

CURRICULUM VITAE

Zheng Zhang, Ph.D.

Assistant Professor of Biostatistics (Research)
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EDUCATION

Peking Union Medical College	Medicine	B.S.	1991
Oregon Health & Science University	Molecular Biology	M.S.	1994
University of Washington	Biostatistics	M.S.	2001
University of Washington	Biostatistics	Ph.D.	2004

Dissertation topic: Semiparametric least squares analysis of the Receiver Operating Characteristic curve.

PROFESSIONAL APPOINTMENTS

Assistant Professor of Biostatistics, Research Scholar, Brown University, August 2008-present
Senior Biostatistician, Novartis Pharmaceutical Corporation, December 2006 – July 2008
Biostatistician, University of Washington Department of Epidemiology, Sept. 2005-August 2006
Assistant Professor of Biostatistics, Emory University, August 2004 – Sept. 2005

COMPLETED PUBLICATIONS

REFEREED JOURNAL ARTICLES

1. Kavanaugh, M. P., Wang, H., **Zhang, Z.**, Zhang, W-B., Wu, Y-N., Dechant, E., North, R. A. and Kabat, D. (1994) Control of cationic amino acid transport and retroviral receptor functions in a membrane protein family. J. Biol. Chem. 269: 15445-15450.
2. Greco, D., Zellmer, E., **Zhang, Z.** and Lewis, E. (1995) Transcription factor AP-2 regulates expression of the Dopamine B- Hydroxylase gene. Journal of Neurochemistry. 65:510-516.

3. Zellmer, E., **Zhang, Z.**, Greco, D., Rhodes, J., Cassel, S. and Lewis, E. (1995) A homeodomain protein selectively expressed in noradrenergic tissue regulates transcription of neurotransmitter biosynthetic genes. *Journal of Neuroscience*. 15(12):8109-8120.
4. **Zhang, Z.**, Cohen, D.M. (1996) NaCl but not urea activates p38 and jun kinase(JNK) in mIMCD3 murine inner medullary cells. *Am. J. Physiol*. 271: F1234-1238.
5. **Zhang Z**, Cohen DM. (1997) Hypotonicity increases transcription, expression, and action of Egr-1 in murine renal medullary mIMCD3 cells. *Am J Physiol*. 273(5 Pt 2): F837-42.
6. **Zhang Z**, Cohen DM. (1998) Urea activates ribosomal S6 kinase (RSK) in a MEK-dependent fashion in renal mIMCD3 cells. *Am J Physiol*. 274(1 Pt 2): F73-8.
7. **Zhang Z**, Avraham H, Cohen DM. (1998) Urea and NaCl differentially regulate FAK and RAFTK/PYK2 in mIMCD3 renal medullary cells. *Am J Physiol*. 275(3 Pt 2): F447-51.
8. **Zhang Z**, Yang XY, Cohen DM. (1998) Hypotonicity activates transcription through ERK-dependent and -independent pathways in renal cells. *Am J Physiol*. 275(4 Pt 1): C1104-12.
9. **Zhang Z**, Yang XY, Cohen DM. (1999) Urea-associated oxidative stress and Gadd153/CHOP induction. *Am J Physiol*. 276(5 Pt 2): F786-93.
10. Yang XY, **Zhang Z**, Cohen DM. (1999) ERK activation by urea in the renal inner medullary mIMCD3 cell line. *Am J Physiol*. 277(2 Pt 2): F176-85.
11. **Zhang Z**, Yang XY, Soltoff SP, Cohen DM. (2000) PI3K signaling in the murine kidney inner medullary cell response to urea. *Am J Physiol*. 278(1): F155-64.
12. **Zhang Z**, Tian W, Cohen DM. (2000) Urea protects from the proapoptotic effect of NaCl in renal medullary cells. *Am J Physiol*. 279(2): F345-52.
13. Tian W, **Zhang Z**, Cohen DM. (2000) MAPK signaling and the kidney. *Am J Physiol*. 279(4): F593-604.
14. Yang XY, Zhao H, **Zhang Z**, Rodland KD, Roullet JB, Cohen DM. (2001) Urea signaling to ERK phosphorylation in renal medullary cells requires extracellular calcium but not calcium entry. *Am J Physiol*. 280(1): F162-71.
15. Berg WA, Sechtin AG, Marques H and **Zhang Z**. (2010) Cystic Breast Masses and the ACRIN 6666 Experience. *Radiol Clinics N Amer*. 48: 931-987. doi: 10.1016/j.rcl.2010.06.007. PMID: 20868895.

