

**NAME: TATSUKI KOYAMA**

---

Office Address     Division of Cancer Biostatistics  
                          Department of Biostatistics  
                          Vanderbilt University School of Medicine  
                          571 Preston Research Building, Nashville, TN 37232-6848

Office Phone Number     615.936.1232  
                          Email     tatsuki.koyama@vanderbilt.edu

**EDUCATION**

---

1998     Bachelor of Arts in Statistics  
                  University of California at Berkeley, Berkeley, CA

2000     Master of Arts in Statistics  
                  University of Pittsburgh, Pittsburgh, PA

2003     Doctor of Philosophy in Statistics  
                  University of Pittsburgh, Pittsburgh, PA

**Doctoral Dissertation**

Title     A framework for design of two-stage adaptive procedures  
   Advisors     Allan R. Sampson, Ph.D. (co-chair), Leon J. Gleser, Ph.D. (co-chair)

**ACADEMIC APPOINTMENTS**

---

2003 - 2011     Assistant Professor

2011 - 2013     Research Associate Professor

2013 - present     Associate Professor  
                          Department of Biostatistics, Vanderbilt University School of Medicine  
                          Cancer Biostatistics Center, Vanderbilt-Ingram Cancer Center (-2011.06)  
                          Vanderbilt Center for Quantitative Sciences (2011.07-)

**PROFESSIONAL ORGANIZATIONS**

---

1998 - present     American Statistical Association  
                          Middle Tennessee Chapter  
                          Chapter representative (2005-2006), Treasurer (2006-)

2003 - present     The International Biometric Society

2006 - 2013     The Biometric Society of Japan

**PROFESSIONAL ACTIVITIES**

---

**A. Intramural Services**

University of Pittsburgh

2000     Statistics Computer Lab Coordinator

2000 - 2002     Statistical Consultant, Center for Statistics

**Vanderbilt University Medical Center**

2003 - present	Director of Biostatistics Core, Vanderbilt Digestive Disease Research Center
2003 - 2017	Member, Ph.D. Search Committee, Department of Biostatistics
2007	Reviewer, Vanderbilt Committee for Internal Pre-review of Grant Application
2009 - present	Reviewer, Scientific Review Committee, Vanderbilt-Ingram Cancer Center
2009 - 2017	Organizer, Cancer Biostatistics Workshop [2009-2011], Center for Quantitative Sciences Workshop [2011 - present]
2010 - 2011	Co-chair, Adaptive Clinical Trials Working Group, Center for Quantitative Sciences / Cancer Biostatistics Center
2011 - present	Executive committee member, Center for Qualitative Sciences.
2014 - present	Member, Graduate Student Admisson Committee, Department of Bisotatistics
2017 - present	Member, Limited Submission Opportunity Review Committee, VUMC
2018 - present	Member, Allocation Committee, Department of Biostatistics
2018 - present	Member, Staff Promotion Committee, Department of Biostatistics

**B. Extramural Services**

2005-2006	Chapter Representative, American Statistical Association Middle Tennessee Chapter
2006-present	Treasurer, American Statistical Association Middle Tennessee Chapter
2008	NIH Study Section Review Panel. "Tumor stem cells in cancer biology, prevention, and therapy (P01)"
2009	NIH Study Section Review Panel. "Measures and determinants of smokeless tobacco use, prevention, and cessation (R01)"
2009	Data and Safety Monitoring Board. "Beta agonists for oxygenation in lung donors: The BOLD Study"
2010	NIH Study Section Review Panel. "Drug discovery, chemoprevention, and targeted therapy (P01)"
2013	Cancer Research Program Review Panel. The Department of Defense congressionally directed medical research programs.
2015-2017	Florida Department of Health's Biomedicla Research Programs Review Panel.
2015	Focused Program Review Panel. The Department of Defense Congressionally Directed Medical Research Programs.
2015-present	ASCO Grants Selection Committee YIA Review Panel. ASCO.
2016	Cancer Research Program Review Panels. The Department of Defense congressionally directed medical research programs.
2017	Focused Program Awards Review Panels. The Department of Defense congressionally directed medical research programs.

