

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

Precision Neurotherapeutics Innovation Lab  
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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**

<b>Postdoc</b>	MATHEMATICAL AND COMPUTATIONAL MEDICINE University of California, San Francisco, CA	1999-2000
<b>PhD</b>	MATHEMATICAL BIOLOGY University of Washington, Seattle, WA ADVISOR: Professor J. D. Murray, FRS, FRSE THESIS: "Mathematical Modeling of the Growth and Control of Tumors"	JUNE 1999
<b>MS</b>	MATHEMATICAL BIOLOGY University of Washington, Seattle, WA	JUNE 1998
<b>BS</b>	MATHEMATICS (MINOR: PHYSICS) Tulane University, New Orleans, LA Magna Cum Laude with University & Departmental Honors	MAY 1996

**PROFESSIONAL EXPERIENCE**

<b>Professor of Neurological Surgery</b> <b>Vice Chair of Research, Neurological Surgery Department</b> <b>Co-Director, Precision NeuroTherapeutics (PNT) Innovation Program</b> <b>Director, Mathematical NeuroOncology (MNO) Lab</b> <b>Member, Mayo Clinic Cancer Center</b> <b>Senior Associate Consultant II</b> Mayo Clinic, Phoenix, AZ	MAY 2015 — PRESENT
<b>Professor of Mathematical and Statistical Sciences</b> Arizona State University, Tempe, AZ	MAY 2015 — PRESENT
<b>Adjunct Professor of Cancer and Cell Biology</b> Translational Genomics Institute (TGen), Phoenix, AZ	MAY 2015 — PRESENT
<b>Professor of Neurological Surgery</b> <b>Vice Chair of Research, Neurological Surgery</b> <b>Member, Robert H. Lurie Comprehensive Cancer Center</b> <b>Member, Northwestern University Brain Tumor Institute</b> <b>Professor of Radiology</b> <b>Member, Chemistry of Life Processes Institute</b> Northwestern University Feinberg School of Medicine, Chicago, IL	2012 — 2015 2014 — 2015
<b>Professor of Engineering Sciences and Applied Mathematics</b> Northwestern University McCormick School of Engineering and Applied Sciences, Evanston, IL	2013 — 2015
<b>Affiliate Professor of Applied Mathematics</b> Applied Mathematics, University of Washington, Seattle, WA	2012 — PRESENT
<b>James D. Murray Endowed Chair of Applied Mathematics in Neuropathology</b> <b>Associate Research Professor of Pathology (Neuropathology)</b> <b>Shaw Professorship in Investigative Neuropathology</b> <b>Assistant Research Professor of Pathology (Neuropathology)</b>	2011 — 2012 2008 — 2012 2004 — 2005 2002 — 2008

Pathology (Neuropathology), University of Washington School of Medicine	
<b>Adjunct Associate Research Professor of Applied Mathematics</b>	2008 — 2012
<b>Adjunct Assistant Research Professor of Applied Mathematics</b>	2002 — 2008
Applied Mathematics, University of Washington	
<b>Affiliate Investigator of Computational Biology</b>	2009 — 2012
Computational Biology Program, Fred Hutchinson Cancer Research Center	
<b>Acting Instructor / Senior Fellow / NSF Postdoctoral Fellow</b>	2000 — 2002
Pathology (Neuropathology) and Applied Mathematics, University of Washington, Seattle, WA	
<b>NSF Mathematical Sciences Postdoctoral Fellow</b>	1999 — 2000
Medicine, University of California, San Francisco, CA	
<b>NSF Mathematical Biology Graduate Research Fellow / Boeing Research Fellow / Graduate Research Associate/ Teaching Assistant</b>	1996 — 1999
Applied Mathematics, University of Washington, Seattle, WA	