Role: Faculty statistician for ACRIN 6666

16. Mosher TJ, **Zhang Z**, Reddy R, Boudhar S, Milestone BN, Morrison WB, Kwoh CK, Eckstein F, Witschey WR, Borthakur A. (2011) Knee Articular Cartilage Damage in Osteoarthritis: Analysis of MR Image Biomarker Reproducibility in ACRIN-PA 4001 Multicenter Trial. *Radiology*. 258: 832-842. doi: 10.1148/radiol.10101174. PMID: 21212364.
Role: Faculty statistician for ACRIN-PA 4001
17. **Zhang Z**, Huang Y (2012) A Linear Regression Framework for Receiver Operating Characteristic (ROC) Curve Analysis. *Journal of Biometrics and Biostatistics*. 3(2): 5726. doi: 10.4172/2155-6180.1000137. PMID: 24273689
Proposed a semi-parametric method for ROC curve modeling
18. Berg WA, **Zhang Z**, Lehrer D, Jong RA, Pisano ED, Barr RG, Böhm-Vélez M, Mahoney MC, Evans WP 3rd, Larsen LH, Morton MJ, Mendelson EB, Farria DM, Cormack JB, Marques HS, Adams A, Yeh NM, Gabrielli G; ACRIN 6666 Investigators. (2012) Detection of Breast Cancer with Addition of Annual Screening Ultrasound or a Single Screening MRI to Mammography in Women with Elevated Breast Cancer Risk. *Journal of the American Medical Association*. 307(13): 1394-1404. doi: 10.1001/jama.2012.388. PMID: 22474203.
Role: Faculty statistician for ACRIN 6666
19. Barr R and **Zhang Z**. (2012) Effects of Precompression on Elasticity Imaging of the Breast: Development of a Clinically Useful Semiquantitative Method of Precompression Assessment. *Journal of Ultrasound in Medicine*. 31: 895-902. PMID: 22644686.
Role: Statistician
20. Wolk DA, **Zhang Z**, Boudhar S, Clark CM, Pontecorvo MJ, Arnold SE. (2012). Amyloid imaging in Alzheimer's disease: comparison of florbetapir and Pittsburgh compound-B positron emission tomography. *Journal of Neurology, Neurosurgery and Psychiatry*. 83(9):923-6. doi:10.1136/jnnp-2012-302548, PMID: 22791901.
Role: Faculty statistician for ACRIN-PA 4003
21. Cole EB, **Zhang Z**, Marques H, et.al. (2012) Assessing the Stand-Alone Sensitivity of Computer-Aided Detection with Cancer Cases From the Digital Mammographic Imaging Screening Trial. *American Journal of Roentgenology*. 199(3):W392-401. doi: 10.2214/AJR.11.7255. PMID: 22915432.
Role: Faculty statistician for ACRIN 6683
22. Berg WA, **Zhang Z**, etc. (2013) Multiple Bilateral Circumscribed Masses on Screening Ultrasound: Consider Annual Follow-up. *Radiology*. 268: 673-683. doi: 10.1148/radiol.13122251. PMID: 23616634.
Role: Faculty statistician for ACRIN 6666