**C. Journal Review**

PLOS ONE (Statistical Advisory Board)  
 The Journal of Urology (Board of Statisticians)  
 Science: Translational Medicine  
 JAMA Oncology  
 Statistics in Medicine  
 Cancer

Cancer Prevention Research  
 Clinical Cancer Research  
 Journal of Clinical Oncology  
 PLOS Medicine  
 American Statistician  
 Biometrical Journal  
 Bioinformatics  
 Journal of Applied Statistics  
 Journal of Biopharmaceutical Statistics  
 Journal of Statistical Planning and Inference  
 Journal of Nuclear Medicine  
 Kidney International

#### D. Awards and Honors

1996	Phi Theta Kappa
1996	Dean's List, University of California at Berkeley
1998	W. Homan Scholarship. University of California at Berkeley
2001	Best Teaching Assistant Award. Department of Statistics, University of Pittsburgh
2002	Best Senior Graduate Student Award. Department of Statistics, University of Pittsburgh
2002 - 2003	Andrew Mellon Pre-doctoral Fellowship. University of Pittsburgh
2003	Outstanding Graduate Student Award. American Statistical Association, Pittsburgh Chapter
2014	The Patrick G. Arbogast Collaborative Publication Award, Department of Biostatistics, Vanderbilt University School of Medicine

### TEACHING ACTIVITIES

---

#### A. Teaching Positions

1998 - 2002	Teaching Fellow / Teaching Assistant, Department of Statistics, University of Pittsburgh
2000	Lecturer, Department of Statistics, University of Pittsburgh
2009 - present	Organizer, Cancer Biostatistics Workshop, Cancer Biostatistics Center, Vanderbilt-Ingram Cancer Center; CQS Workshop, Center for Quantitative Sciences, Vanderbilt University School of Medicine.

#### B. Graduate Course

Spring 2012 - present    BIOS 6321: Clinical Trials and Experimental Designs (3 credits)

#### C. Extramural Lectures

Tutorial session

1. Adaptive and flexible designs in clinical trials. *The 2006 Japanese Joint Statistical Meetings*. Sendai, Japan. September 5, 2006 (3 hour tutorial).

### Short courses

2. Adaptive and flexible designs in clinical trials. *Japan Clinical Research Division*, Lilly Research Laboratories Japan. Kobe, Japan. March 1, 2007 (2 hour course).
3. Adaptive designs in clinical trials. *Biostatistics Summer School*. Osaka University (Biostatistics and Epidemiology), Osaka, Japan. July 9-10, 2007 (9 hour course).
4. Advanced clinical trials in the US. *Biostatistics Executive Seminar 2011*. Statcom Co. Ltd., Tokyo, Japan. June 20, 2011 (2 hour course).
5. Frequentist adaptive design for phase II and III clinical trials. *Shionogi Research Seminar*. Shionogi & Co. Ltd., Osaka, Japan. August 24, 2012 (2 hour course).
6. Clinical trials. *Special Summer Course*. Osaka University (Biostatistics and Epidemiology), Osaka, Japan. July 6-10, 2015 (20 hour course).
7. Phase III clinical trials. *Medical Statistics*. Osaka University (Biostatistics and Epidemiology), Osaka, Japan. July 19-22, 2016 (8 hour course).
8. Selected topics in phase II and III clinical trials. Osaka City University (Medical Statistics), Osaka, Japan. July 18-20, 2017 (8 hour course).

### Invited lectures

9. Meta analysis, interim analysis and data safety monitoring boards. *Clinical Trials and Research*, Masters of Science in Clinical Investigation (MSCI) program, Meharry Medical College, Nashville, TN. November 9 and 23, 2010 (2.5 hour course).
10. Randomization in clinical trials. *Nashville Chapter, Society of Clinical Research Associates*. October 24, 2013.