### **CURRENT RESEARCH FUNDING**

<b>NIH U01 (MPI)</b>	10/01/2017 – 09/31/2022
“Quantifying Multiscale Competitive Landscapes of Clonal Diversity in Glioblastoma”	
MPI: <i>K. R. Swanson</i> (contact), <i>L. Hu</i> , <i>R. Mitchell</i> , <i>N. Tran</i> (Mayo)	
<b>Total Costs:</b> \$3.4M over 5 years	
<b>NIH/NCI Physical Sciences Oncology Center U54 CA143970</b>	10/01/2015 – 09/31/2020
“Cancer as a complex adaptive system”	
PD: <i>R. Gatenby</i> (Moffitt Cancer Center)	
MPI of Project 2: <i>K. R. Swanson</i>	
<b>Total Costs:</b> \$10M over 5 years	
<b>NIH/NCI Physical Sciences Oncology Center U54 (PI of Project 1)</b>	10/01/2016 – 09/31/2020
“Cancer as a complex adaptive system”	
PD: <i>F. White</i> (MIT) <i>J. Sarkaria</i> (Mayo)	
PI of Project 1 and co-PI of Integration Core: <i>K. R. Swanson</i>	
<b>Total Costs:</b> \$9.7M over 5 years	
<b>Ivy Foundation (PI)</b>	10/01/2016 – 09/31/2020
“The Mathematical NeuroOncology Program: Towards Precision Neurotherapeutics”	
PI: <i>K. R. Swanson</i>	
<b>Total Costs:</b> \$2M over 4 years	
<b>Arizona Biomedical Research Consortium (MPI)</b>	03/01/2017 – 02/01/2020
“Patient-Specific Neuro-Oncology: Forecasting Tumor Growth and Recurrence in Individual Patients” MPI: <i>K. R. Swanson</i> , <i>E. Kostelich</i> (ASU)	
<b>Total Costs:</b> \$750K over 3 years	
<b>James S. McDonnell Foundation (PI)</b>	09/01/2014 – 03/31/2018
“The ENDURES Study: Environmental dynamics underlying responsive extreme survivors of glioblastoma”	
PD: <i>K. R. Swanson</i>	
Co-PIs: <i>P. Canoll</i> (Columbia), <i>R. Gatenby</i> (Moffitt), <i>K. Egan</i> (Moffitt)	
<b>Total Costs:</b> \$1,850,584 over 3.5 years	

### **PENDING RESEARCH FUNDING**

<b>NIH/NCI R35 (PI)</b>	10/01/2017 – 09/31/2024
“Translational Innovations in Mathematical Neuro Oncology: Towards Quantitative Precision Medicine”	
PI: <i>K. R. Swanson</i>	

- 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 Individual Glioma 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 21<sup>st</sup> 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*

**University 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	<b>Mayo Clinic Service Award for Diversity &amp; Inclusion</b>
2014	<b>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</b>
2013	<b>No. 3 Ranked Paper in Journal, "From Patient-specific Mathematical Neuro-Oncology Towards Precision Medicine."- Frontiers in Molecular Cellular Oncology</b>
2013	<b>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</b>
2011 – 2012	<b>James. D. Murray Endowed Chair of Applied Mathematics in Neuropathology</b>
2011	<b>Best Abstract for Western Regional Society for Nuclear Medicine Annual Meeting</b>
2010	<b>Awarded Best Clinical Investigation of 2009 – Journal of Nuclear Medicine</b>
2009	<b>William E. Schiesser Endowed Lecture – Lehigh University</b>
2009	<b>Finalist – Hoshino Award – World Federation of Neuro-Oncology</b>
2008	<b>Undergraduate Research Mentor of the Year, University of Washington</b>
2007	<b>Nominated for Paul Marks Prize in Cancer Research</b>
2005-2010	<b>James F. McDonnell Foundation 21<sup>st</sup> Century Research Award</b>
2004-2005	<b>Shaw Professorship in Investigative Neuropathology</b>
2001	<b>Burroughs Welcome Fund Career Awards at the Scientific Interface Finalist</b>
1999-2002	<b>NSF Mathematical Sciences Postdoctoral Research Fellowship</b>
1999	<b>Landahl/Busenberg Travel Grant</b>
1998	<b>NSF Mathematical Biology Training Grant</b>
	<b>Program in Mathematics and Molecular Biology Fellowship Alternate</b>
1997	<b>Boeing Research Fellowship</b>
1996	<b>Kappa Kappa Gamma Prize in Mathematics (1<sup>st</sup> in graduating class – Math)</b>
	<b>Elsie Field Dupre Memorial Prize in Physics (1<sup>st</sup> in graduating class – Physics)</b>
	<b>Tulane University Senior Scholar in Mathematics</b>
	<b>Tulane University Outstanding Senior Mathematics Major</b>
	<b>National Physical Sciences Consortium Fellowship Alternate</b>
1995	<b>Mortar Board National Senior Honor Society</b>