23. Ratai E, **Zhang Z**, etc. (2013) Significance of MR spectroscopy as an early indicator of response to anti-angiogenic therapy in patients with recurrent glioblastoma: ACRIN 6677/RTOG 0625. *Neuro-oncology*. 15(7):936–944. doi: 10.1093/neuonc/not044. PMID: 23645534.
Role: Faculty statistician for ACRIN 6677
24. Boxerman J, **Zhang Z**, etc. (2013) Early Post-Bevacizumab Progression on Contrast-Enhanced MRI as a Prognostic Marker for Overall Survival in Recurrent Glioblastoma: Results from the ACRIN 6677/RTOG 0625 Central Reader Study. *Neuro-oncology*. 15(7):945–954. doi:10.1093/neuonc/not049. PMID: 23788270.
Role: Faculty statistician for ACRIN 6677
25. Barr R, **Zhang Z**, Cormack JB, etc. (2013) Probably Benign Lesions on Screening Breast Sonography: Prevalence and Risk of Malignancy in the ACRIN 6666 Trial. *Radiology*. doi: 10.1148/radiol.13122829. PMID: 23962417
Role: Faculty statistician for ACRIN 6677
26. **Zhang Z**, Wang Y. and Duan F. (2014) An AUC-like Index for Agreement Assessment. *Journal of Biopharmaceutical Statistics*. 24(4): 893-907. doi: 10.1080/10543406.2014.901345. PMID: 24697741
Proposed a novel index for agreement and reproducibility assessment
27. **Zhang Z**, Duckart J, Slatore C, Fu Y, Petrik A, Thorp M, and Cohen D. (2014) Individuality of the plasma sodium concentration. *American Journal of Physiology-Renal Physiology*. 306(12):F1534-43. doi: 10.1152/ajprenal.00585.2013. PMID: 24717732
Role: Statistician
28. Cole EB, **Zhang Z**, Marques H, etc. (2014) Impact of Computer Aided Detection Systems on Radiologist Accuracy with Digital Mammography. *American Journal of Roentgenology*. 203(4):909-16. doi: 10.2214/AJR.12.10187. PMID: 25247960
Role: Faculty statistician for ACRIN 6683
29. Kim E, **Zhang Z**, Wang Y and Zeng D. (2014) Power calculation for comparing diagnostic accuracies in a multi-reader, multi-test design. *Biometrics*. 70(4):1033-41. doi: 10.1111/biom.12240. PMID: 25355470
Proposed a novel power formula for a multi-modality, multi-reader study design.
30. Fidler J, **Zhang Z**, Herman B, etc. (2014) CT colonography for the detection of nonpolypoid adenomas: sensitivity assessed with restricted national CT colonography trial criteria. *American Journal of Roentgenology*. 203(6): W614-22. doi: 10.2214/AJR.13.12356. PMID: 25415726
Role: Faculty statistician for ACRIN 6664

31. Barr RG, **Zhang Z**. (2014) Shear-Wave Elastography of the Breast: Value of a Quality Measure and Comparison with Strain Elastography. *Radiology*. doi: [10.1148/radiol.14132404](https://doi.org/10.1148/radiol.14132404). PMID: 25426770
Role: Statistician
32. Atri M, **Zhang Z**, Marques H, Gorelick J, Harisinghani M, Sohaib A, Koh DM, Raman S, Gee M, Choi H, Landrum L, Mannel R, Chuang L, Yu JQ, McCourt CK, Gold M. (2015) Utility of preoperative ferumoxtran-10 MRI to evaluate retroperitoneal lymph node metastasis in advanced cervical cancer: Results of ACRIN 6671/ GOG 0233. *European Journal of Radiology Open*. 2: 11-18. doi: 10.1016/j.ejro.2014.11.002. PMID: 25774381
Role: Faculty statistician for ACRIN 6671
33. Schmainda, KM, **Zhang Z**, etc. (2015) Dynamic Susceptibility Contrast MRI Measures of Relative Cerebral Blood Volume as a Prognostic Marker for Overall Survival in Recurrent Glioblastoma: Results from the ACRIN 6677/RTOG 0625 Multi-Center Trial. *Neuro-oncology*. doi:10.1093/neuonc/nou364. PMID: 25646027
Role: Faculty statistician for ACRIN 6677
34. Kessler LG, Barnhart HX, Buckler AJ, Choudhury KR, Kondratovich MV, Toledano, AY, Guimaraes AR, Filice R, **Zhang Z**, Sullivan DC and QIBA Terminology Working Group. (2015) The emerging science of quantitative imaging biomarkers terminology and definitions for scientific studies and regulatory submissions. *Stat Methods Med Res*. 24(1): 9-26. doi: 10.1177/0962280214537333. PMID: 24919826
35. Mountz JM, Laymon CM, Cohen AD, **Zhang Z**, Price JC, Boudhar S, McDade E, Aizenstein HJ, Klunk WE, Mathis CA. (2015) Comparison of qualitative and quantitative imaging characteristics of [11C]PiB and [18F]flutemetamol in normal control and Alzheimer's subjects. *Neuroimage Clin*. 9:592-8. doi: 10.1016/j.nicl.2015.10.007. PMID: 26640770
36. Atri M, **Zhang Z**, Dehdashti F, Lee SI, Ali S, Marques H, Koh WJ, Moore K, Landrum L, Kim JW, DiSilvestro P, Eisenhauer E, Schnell F, Gold M. (2016) Utility of PET-CT to Evaluate Retroperitoneal Lymph Node Metastasis in Advanced Cervical Cancer: Results of ACRIN6671/GOG0233. *Gynecol Oncol*. 142(3): 413-9. doi: 10.1016/j.ygyno.2016.05.002. PMID: 27178725.
Role: Faculty statistician for ACRIN 6671
37. Tromberg BJ, **Zhang Z**, Leproux A, O'Sullivan TD, Cerussi AE, Carpenter PM, Mehta, RS, Roblyer D, Yang W, Paulsen KD, Pogue BW, Jiang S, Kaufman PA, Yodh AG, Chung SH, Schnall M, Snyder BS, Hylton N, Boas DA, Carp SA, Isakoff SJ and Mankoff D and on behalf of the ACRIN 6691 investigators. (2016) Predicting Responses to Neoadjuvant Chemotherapy in Breast Cancer: ACRIN 6691 Trial of Diffuse Optical Spectroscopic Imaging (DOSI). *Cancer Research* 76(20): 5933-5944. DOI: 10.1158/0008-5472.CAN-16-0346. PMID: 27527559
Role: Faculty statistician for ACRIN 6691