## D. Intramural Lectures

### Short Courses

1. Biostatistics I. *Center for Quantitative Sciences Summer Institute*. Center for Quantitative Sciences. August 3-7, 2015; August 1-5, 2016; August 7-11, 2017. (15 hour lecture)

### Invited Lectures

2. Introduction to statistics in R. *Seminar Series in Biostatistics*. Department of Biostatistics. 2004.
3. Probabilities and statistics in medicine. *Guest lecturer for Department of Preventive Medicines' required course*. 2004–2007.
4. Power and sample size: A practical point of view. *Guest lecture for MSCI course, Biostatistics I*. 2004.
5. Tools for formal statistical inference. *Statistical Thinking in Biomedical Research*. Department of Biostatistics. 2004.

6. How to reduce sample size and control type I error rate by implementing two-stage designs. *GCRC Research Skills Workshop Series*. January, 2005.
7. Problems with using Excel for statistics. *GCRC Research Skills Workshop Series*. May, 2005.
8. Statistical methods in biomarker discovery. *Clinical Proteomics*. Vanderbilt University School of Medicine. 2008–2009.
9. Adaptive phase II clinical trials: Rigorous statistics and flexible science. *2008 Cancer Biostatistics Workshop*. Cancer Biostatistics Center. April, 2008.
10. Statistical methods in biomarker discovery. *2009 Cancer Biostatistics Workshop*. Cancer Biostatistics Center. April, 2009.
11. Technical aspects of interim monitoring in clinical trials. *GCRC Research Skills Workshop Series*. July, 2009.
12. Principles of presenting data: A statistical point of view. *Guest lecture for a freshman seminar in the College of Engineering, "Visual Display of Quantitative Information"*. November, 2009.
13. Some aspects of statistical methods for biomarker discovery. *Continuing Education for Masters Biostatisticians*. Department of Biostatistics. December, 2009.
14. Statistical methods for biomarker discovery. *Statistics and Methodology Core Training Seminar*. Vanderbilt Kennedy Center. January, 2010.
15. Interim monitoring in clinical trials. *GCRC Research Skills Workshop Series*. September, 2010.
16. Topics in probability and statistics. *Guest lecture for a freshman course in School for Science and Math at Vanderbilt*. September, 2010.
17. Rigorous statistics for simple experiments: Basic science from a statistician's point of view. *The Vanderbilt Digestive Disease Research Center Seminar Series*. September, 2010.
18. Clinical trial series, session II: Randomization. *GCRC Research Skills Workshop Series*. November, 2011.
19. Clinical trial series, session III: Interim analysis. *GCRC Research Skills Workshop Series*. December, 2011.
20. Randomization. *GCRC Research Skills Workshop Series*. August, 2012.
21. Flexible clinical trials. *GCRC Research Skills Workshop Series*. May, 2013.
22. Phase I clinical trials. *GCRC Research Skills Workshop Series*. November, 2013.
23. Randomization. *GCRC Research Skills Workshop Series*. November, 2013.
24. Clinical trials. *Introduction to Clinical and Translational Research*. January, 2015. (2 one-hour lectures)

25. Problems with using Excel for statistics. *GCRC Research Skills Workshop Series*. April, 2015.
26. Analytic challenges of pragmatic trials. *Two-hour lecture for V-POCKET seminar series*. February, 2015.
27. Phase I clinical trials. *GCRC Research Skills Workshop Series*. August, 2015.
28. Statistics for basic sciences. *DDRC Carrer Development Workshop*. November, 2015.
29. Statistics 101. *Radiation Oncology Research Group*. June, 2016.
30. Statistics for basic sciences. *DDRC Carrer Development Workshop*. November, 2016.
31. Topics in regression analysis *GCRC Research Skills Workshop Series*. March, 2017
32. Phase I clinical trials. *Clinical Pharmacology Teaching Conferences*. April, 2017

### E. Research Supervision

Department of Biostatistics, Vanderbilt University School of Medicine.

Mingsheng Guo, PhD. Bioinformatician I.

Sharon Phillips, MSPH. Assistant in Biostatistics.