	<b>Newcomb College Daisy Chain Commencement Honor</b>
	<b>Martha Gilmore Robinson Honorary Scholarship</b>
1994	<b>Viola V. Knapp Honorary Scholarship</b>
1993	<b>Florence Kerwin Honorary Scholarship</b>
	<b>Student Initiated - Newcomb Fellows Research Grant</b>
1992-1996	<b>Tulane University Dean's List / Honors Program</b>

## 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. PMID: 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
29. **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
30. **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
31. 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
32. **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**
33. 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. PMID: PMC1981353
34. 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. PMID: PMC3760276
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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
2. J. Juliano, O. Gill, A. Hawkins-Daarud, A. R. A. Anderson, P. Canoll, **K. R. Swanson**. Dynamic evidence for microglia activation in glioma invasion
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#### 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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4. **K. R. Swanson**, M. Roudier, L. True, R. Vessella: A Biomathematical Analysis of PSA and Tumor Dynamics: Correlations with Clinical and Autopsy Data.
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
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#### Other Publications

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#### 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
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18. **K. R. Swanson**, E. C. Alvord, Jr., R. Rostomily. "3D Quantitative Modeling of Glioma Growth and Invasion: Predictions of Survival Time from Imaging Characteristics," European Society of Mathematical and Theoretical Biology (Milan, Italy), July 2002
19. **K. R. Swanson**, E. C. Alvord, Jr. "A Biomathematical and Pathological Analysis of an Untreated Glioblastoma," Neuropathology 2002 (Helsinki, Finland), July 2002
20. **K. R. Swanson**, E. C. Alvord, Jr. "The Concept of Gliomas as a Traveling Wave: The Application of a Mathematical Model to High- and Low-Grade Gliomas," Canadian Journal of Neurological Sciences, 29(4):395, November 2002  
Platform Presentation at the Canadian Association of Neuropathology Annual Meeting (Vancouver, BC), October 2002
21. **K. R. Swanson**, E. C. Alvord, Jr. "Serial Imaging Observations and Postmortem Examination of an Untreated Glioblastoma: A Traveling Wave of Glioma Growth and Invasion," Society for Neuro-Oncology Annual Meeting (San Diego), November 2002 - *Neuro-Oncology* 4 (4): 340 OCT 2002
22. M. Muzi, **K. R. Swanson**, A. M. Spence, J. M. Link, S. C. Shoner, C. M. Vernon, D. A. Mankoff, K. A. Krohn. "Initial Assessment of an Acetate model for Membrane Biosynthesis in Glioma Patients," Society for Nuclear Medicine (New Orleans), June 2003 – *Journal of Nuclear Medicine* 44 (5): 786 Suppl. S MAY 2003

23. E. C. Alvord Jr., **K. R. Swanson**, J. D. Murray. "How to Improve the Diagnosis of Gliomas", American Association of Neuropathologists (Orlando), June 2003 – *Journal of Neuropathology and Experimental Neurology* 62 (5): 129 MAY 2003
24. **K. R. Swanson**, E. C. Alvord, Jr.: "The Contribution of Net Proliferation and Invasion in the Development of Successful Treatment for Gliomas", Annual Meeting of the Society for Mathematical Biology (Dundee, Scotland), August 2003 – Platform Presentation
25. **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
26. **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
27. 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
28. 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
29. 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
30. **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
31. 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", 51<sup>st</sup> Annual Mtg of Society for Nuclear Medicine (Philadelphia, PA), June 2004
32. **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", 51<sup>st</sup> Annual Mtg of Society for Nuclear Medicine (Philadelphia, PA), June 2004
33. **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
34. **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
35. **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 - *Clinical Cancer Research* 11 (24): 9130S-9130S Part 2 Suppl. S DEC 15 2005
36. 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'-fluorothymidine (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
37. 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

