologist

**Mayo Affiliates (5)**

* + Sandra Johnston, PhD – UW Research Nurse and Clinical Coordinator
  + Eduardo Carasco, BS – ASU student (funded via ASU $s)
  + Melissa Dott – ASU undergrad student (funded via ASU $s)
  + Haylye White, BS – ASU student (funded via ASU $s)
  + Eric Kostelich, PhD – ASU Professor
  + Ramesh Tadyon, BS – ASU PhD student (funded via ASU $s)

**ASU Affiliates (3)**

* + Susan Massey, PhD
  + Lauren DeGirolamo, BS
  + Cassandra Rickertsen, BS

**ASU students**

* + See students above