Elizabeth Koehler, MS. Biostatistician III.

Pengcheng Lu, MS. Biostatistician III.

Zhguo Zhao, MS. Biostatistician III.

JoAnn Alvarez, MS. Biostatistician III.

Kang-Hsien Fan, MS. Biostatistician III.

Lan Cui, MS. Research Assistant I.

Liping Du, PhD. Bioinformatician III.

Julius Kirui, MS. Intern.

Rachel J Baldwin, MS. Intern.

Corey J Horton, MS. Intern.

Huang Yi, MS. Biostatistician II.

### F. Graduate Students

Department of Biostatistics, Vanderbilt University School of Medicine.

Emily N Peterson. MS thesis “Assessment of propensity score performance in small samples”. (August 2015)

Molly A Olson. MS thesis “A comparison of approaches for unplanned sample size changes in phase II clinical trials”. (May 2017)

## PUBLICATIONS AND PRESENTATIONS

---

### A. Peer Reviewed Publication

1. Layman W and **Koyama T**. A clinical comparison of LED and halogen curing units. *J Clin Orthod*, 38(7), 2004. PMID: 15304953.

2. **Koyama T**, Sampson AR, and Gleser LJ. A calculus for design of two-stage adaptive procedure. *JASA*, 100(469), 2005.
3. Rhodes M, Lautz T, Kavanaugh-Mchugh A, Manes B, Calder C, **Koyama T**, Liske M, Parra D, and Frangoul H. Pericardial effusion and cardiac tamponade in pediatric stem cell transplant recipients. *Bone Marrow Transplant*, 36(2), 2005. PMID: 15908968.
4. **Koyama T**, Sampson AR, and Gleser LJ. A framework for two-stage adaptive procedures to simultaneously test non-inferiority and superiority. *Stat Med*, 24(16), 2005. PMID: 15977285.
5. Schwartz DA, Connolley CD, **Koyama T**, Wise PE, and Herline AJ. Calcaneal ultrasound bone densitometry is not a useful tool to screen patients with inflammatory bowel disease at high risk for metabolic bone disease. *Inflamm Bowel Dis*, 11(8), 2005. PMID: 16043991.
6. **Koyama T** and Westfall PH. Decision-theoretic views on simultaneous testing of superiority and noninferiority. *J Biopharm Stat*, 15(6), 2005. PMID: 16279353.
7. Keates-Baleeiro J, Moore P, **Koyama T**, Manes B, Calder C, and Frangoul H. Incidence and outcome of idiopathic pneumonia syndrome in pediatric stem cell transplant recipients. *Bone Marrow Transplant*, 38(4), 2006. PMID: 16819436.
8. Jones E, **Koyama T**, Ho RH, Kuttesch J, Shankar S, Whitlock JA, Cartwright J, and Frangoul H. Safety and efficacy of a continuous infusion, patient-controlled antiemetic pump for children receiving emetogenic chemotherapy. *Pediatr Blood Cancer*, 48(3), 2007. PMID: 16304666.
9. Sepmeyer JA, Greer JP, **Koyama T**, and Zic JA. Open-label pilot study of combination therapy with rosiglitazone and bexarotene in the treatment of cutaneous T-cell lymphoma. *J Am Acad Dermatol*, 56(4), 2007. PMID: 17184879.
10. M'Koma AE, Blum DL, Norris JL, **Koyama T**, Billheimer D, Motley S, Ghiassi M, Ferdowsi N, Bhowmick I, Chang SS, Fowke JH, Caprioli RM, and Bhowmick NA. Detection of pre-neoplastic and neoplastic prostate disease by MALDI profiling of urine. *Biochem Biophys Res Commun*, 353(3), 2007. PMID: 17194448. PMCID: PMC2562600.
11. **Koyama T**. Flexible design of two-stage adaptive procedures for phase III clinical trials. *Contemp Clin Trials*, 28(4), 2007. PMID: 17307399.
12. **Koyama T** and Chen H. Proper inference from Simon's two-stage designs. *Stat Med*, 27(16), 2008. PMID: 17960777.
13. Stumph J, Vnencak-Jones CL, **Koyama T**, and Frangoul H. Comparison of peripheral blood and bone marrow samples for detection of post transplant mixed chimerism. *Bone Marrow Transplant*, 41(6), 2008. PMID: 18037938.
14. Branner CM, **Koyama T**, and Jensen GL. Racial and ethnic differences in pediatric obesity-prevention counseling: National prevalence of clinician practices. *Obesity (Silver Spring)*, 16(3), 2008. PMID: 18239563.