38. **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. 52<sup>nd</sup> Annual Meeting of the Society for Nuclear Medicine, June 2006
39. 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]-Fluoromisonidazole (FMISO) PET Before Radiotherapy (RT) in Malignant Glioma Patients. 52<sup>nd</sup> Annual Meeting of the Society for Nuclear Medicine, June 2006
40. **K. R. Swanson**. Mathematical Modeling in Clinical Oncology, SIAM Conference on the Life Sciences, August 2006
41. 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
42. **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
43. 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
44. A. M. Spence, M. Muzi, **K. R. Swanson**, J. K. Rockhill, J. G. Rajendran, T. Ch. Adamsen, J. M. Link, J. D. Scharnhorst, K. A. Krohn: Hypoxia assessed in malignant gliomas with [F-18]-fluoromisonidazole (FMISO) PET before and after radiotherapy (RT). 18th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics, Prague, Czech Republic, November 7-10, 2006. *European Journal of Cancer* 4:161, 2006.
45. **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
46. **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. 53<sup>rd</sup> Annual Meeting of the Society for Nuclear Medicine (Platform Presentation), June 2007 – *Journal of Nuclear Medicine* 2007; 48 (Supplement 2):151P
47. 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]-Fluoromisonidazole (FMISO) PET before and after Radiotherapy(RT). 59<sup>th</sup> American Academy of Neurology Annual Meeting, 2007 – *Neurology* 68(12):A287 Suppl 1 Mar 20, 2007
48. **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
49. 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
50. 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
51. 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
52. 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

53. 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
54. 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
55. **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**
56. **K. R. Swanson**, R. Rockne, J. K. Rockhill, M. Mrugala, E. C. Alvord, Jr. Prognostic significance of growth kinetics in newly diagnosed glioblastoma: A role for patient-specific virtual controls. World Federation of Neuro-Oncology, Yokohama, Japan, 2009
57. **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
58. **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
59. 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.
60. 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.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.
66. 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.
67. 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



68. 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
69. 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
70. **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
71. 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
72. 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
73. 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
74. **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
75. 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
76. **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*
77. 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)
78. 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)
79. 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)
80. **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)
81. 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
82. 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
83. 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
84. 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

85. 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
86. 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.
87. 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**
88. 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)
89. 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)
90. 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)
91. 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)
92. 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)
93. 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)
94. A. Baldock, S. Ahn, R. Rockne, M. Neal, D. Corwin, K. Clark-Swanson, G. Sterin, A. D. Trister, H. Malone, V. Ebian, 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)
95. 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)
96. 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)
97. 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**
98. D. M. Corwin, C. Holdsworth, R. D. Stewart, R. Rockne, **K. R. Swanson**. Virtual clinical trials: Implications for spatially optimizing radiotherapy using a patient-specific model of glioma. Annual Meeting of the Society for Neuro-Oncology, 2012 (Washington, DC)
99. 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)
100. 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)
  101. 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**
  102. D. Corwin, C. Holdsworth, R. D. Stewart, M. Phillips, 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)
  103. 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)
  104. 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)
  105. 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)
  106. 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)
  107. 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*
  108. 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)
  109. 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)
  110. 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)
  111. 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)
  112. 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)
  113. 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)

114. 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)
115. 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.
116. 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.
117. 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.
118. 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.
119. 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)
120. 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)
121. 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)
122. 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)
123. 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
124. 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.
125. 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.
126. 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.
127. 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-benzylguanine in Glioblastoma Patients. Annual Meeting of American Society of Gene and Cell Therapy, 2014 **\*Platform Presentation**
128. R. Rockne, D. Corwin, **K. R. Swanson**. A Data-Driven Calibration of a Nonlinear 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

129. **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
130. 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
131. 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 Evaluation of Multi-Institutional Data-Transfer to Facilitate Personalized Computational Modeling. American Society for Theoretical and Radiation Oncology (ASTRO) 56<sup>th</sup> Annual Meeting. San Francisco, CA September 14-16, 2014
132. 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: 5<sup>th</sup> Annual PS-OCs Network Investigators' Meeting; 2014; Bethesda, MD, USA
133. **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 Minisymposium Speaker
134. 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)
135. 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. Scharfman, 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
136. 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)
137. J. Jacobs, A. J. Hawkins-Daarud, 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)
138. 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)
139. 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)
140. 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)
141. 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)
142. 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.
143. 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.