38. Gerstner E, **Zhang Z**, Fink J, Muzi M, Hanna L, Greco E, Prah M, Schmainda K, Mintz A, Kostakoglu L, Eikman EA, Ellingson BM, Ratai EM, Sorensen AG, Barboriak D, Mankoff DA. (2016) ACRIN 6684: Assessment of tumor hypoxia in newly diagnosed GBM using 18F-FMISO PET and MRI. *Clin Cancer Res.* 22(20):5079-5086. DOI: 10.1158/1078-0432.CCR-15-2529. PMID: 27185374.
Role: Faculty statistician for ACRIN 6684
39. **Zhang Z**. (2016). Statistical Considerations for Evaluating Prognostic Biomarkers: Choosing Optimal Threshold. *Statistical Applications from Clinical Trials and Personalized Medicine to Finance and Business Analytics*. Springer 2016.
Proposed a novel approach to determine the optimal threshold for prognostic biomarkers.
40. Atri M, **Zhang Z**, Dehdashti F, Lee SI, Marques H, Ali S, Koh WJ, Mannel RS, DiSilvestro P, King SA, Pearl M, Zhou X, Plante M, Moxley KM, Gold M. (2017) Utility of PET-CT to Evaluate Retroperitoneal Lymph Node Metastasis in High-Risk Endometrial Cancer: Results of ACRIN6671/GOG0233 Trial. *Radiology* 283(2):450-459. doi: 10.1148/radiol.2016160200. [Epub 2017 Jan. 3] PMID: 28051912
Role: Faculty statistician for ACRIN 6671
41. Ng C, **Zhang Z**, Lee SI, Marques HS, Burgers K, Su F, Bauza J, Mannel RS, Walker J, Huh WK, Rubin SC, DiSilvestro P, Martin LP, Chan JK, Bookman MA, Coleman RL, Lee TY. (2017) CT perfusion as an early biomarker of treatment efficacy in advanced ovarian cancer: an ACRIN and GOG study. *Clin Cancer Res.* 23(14):3684-3691. doi: 10.1158/1078-0432.CCR-16-1859. [Epub 2017 Feb 7] PMID: 28174234
Role: Faculty statistician for ACRIN 6695
42. Maan A, **Zhang Z**, Qin Z, Wang Y, Dudley S, Dabhadakar K, Refaat M, Mansour M, Ruskin JN, Heist EK (2017). Impact of treatment crossovers on clinical outcomes in the rate and rhythm control strategies for atrial fibrillation: Insights from the AFFIRM (Atrial Fibrillation Follow-up Investigation of Rhythm Management) trial. *Pacing Clin Electrophysiol.* 2017 Jul; 40(7):770-778. doi: 10.1111/pace.13112. Epub 2017 Jun 30. PMID: 28543286
Role: Statistician
43. Pereira JF, Golijanin D, Pareek G, Guo R, **Zhang Z**, Renzulli J 2nd, Gershman MDB(2017). The association of age with perioperative morbidity and mortality among men undergoing radical prostatectomy. *Urol Oncol.* 2017 Dec 19. pii: S1078-1439(17)30607-5. doi: 10.1016/j.urolonc.2017.11.019. [Epub ahead of print] PMID: 29273350
Role: Statistician
44. Pereira J, Renzulli J 2nd, Pareek G, Moreira D, Guo R, **Zhang Z**, Amin A, Mega A, Golijanin D, Gershman B(2017). Perioperative Morbidity of Open vs Minimally Invasive Partial Nephrectomy: A Contemporary Analysis of the National Surgical