15. Dar AA, Zaika A, Piazuolo MB, Correa P, **Koyama T**, Belkhiri A, Washington K, Castells A, Pera M, and El-Rifai W. Frequent overexpression of Aurora kinase A in upper gastrointestinal adenocarcinomas correlates with potent antiapoptotic functions. *Cancer*, 112(8), 2008. PMID: 18311783. PMCID: PMC4030394.
16. Kawaguchi M, Hager HA, Wada A, **Koyama T**, Chang MS, and Bader DM. Identification of a novel intracellular interaction domain essential for Bves function. *PLoS One*, 3(5), 2008. PMID: 18493308. PMCID: PMC2373926.
17. Edelblum KL, Washington MK, **Koyama T**, Robine S, Baccarini M, and Polk DB. Raf protects against colitis by promoting mouse colon epithelial cell survival through NF- $\kappa$ B. *Gastroenterology*, 135(2), 2008. PMID: 18598699. PMCID: PMC2640938.
18. Edelblum KL, Goettel JA, **Koyama T**, McElroy SJ, Yan F, and Polk DB. Tnfr1 promotes tumor necrosis factor-mediated mouse colon epithelial cell survival through RAF activation of NF- $\kappa$ B. *J Biol Chem*, 283(43), 2008. PMID: 18713739. PMCID: PMC2570867.
19. Li X, Placencio V, Iturregui JM, Uwamariya C, Sharif-Afshar AR, **Koyama T**, Hayward SW, and Bhowmick NA. Prostate tumor progression is mediated by a paracrine TGF- $\beta$ /Wnt3a signaling axis. *Oncogene*, 27(56), 2008. PMID: 18724388. PMCID: PMC3222150.
20. Blum DL, **Koyama T**, M'Koma AE, Iturregui JM, Martinez-Ferrer M, Uwamariya C, Smith JA Jr, Clark PE, and Bhowmick NA. Chemokine markers predict biochemical recurrence of prostate cancer following prostatectomy. *Clin Cancer Res*, 14(23), 2008. PMID: 19047106. PMCID: PMC3050736.
21. Piro CC, Crossno CL, Collier A, Ho R, **Koyama T**, and Frangoul H. Initial vancomycin dosing in pediatric oncology and stem cell transplant patients. *J Pediatr Hematol Oncol*, 31(1), 2009. PMID: 19125078.
22. Weitkamp JH, Rudzinski E, **Koyama T**, Correa H, Matta P, Alberty B, and Polk DB. Ontogeny of FOXP3(+) regulatory T cells in the postnatal human small intestinal and large intestinal lamina propria. *Pediatr Dev Pathol*, 12(6), 2009. PMID: 19203136. PMCID: PMC2844857.
23. Frangoul H, **Koyama T**, and Domm J. Etanercept for treatment of idiopathic pneumonia syndrome after allogeneic hematopoietic stem cell transplantation. *Blood*, 113(12), 2009. PMID: 19299655.
24. Pallavaram S, Dawant BM, **Koyama T**, Yu H, Neimat J, Konrad PE, and D'Haese PF. Validation of a fully automatic method for the routine selection of the anterior and posterior commissures in magnetic resonance images. *Stereotact Funct Neurosurg*, 87(3), 2009. PMID: 19321967. PMCID: PMC2835380.
25. Sisler IY, Koehler E, **Koyama T**, Domm JA, Ryan R, Levine JE, Pulsipher MA, Haut PR, Schultz KR, Taylor DS, and Frangoul HA. Impact of conditioning regimen in allogeneic hematopoietic stem cell transplantation for children with acute myelogenous leukemia beyond first complete remission: A pediatric blood and marrow transplant consortium (PBMTTC) study. *Biol Blood Marrow Transplant*, 15(12), 2009. PMID: 19896086.