144. 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)
145. 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:
146. 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.
147. 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).
148. 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.
149. 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
150. 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
151. 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
152. 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.
153. 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.
154. 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.
155. 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.
156. 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
157. 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.
158. 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.
159. 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.
160. 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.
161. 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.
162. 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.
163. 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/Durham, 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 – 2<sup>nd</sup> 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 Applied 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)
- 2010 Invited Seminar – Undergraduate Mathematical Sciences Seminar (UW)
- Invited Seminar – Neurosurgery Grand Rounds (UW)
- Invited Seminar – Imaging Science Research Lecture (UW)
- 2009 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 (Glendon 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 4<sup>th</sup> Investigator Award Retention and Promotion Committee  
 Toronto, Canada 2013  
 Grant Reviewer, Italian Association for Cancer Research (AIRC) 2011  
 Grant Reviewer, French Institut 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  
 CIRM, Marseilles (Luminy), France FEBRUARY 2009  
 Scientific Committee, Annual Meeting of the Society for Mathematical Biology  
 Toronto, Canada 2008  
 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

<b>Mayo Clinic Enterprise Recruitment Task Force</b>	2016 – 2017
<b>Mayo Clinic Research Operations Management Team</b>	2016 – PRESENT
<b>Mayo Clinic Neurosurgery Enterprise Research Committee</b>	2015 – PRESENT
<b>Mayo Clinic Neurosurgery Spine Search Committee</b>	2015 – 2016
<b>Vice Chair for Research, Neurosurgery, Mayo Clinic</b>	2015 – PRESENT
<b>Northwestern University MSTP Admissions Committee Member</b>	2014 – 2015
<b>Abstract Reviewer, Feinberg School of Medicine Research Day</b>	2014
<b>Search Committee for Director of Robert H. Lurie Cancer Center</b>	2014
<b>Grant Reviewer, American Cancer Society Institutional Research Grant Allotment</b>	2013
<b>Elected Member, Council on Research and Graduate Education</b>	2007 – 2010
University of Washington School of Medicine	
<b>Graduate and Professional Student Senator</b>	1998 – 1999
University of Washington, Seattle, WA	
<b>Mortar Board Senior Honor Society Treasurer</b>	1995 – 1996
Tulane University, New Orleans, LA	

### **Reviewer and Editorial Board Membership**

<b>Reviewer For:</b>	Journal of Theoretical Biology
Acta Biotheoretica	Journal of Theoretical Medicine
Acta Neuropathologica	Mathematics in Medicine and Biology
Applied Mathematics Letters	
Bulletin of Mathematical Biology	Mathematical Biosciences
Cancer Detection and Prevention	Medical Image Analysis
Cancer Letters	Microvascular Research
Cancer Research	Nature Reviews Cancer
Clinical Cancer Research	Nonlinear Dynamics, Psychology and Life Sciences
Computer Vision and Image Understanding	Physical Review E
Cell Proliferation	PLOS Computational Biology
Journal of Clinical Oncology	PLOS One
Journal of Nonlinear Science	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>  
<https://www.youtube.com/watch?v=9nmsSo2Qbls>