Quality Improvement Program. J Endourol. 2017 Dec 21. doi:
10.1089/end.2017.0609. [Epub ahead of print] PMID: 29121786
Role: Statistician

NON- REFEREED JOURNAL ARTICLES

1. **Zhang Z** and Pepe MS. A Linear Regression Framework for Receiver Operating Characteristic (ROC) Curve Analysis. (2005) University of Washington Biostatistics Working Paper Series, working paper 253.
2. Pepe MS, Cai T, **Zhang Z** and Longton G. Combining Predictors for Classification using the Area Under the ROC Curve. (2005) University of Washington Biostatistics Working Paper Series, working paper 238.

ABSTRACTS

1. **Zhang, Z.** Semiparametric Least Squares Based ROC Analysis. Joint Statistical Meeting, Toronto, Canada, August 2004.
2. **Zhang, Z.** Assess Rater Agreement with Target Values for Ordinal Data. Joint Statistical Meeting, Minneapolis, MN, August 2005.
3. **Zhang, Z.** Semiparametric ROC Surface Estimation. Joint Statistical Meeting, Seattle, WA, August 2006.
4. **Zhang Z.** Assessing Agreement of Ordinal and Continuous Measurements with Agreement Curve. WNAR 2009, June 14-17, 2009, Portland, OR, USA.
5. Fidler J, **Zhang Z**, Herman B, Fletcher JB, Dachman A, Johnson CD. Sensitivity of CTC for the Detection of Nonpolypoid Adenomas Using Restricted Criteria in the ACRIN 6664 National CTC Trial. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.
6. Cole EB, Pisano ED, **Zhang Z**, Gatsonis C. CAD System Marking of Digital Mammograms of DMIST Cancers. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.
7. Berg WA, **Zhang Z**, Cormack J, Lehrer DE. Screening Breast Ultrasound as a Supplement to Mammography: Yield of Annual Screening in ACRIN 6666. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.
8. Berg WA, **Zhang Z**, Cormack J, Jong RA, Barr RG, Lehrer DE. Supplemental Yield and Performance Characteristics of Screening MRI after Combined Ultrasound and Mammography in ACRIN 6666. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.

9. Berg WA, **Zhang Z**, Marques H, Lehrer DE, Bohm-Velez M, Pisano ED, etc. False Positives Induced by Annual Screening US Added to Mammography in ACRIN 6666. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.
10. Mosher TJ, **Zhang Z**, Boudhar S, Olson CB, Witschey W, Fenty M, etc. ACRIN-PA-4001: Reproducibility of Cartilage T1rho in a multi-institutional/multi-vendor network. RSNA 2009, November 29-December 4, 2009, Chicago, IL, USA.
11. **Zhang Z**. and Duan F. Agreement Index: A Novel Measure for Reproducibility and Agreement. Joint Statistical Meeting, Vancouver, BC, Canada August 2010.
12. Sorensen AG, **Zhang Z**, Boxerman J, Safriel Y, Gimpel J, Snyder B, Girardi V, Larvie M, Gilbert M. Increased Progression with T2-based Imaging During Anti-VEGF Therapy in Glioblastoma: ACRIN 6677/RTOG 0625. RSNA 2010, November 28-December 3, 2010, Chicago, IL, USA.
13. Berg WA, **Zhang Z**, Adams A, Mendelson EB. Multiple Bilateral Similar Findings on Mammography: Results of ACRIN 6666. RSNA 2010, November 28-December 3, 2010, Chicago, IL, USA.
14. Berg WA, **Zhang Z**, Yeh N, Mendelson EB. Multiple Bilateral Similar Masses on Ultrasound: Results of ACRIN 6666. RSNA 2010, November 28-December 3, 2010, Chicago, IL, USA.
15. **Zhang Z**. Rank-based agreement indices for continuous measurements. ENAR 2011, March 20-23, 2011, Miami, FL, USA.
16. Mountz JM, **Zhang Z**, Laymon C, Price J, Boudhar S, McConaha C, Mathis CA. ACRIN-PA 4004 Study: Comparison of [F-18] flutemetamol and [C-11] PiB in Normal Control and Alzheimer's Subjects. SNM 2011, June 4-8, 2011, San Antonio, TX, USA.
17. Gold M, **Zhang Z**, Marques H, Gorelick J, Landrum LM, Mannel RS, Chuang LT, Yu JQ, McCourt CK, Harisinghani M, Sohaib A, Koh DM, Raman S, Gee MS, Choi H, Atri M. MRI prior to systematic lymphadenectomy in patients with locally advanced cervical cancer. ASCO 2011, June 4-8, 2011, Chicago, IL, USA.
18. Atri M, **Zhang Z**, Marques H, Gorelick J, Harisinghani M, Sohaib A, Koh DM, Raman S, Gee M, Choi H, Landrum L, Mannel R, Chuang L, Yu J, McCourt C, Gold M. Utility of preoperative ferumoxtran-10 MRI to evaluate retroperitoneal lymph node metastasis in advanced cervical cancer: results of ACRIN 6671/GOG 0233. ASCO 2011, June 4-8, 2011, Chicago, IL, USA.
19. Berg WA, Mendelson EB, LePetross H, **Zhang Z**, Marques H, Adams A. Reasons for Failed Cancer Detection in the ACRIN 6666 Screening Protocol: Mammography, US, MRI. RSNA 2011, November 27-December 2, 2011, Chicago, IL, USA.