26. Love HD, Booton SE, Boone BE, Breyer JP, **Koyama T**, Revelo MP, Shappell SB, Smith JR, and Hayward SW. Androgen regulated genes in human prostate xenografts in mice: Relation to BPH and prostate cancer. *PLoS One*, 4(12), 2009. PMID: 20027305. PMCID: PMC2793011.
27. Masaki N, **Koyama T**, Yoshimura I, and Hamada C. Optimal two-stage designs allowing flexibility in number of subjects for phase II clinical trials. *J Biopharm Stat*, 19(4), 2009. PMID: 20183436.
28. Rosen MJ, Moulton DE, **Koyama T**, Morgan WM 3rd, Morrow SE, Herline AJ, Muldoon RL, Wise PE, Polk DB, and Schwartz DA. Endoscopic ultrasound to guide the combined medical and surgical management of pediatric perianal Crohn's disease. *Inflamm Bowel Dis*, 16(3), 2010. PMID: 19637325. PMCID: PMC2871764.
29. Ware LB, **Koyama T**, Billheimer DD, Wu W, Bernard GR, Thompson BT, Brower RG, Standiford TJ, Martin TR, and Matthay MA. Prognostic and pathogenetic value of combining clinical and biochemical indices in patients with acute lung injury. *Chest*, 137(2), 2010. PMID: 19858233. PMCID: PMC2816641.
30. Fremont RD, **Koyama T**, Calfee CS, Wu W, Dossett LA, Bossert FR, Mitchell D, Wickersham N, Bernard GR, Matthay MA, May AK, and Ware LB. Acute lung injury in patients with traumatic injuries: Utility of a panel of biomarkers for diagnosis and pathogenesis. *J Trauma*, 68(5), 2010. PMID: 20038857. PMCID: PMC3347639.
31. Mukherjee K, Peng D, Brifkani Z, Belkhiri A, Pera M, **Koyama T**, Koehler EA, Revetta FL, Washington MK, and El-Rifai W. Dopamine and cAMP regulated phosphoprotein MW 32 kDa is overexpressed in early stages of gastric tumorigenesis. *Surgery*, 148(2), 2010. PMID: 20580047. PMCID: PMC2919779.
32. Simon SD, **Koyama T**, Cheng JS, and Mericle RA. Incidence of clipping and coiling procedures: Aneurysm treatment of medicare patients, 1996 - 200. *AANS Neurosurgeon*, 20(1), 2011.
33. Esbenshade AJ, Simmons JH, **Koyama T**, Koehler E, Whitlock JA, and Friedman DL. Body mass index and blood pressure changes over the course of treatment of pediatric acute lymphoblastic leukemia. *Pediatr Blood Cancer*, 56(3), 2011. PMID: 20860019. PMCID: PMC3713225.
34. Bastarache JA, **Koyama T**, Wickersham NE, Mitchell DB, Mernaugh RL, and Ware LB. Accuracy and reproducibility of a multiplex immunoassay platform: A validation study. *J Immunol Methods*, 367(1-2), 2011. PMID: 21277854. PMCID: PMC3108329.
35. O'Neal HR Jr, **Koyama T**, Koehler EA, Siew E, Curtis BR, Fremont RD, May AK, Bernard GR, and Ware LB. Prehospital statin and aspirin use and the prevalence of severe sepsis and acute lung injury/acute respiratory distress syndrome. *Crit Care Med*, 39(6), 2011. PMID: 21336116. PMCID: PMC3102130.
36. Williams K, **Koyama T**, Schulz D, Kaluza GL, Pautler RG, Weisbrodt N, and Conner ME. Use of fluoroscopy to study in vivo motility in mouse pups. *J Pediatr Gastroenterol Nutr*, 52(6), 2011. PMID: 21593642. PMCID: PMC3098421.