#### **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>

#### **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.eurekaalert.org/pub\\_releases/2013-01/nu-ft011813.php](http://www.eurekaalert.org/pub_releases/2013-01/nu-ft011813.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](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/listenquestdetails.asp?Guest=945Rockhill,%20M.D.,%20Ph.D.&ID=R&n=Jason%20K.&In=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](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/UWMCCConsultFall08\\_BrainCancer.pdf](http://www.pathology.washington.edu/research/labs/swanson/text/UWMCCConsultFall08_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 <u>Awards:</u> NIH STEP-UP Fellow <u>Currently:</u> Undergraduate Student – Yale University	2008 – 2010
Tyler Rockhill	High School Student – Graduated 2011 <u>Currently:</u> Undergraduate Student – University of Portland	2009 – 2011
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	<u>Major:</u> Neurobiology <u>Awards:</u> Mary Gates Fellow <u>Currently:</u> ND, 2009 – Bastyr; Clinical-Science Liason, Novocure, Inc	2001 – 2004
Hana L. P. Harpold	<u>Major:</u> Bioengineering <u>Currently:</u> MD, 2010 - University of Washington Pediatrician, Chicago, IL	2003 – 2007
Sariah Khormae	<u>Major:</u> Neurobiology	2003 – 2005

	<u>Awards:</u>	Mary Gates Fellow UW Presidential Scholar	
	<u>Currently:</u>	Marshall Scholar MD/PhD student at Cambridge University	
Stephanie Nissen	<u>Major:</u>	Bioengineering	2003 – 2004
	<u>Awards:</u>	Mary Gates Fellow	
	<u>Currently:</u>	Graduate Student – Genetics – UCSD	
Patrick Reed	<u>Major:</u>	Biochemistry & Applied Math	2004 – 2007
	<u>Awards:</u>	Mary Gates Fellow	
	<u>Currently:</u>	Graduate Student – University of Chicago	
Melissa Cowan	<u>Major:</u>	Applied Mathematics	2004 – 2005
	<u>Awards:</u>	Mary Gates Fellow	
	<u>Currently:</u>	Graduate Student – Electrical Engineering – UW	
Nikhil Joshi	<u>Major:</u>	Bioengineering	2004 – 2006
Gargi Chakraborty	<u>Major:</u>	Biochemistry & Neurobiology	2005 – 2010
	<u>Awards:</u>	Mary Gates Fellow Research for Advanced Undergraduates Fellow NSF VIGRE Fellow MS, Applied Mathematics, 2010 – University of	
Washington	<u>Currently:</u>	Software Developer at Boeing	
Courtney Mitchell	<u>Major:</u>	Applied Mathematics	2005 – 2005
Danielle Peacock	<u>Major:</u>	Biochemistry	2005 – 2006
	<u>Currently:</u>	PhD (2014), University of Tennessee Health Sciences Center Postdoctoral Fellow, NIH	
Christina Wang	<u>Major:</u>	Bioengineering	2005 – 2009
	<u>Currently:</u>	Medical Student – University of Washington	
Jeffrey Jacobs	<u>Major:</u>	Biology	2005 – 2007
Lily Chau	<u>Major:</u>	Psychology	2005 – 2006
Mindy Szeto	<u>Major:</u>	Biochemistry, Sociology & Biology	2005 – 2010
	<u>Awards:</u>	Mary Gates Fellow (2006, 2008) Amgen Research Scholar (2008) Washington Research Foundation Fellowship (2008) NSF VIGRE Undergraduate Research Fellow (2009)	
	<u>Currently:</u>	MSTP Student at U Colorado Denver	
Stanley Gu	<u>Major:</u>	Bioengineering	2006 – 2010
	<u>Awards:</u>	Mary Gates Fellow NSF VIGRE Undergraduate Research Fellow (2008, 2009) MS Bioengineering (2010)	
	<u>Currently:</u>	Scientist at Pfizer	
Huo Shin John Tsui	<u>Major:</u>	Biostatistics	2006
Kevin Do	<u>Major:</u>	Sociology BS (2010)	2006 – 2010
Rita Sodt	<u>Major:</u>	Computer Science	2006 – 2011
	<u>Awards:</u>	Mary Gates Fellow (2008, 2010) Levinson Emerging Scholars Award (2008) Goldwater Scholarship UW Nominee (2008) Amgen Scholar (2009) BS (2010), MS (2011)	
	<u>Currently:</u>	Developer at Google	
Ivan Vulovic	<u>Major:</u>	Computer Science	2006 – 2007
	<u>Currently:</u>	Microsoft	
Julia Moore	<u>Major:</u>	Molecular & Cellular Bio / Applied Math BS (2009)	2007 – 2009
	<u>Awards:</u>	Mary Gates Fellow Amgen Research Scholar NSF VIGRE Fellow Goldwater Scholar	
	<u>Currently:</u>	Graduate Student – UC Davis	
Jennifer Hadley	<u>Major:</u>	Bioengineering	2007