20. Barr RG, **Zhang Z**, Cormack J, Mendelson EB, Berg WA, Yeh N. Probably Benign Lesions on Screening Breast Sonography: Prevalence and Risk of Malignancy in the ACRIN 6666 Trial. RSNA 2011, November 27-December 2, 2011, Chicago, IL, USA.
21. Ratai E, **Zhang, Z**, Snyder B, Girardi V, Gilbert MR, Sorensen AG. Magnetic resonance spectroscopy of anti-VEGF therapy in glioblastoma (GBM): ACRIN 6677 / RTOG 0625. RSNA 2011, November 27-December 2, 2011, Chicago, IL, USA.
22. **Zhang Z**. An AUC-like Index for Agreement Assessment. International Conference on Advances in Probability and Statistics, December 28-31, 2011, Hong Kong, China.
23. Ratai E, **Zhang, Z**, Snyder B, Yeh N, etc. MR spectroscopy as an early indicator of response to anti-angiogenic therapy in patients with recurrent glioblastoma: ACRIN 6677 / RTOG 0625. ISMRM 2012, May 5-11, 2012, Melbourne, Australia.
24. Berg WA, **Zhang Z**, Marques H, etc. What if ultrasound were the primary screening test for breast cancer? Analysis from ACRIN 6666. RSNA 2012, November 25- 30, 2012, Chicago, IL, USA.
25. Boxerman J, **Zhang Z**, etc. Early Post-Bevacizumab Progression Status by MRI Predicts Overall Survival in Recurrent Glioblastoma: Results from the ACRIN 6677/RTOG 0625 Central Reader Study. RSNA 2012, November 25-30, 2012, Chicago, IL, USA.
26. **Zhang Z**. The Summary Predictive Curve for predictive marker assessment. Joint Statistical Meeting, July 28-August 2, 2012, San Diego, CA, USA.
27. **Zhang Z**, Wang Y. and Duan F. An AUC-like Index for Agreement Assessment. ENAR, March 10-13, 2013, Orlando, FL, USA. (Invited talk).
28. **Zhang Z**, Wang Y. and Duan F. An AUC-like Index for Agreement Assessment. Joint Statistical Meeting, August 3-8, 2013, Montreal, Canada. (Invited talk).
29. **Zhang Z**. The Order Statistics Aspect of the Agreement Index. Ordered data analysis, models, and health research methods. March 7-9, 2014. Richardson, TX, USA. (Invited talk).
30. **Zhang, Z**. Finding the optimal threshold for continuous prognostic markers. ICSA 2015. June 16, 2015. Fort Collins, CO, USA. (Invited talk).
31. **Zhang, Z**. Assess the predictive accuracy of biomarkers and the choice of the “optimal” threshold. University of California Irvine. April 21, 2016. (Invited talk).
32. Partridge SC, **Zhang Z**, Rahbar H, Chenevert TL, Kitsch AE, Hanna L, Romanoff J, Harvey S, Moy L, DeMartini W, Schnall M, Lehman CD, Comstock C. ACRIN 6702

Trial: A MultiCenter Study Evaluating the Utility of Diffusion Weighted Imaging for Detection and Diagnosis of Breast Cancer. [abstract] 103rd Scientific Assembly and Annual Meeting (RSNA 2017). Chicago, IL, November 26-December 1, 2017.