	<u>Awards:</u>	Amgen Research Scholar	
	<u>Currently:</u>	Medical Student at University of Alabama – Birmingham	
Susan Massey	<u>Major:</u>	Mathematics BS(2010)	2007 – Present
	<u>Awards:</u>	Amgen Research Scholar	
		AMA Trjitzinsky Award	
		Boeing/OMA Research Scholar	
		McNair Scholar	
		NSF VIGRE Graduate Fellow	
		Individually awarded NSF Graduate Fellowship	
	<u>Currently:</u>	Graduate Student – Applied Mathematics – Univ of Washington	
Shokouh Pardakhtim	<u>Major:</u>	Mathematics / Pre-Med (2010)	2007 – 2010
	<u>Awards:</u>	STAR Scholar	
		NSF VIGRE Fellow	
		McNair Scholar	
Jennifer Beers	<u>Major:</u>	Post-Bac/Pre-Med (2010)	2007 – 2010
	<u>Currently:</u>	Medical Student at University of Washington School of Medicine	
Chunyan Zhou	<u>Major:</u>	Biology (2009)	2007 – 2009
	<u>Currently:</u>	Grad Student – Environmental Toxicology – Univ of Washington	
Harkirat Sohi	<u>Major:</u>	Applied Mathematics (MS, 2010)	2008 – 2009
	<u>Awards:</u>	NSF VIGRE Fellow	
		NASA Research Grant	
Brent Sandona	<u>Major:</u>	Computer Engineering	2008 – 2010
Brad Peterson	<u>Major:</u>	Biochemistry	2008 – 2010
Larissa Miller	<u>Major:</u>	Pre-Bioengineering	2008 – 2009
Amanda Ly	<u>Major:</u>	Chemical Engineering	2008 – 2009
Addie Boone	<u>Major:</u>	Medical Anthropology/Biochemistry	2009 – 2011
	<u>Currently:</u>	Medical Student at Northwestern University School of Medicine	
Samantha Ryder	<u>Major:</u>	Geography/ Pre-Med	2009
Pratyusha Banik	<u>Major:</u>	Biochemistry	2009
Jin Stedje	<u>Major:</u>	Applied Math & Music at MIT	2009
Anne Baldock	<u>Major:</u>	Neurobiology	2009 – 2013
	<u>Currently:</u>	MSTP Student at UCSD	
Liz Hanley	<u>Major:</u>	Bioengineering	2009 – 2010
Zinnia Xu	<u>Major:</u>	Bioengineering	2009 – 2010
Kristin DeVleming	<u>Major:</u>	Applied Computational Mathematical Sciences	2009
Gina Tran	<u>Major:</u>	Undeclared	2009
Tyler Cloke	<u>Major:</u>	Computer Science and Engineering	2009 – 2012
Greg Sterin	<u>Major:</u>	Computer Science and Engineering	2010 – 2011
Christine Scullywest	<u>Major:</u>	Premed	2010
Misbah Uraizee	<u>Major:</u>	Biology & Mathematics at Yale	2010
Jason Uanon	<u>Major:</u>	Mathematics/Computer Science and Engineering	2010
Alex Kim	<u>Major:</u>	Neurobiology	2010 – 2012
Sam Sussman	<u>Major:</u>	Neurobiology	2010 – 2012
Dillon Eng	<u>Major:</u>	Mechanical Engineering at Rice University	2010
Jessica Forbes	<u>Major:</u>	Mathematics at Carroll College	2010
	<u>Awards:</u>	Amgen Research Summer Scholar	
Theresa Kurtz	<u>Major:</u>	Neuroscience/Math at Rochester University	2011
	<u>Awards:</u>	Amgen Research Summer Scholar	
Evan Leon	<u>Major:</u>	Computer Science and Engineering	2011 – 2012
	<u>Awards:</u>	NASA Summer Research Scholar	
Jordan Lange	<u>Major:</u>	Computer Science Engineering	2011 – 2012
Aaron Nash	<u>Major:</u>	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	<u>Major:</u>	Math and Molecular Biology, Arizona State University	2012 – 2014
	<u>Currently:</u>	Medical Student at U of Southern California	

Fillan Grady	Northwestern University Student <u>Currently:</u> MD/PhD Student at U of Iowa	2013 – 2016
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	<u>Currently:</u> Scientist (Philips)	MS (2005)
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Russell Rockne	<u>Currently:</u> Tenure-Track Asst Prof (City of Hope)	MS (2006), PhD (2013)
Jihyouon Jeon	<u>Currently:</u> Research Scientist (Fred Hutchinson Cancer Center)	PhD (2007)
Jonathan Claridge	<u>Awards:</u> NSF VIGRE Graduate Fellow (2006 – 2007)	
	<u>Currently:</u> Google	PhD (2011)
Gargi Chakraborty	<u>Currently:</u> Boeing Research Analyst	MS (2010)
Misha Kutzman	<u>Currently:</u> Director of Math Immersion	MS (2010)
Susan Massey	<u>Awards:</u> NSF Graduate Fellow	MS (2011), PhD (2016)
	<u>Currently:</u> Postdoctoral Scientist (Mayo Clinic)	
Sunyoung Ahn	<u>Currently:</u> PhD Student (Texas)	MS (2011)
David Corwin	<u>Currently:</u> Developer at Launchpad Lab	MS (2011)
Keith Curtis	<u>Currently:</u> Boeing Research Analyst	MS (2012)
Dillon Eng	<u>Currently:</u> Software Engineer at Cobalt Lab	MS (2012)
Josh Jacobs	<u>Currently:</u> Engineer (Mayo Clinic)	PhD (2012)
Mark Harmon	<u>Currently:</u> Graduate Student at Northwestern	2013
C. Paula de Los Angeles	<u>Currently:</u> MD/PhD Student at Northwestern	
	<u>Awards:</u> NIH Training Grant (T32)	2013 – Present
Lee Curtin	Visiting PhD Student from University of Nottingham (UK)	2016 – Present
Ramesh Tadyon	<u>Currently:</u> PhD Student Bioengineering (ASU)	2016 – Present
Sarah El Jamous	<u>Currently:</u> PhD Student Applied Math (ASU)	2017

**POSTDOCTORAL FELLOWS:**

Maxwell Neal, PhD	<u>Currently:</u> Research Scientist, UW	2010 – 2012
Kirsten Fagnan, PhD	<u>Currently:</u> Research Scientist, LBNL	2010 – 2011
Andrew Trister, MD, PhD	<u>Currently:</u> Physician in Residence, Apple	2010 – 2012
Andrea Hawkins-Daarud, PhD	<u>Awards:</u> NSF Postdoctoral Fellow	2011 – Present
Pamela Jackson, PhD	<u>Awards:</u> NIH Diversity Fellowship	2013 – Present
Russell Rockne, PhD	<u>Currently:</u> 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	<u>Currently:</u> Cardiology Fellow (University of Washington)	2003 – 2004
Joe Juliano	University of Southern California	2012 – Present
C. Paula de los Angeles	<u>Currently:</u> Northwestern MD/PhD Student	2013 – Present
Paul Dilfer	University of Illinois, Chicago	2013
	<u>Currently:</u> Anesthesia Resident (UT Southwestern)	
Erika Kokkinos	<u>Currently:</u> Student University of Michigan	2013 – 2016
Anthony Rosenberg	<u>Currently:</u> Student at U of Iowa	2013-2016
Corbin Rayfield	University of Illinois, Chicago	2015 – Present
	<u>Currently:</u> Resident (Mayo Clinic Arizona)	
Aditya Khurana	Mayo Clinic	2017 – Present

**MEDICAL RESIDENTS:**

Andrew Trister, MD, PhD	<u>Currently:</u> 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
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**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