33. Kitsch A, **Zhang Z**, Chenevert TL, Rahbar H, Romanoff J, Whisenant J, Yankeelov T, Comstock C, and Partridge S. American College of Radiology Imaging Network (ACRIN) 6702 Diffusion-Weighted Breast MRI Trial: Image Quality and Factors Associated with Lesion Evaluability. [abstract] 103rd Scientific Assembly and Annual Meeting (RSNA 2017). Chicago, IL, November 26-December 1, 2017.
34. Partridge SC, **Zhang Z**, Newitt D, Gibbs J, Chenevert TL and Rosen M. ACRIN 6698 trial: Quantitative diffusion-weighted MRI to predict pathologic response in neoadjuvant chemotherapy treatment of breast cancer. ASCO 2017, Chicago, IL, June 2-6, 2017.

MANUSCRIPTS SUBMITTED AND IN PREPARATION

1. Boxerman J., Zhang Z., Safriel Y, Rogg JM, Wolf RL, Mohan S, Marques H, Sorensen AG, Gilbert MR and Barboriak DP. Prognostic Value of Contrast Enhancement and FLAIR for Survival in Newly Diagnosed GBM Treated With and Without Bevacizumab: Results from ACRIN 6686/RTOG 0825. Submitted to Neuro-oncology. January 22, 2018
2. H Rahbar, Z Zhang, TL Chenevert, Justin Romanoff, Averi Kitsch, Lucy Hanna, Sara M Harvey, Linda Moy, Wendy B DeMartini, Basak Dogan, Weit T Yang, Lilian Wang, Bonnie N Joe, Karen Oh, Colleen H. Neal, Elizabeth S McDonald, Mitchell D Schnall, Constance D Lehman, Christopher E Comstock, Savannah C Partridge. Potential of Diffusion Weighted Imaging to Decrease Unnecessary Biopsies Prompted by Breast MR: Results from the ACRIN 6702 Trial. Submitted to Radiology, January 5, 2018
3. Partridge S, Zhang Z, etc. Quantitative Diffusion-Weighted MRI Predicts Pathologic Response in Neoadjuvant Chemotherapy Treatment of Breast Cancer: Results from the ACRIN 6698/I-SPY 2 TRIAL. Submitted to Radiology, January 31, 2018
4. Jeffrey Cochran, David Busch, Anais Leproux, Zheng Zhang, Thomas O'Sullivan, Albert Cerussi, Philip Carpenter, Rita Mehta, Darren Roblyer, Wei Yang, Keith Paulsen, Brian Pogue, Shudong Jiang, Peter Kaufman, So Hyun Chung, Mitchell Schnall, Bradley Snyder, Nola Hylton, Stefan Carp, Steven Isakoff, David Mankoff, Bruce Tromberg, and Arjun Yodh. Tissue Oxygen Saturation Predicts Response to Breast Cancer Neoadjuvant Chemotherapy within 10 Days of Treatment. Submitted to Cancer Research, January 11, 2018.

5. Arunachalam, Karuppiah; Kolte, Dhaval; Zhang, Zheng; Panda, Nikhil; Chu, Antony; Maan, Abhishek. Impact of Racial and Gender Variations in the Patients with Out of Hospital Cardiac Arrest: A Nation Wide Study. In revision
6. Eva-Maria Ratai; Zheng Zhang; James Fink; Mark Muzi; Lucy Hanna; Erin Greco; Todd Richards; Daniel Kim; Ovidiu Andronesi; Akiva Mintz; Lale Kostakoglu; Edward Eikman; Melissa Prah; Benjamin Ellingson; Kathleen Schmainda; Gregory Sorensen; Daniel Barboriak; David Mankoff; Elizabeth Gerstner. ACRIN 6684: Multicenter, phase II assessment of tumor hypoxia in newly diagnosed glioblastoma using magnetic resonance spectroscopy. In revision
7. **Zhang Z.** Estimating optimal threshold of biomarkers with binary or time-dependent gold standard by ROC curve analysis. In preparation
8. **Zhang Z.** Estimating optimal threshold of predictors for survival outcome. In preparation.
9. Boxerman, J, **Zhang Z**, etc. Early Post-Bevacizumab Change in rCBV from DSC-MRI Predicts Overall Survival in Recurrent Glioblastoma Whereas 2D-T1 Response Status Does Not: Results from the ACRIN 6677/RTOG 0625 Multi-Center Study. In preparation
10. **Zhang Z.** The Summary Predictive Curve for predictive marker assessment. In preparation.
11. **Zhang Z.** Semiparametric Estimation of the Receiver Operating Characteristic (ROC) Surface: Theory and Application. In preparation.

RESEARCH GRANTS

U10 CA180794 (PI Gray and Gatsonis) 04/29/14-02/28/19
 Dana Farber/NCI
 ECOG-ACRIN Network Group Statistics and Data Management Center

This subcontract covers support for the operations of Brown office of the Statistics and Data Management Center (SDMC) of ECOG-ACRIN Cancer Research Group. The SDMC is organized and operated jointly by the Department of Biostatistics and Computational Biology at the Dana-Farber Cancer Institute (DFCI), the Department of Biostatistics at Brown University, the Frontier Science and Technology Research Foundation (FSTRF) and the American College of Radiology (ACR), under the direction of the Group Statisticians.

Role: Faculty Statistician

U01 CA190254(PI Schnall CSS PI Gatsonis) 03/20/15-02/29/20
 American College of Radiology/NCI

ECOG-ACRIN-Based QIN Resource for Advancing Quantitative Cancer imaging in Clinical Trials

This subcontract will provide support for CSS participation in the ECOG-ACRIN Quantitative Imaging Network (QIN) resource for advancing quantitative cancer imaging in clinical trials. CSS faculty and staff will provide methodologic expertise, leadership and support for the design of studies by QIN investigators using ECOG-ACRIN quantitative imaging and clinical data, the incorporation of QIN developed advanced image analysis methods and metrics into new ECOG-ACRIN trials, and the development and implementation of evaluations of image metrics.

Role: Faculty Statistician

U54 GM115677 (PI Schmid)

07/01/2016–04/30/2021

NIGMS

RI-Center for Clinical and Translational Science

The Brown Institute for Translational Sciences, and a statewide consortium of collaborators, hospitals, universities, and government agencies will use the IDeA Clinical Translational Research Award to build infrastructure and support for clinical and translational research.

Role: Co-Investigator

SERVICE

a. To the university:

Center of Statistical Sciences Seminar series co-organizer: 2009-2010

ACRIN methodology working group seminar organizer: Jan. 2009- Dec. 2009

ACRIN methodology working group seminar organizer: Sept. 2010- July. 2011

ACRIN methodology working group seminar organizer: Sept. 2011- July. 2012

ACRIN methodology working group seminar co-organizer: 2013, 2014, 2015

Member of Master program admission committee: 2011, 2012, 2014, 2015, 2016, 2017

Member of Ph.D. program admission committee: 2013

Member of Departmental Graduate Program Committee: 2014, 2015, 2016, 2017

ACADEMIC HONORS AND FELLOWSHIPS

Donovan J. Thompson Award for Academic Excellence in Biostatistics
(Best performance in combined Ph.D. theory and applied qualifying exams)
University of Washington Department of Biostatistics 2001

NIH Predoctoral AIDS Training Fellowship,
University of Washington Department of Biostatistics 2000-2004

FHCRC Predoctoral Interdisciplinary Training Fellowship,
Fred Hutchinson Cancer Research Center, Seattle, WA 2000

Outstanding Student Award for best academic performance
Beijing University, Beijing, P. R. China 1987

TEACHING

Fall 2017: PHP2030: Clinical Trials Methodology (guest lecturer): enrollment: 12

Fall 2016: PHP2030: Clinical Trials Methodology (guest lecturer): enrollment: 17

Fall 2015 PHP2602: Analysis of Lifetime Data: enrollment: 15

Fall 2015: PHP2030: Clinical Trials Methodology (guest lecturer): enrollment: 10

Fall 2011 BIOL2010: Quantitative Approach in Biology (guest lecturer): enrollment: 15

Fall 2009 PHP2030: Clinical Trials Methodology (co-instructor): enrollment: 32

Master's thesis directed: 4(Yuanchao Zheng, Bin Lin, Zeling He, Won Lim)
Master's thesis reader: 1 (Youdan Wang)

Academic advising: 13
Brady Tang (Master's student)
Youdan Wang (Master's student)
Yuanchao Zheng (Master's student)
Hongye Li (Master's student)
Alyssa Feldman (Master's student)
Renxia Huang (Master's student)
Jun Ke (Master's student)
Justin Romanoff (Master's student)
Wen Zheng (Master's student)
Lu Feng (Master's student)

Wenyue Xing (Master's student)