37. Deeley MA, Chen A, Datteri R, Noble JH, Cmelak AJ, Donnelly EF, Malcolm AW, Moretti L, Jaboin J, Niermann K, Yang ES, Yu DS, Yei F, **Koyama T**, Ding GX, and Dawant BM. Comparison of manual and automatic segmentation methods for brain structures in the presence of space-occupying lesions: A multi-expert study. *Phys Med Biol*, 56(14), 2011. PMID: 21725140. PMCID: PMC3153124.
38. Smith DS, Welch EB, Li X, Arlinghaus LR, Loveless ME, **Koyama T**, Gore JC, and Yankeelov TE. Quantitative effects of using compressed sensing in dynamic contrast enhanced MRI. *Phys Med Biol*, 56(15), 2011. PMID: 21772079. PMCID: PMC3192434.
39. Stabler S, **Koyama T**, Zhao Z, Martinez-Ferrer M, Allen RH, Luka Z, Loukachevitch LV, Clark PE, Wagner C, and Bhowmick NA. Serum methionine metabolites are risk factors for metastatic prostate cancer progression. *PLoS One*, 6(8), 2011. PMID: 21853037. PMCID: PMC3154200.
40. Ware LB, **Koyama T**, Billheimer D, Landeck M, Johnson E, Brady S, Bernard GR, and Matthay MA. Advancing donor management research: Design and implementation of a large, randomized, placebo-controlled trial. *Ann Intensive Care*, 1(1), 2011. PMID: 21906362. PMCID: PMC3224478.
41. **Koyama T**. Length of the Beatles' song. *Chance*, 25(1), 2012.
42. Korhonen K, Lovvorn HN 3rd, **Koyama T**, Koehler E, Calder C, Manes B, Evans M, Bruce K, Ho RH, Domm J, and Frangoul H. Incidence, risk factors, and outcome of pneumatosis intestinalis in pediatric stem cell transplant recipients. *Pediatr Blood Cancer*, 58(4), 2012. PMID: 21721114.
43. Martinez JA, **Koyama T**, Acra S, Mascarenhas MR, and Shulman RJ. Nutrition education for pediatric gastroenterology, hepatology, and nutrition fellows: Survey of NASPGHAN fellowship training programs. *J Pediatr Gastroenterol Nutr*, 55(2), 2012. PMID: 22343911. PMCID: PMC3395733.
44. Wu H, Chen Q, Ware LB, and **Koyama T**. A Bayesian approach for generalized linear models with explanatory biomarker measurement variables subject to detection limit - an application to acute lung injury. *J Appl Stat*, 39(8), 2012. PMID: 23049157. PMCID: PMC3463110.
45. Weitkamp JH, **Koyama T**, Rock MT, Correa H, Goettel JA, Matta P, Oswald-Richter K, Rosen MJ, Engelhardt BG, Moore DJ, and Polk DB. Necrotising enterocolitis is characterised by disrupted immune regulation and diminished mucosal regulatory (FOXP3)/effector (CD4, CD8) T cell ratios. *Gut*, 62(1), 2013. PMID: 22267598. PMCID: PMC3606820.
46. Fowke JH, Phillips S, **Koyama T**, Byerly S, Concepcion R, Motley SS, and Clark PE. Association between physical activity, lower urinary tract symptoms (LUTS) and prostate volume. *BJU Int*, 111(1), 2013. PMID: 22726636. PMCID: PMC3460041.
47. Resnick MJ, **Koyama T**, Fan KH, Albertsen PC, Goodman M, Hamilton AS, Hoffman RM, Potosky AL, Stanford JL, Stroup AM, Van Horn RL, and Penson DF. Long-term functional outcomes after treatment for localized prostate cancer. *N Engl J Med*, 368(5), 2013. PMID: 23363497. PMCID: PMC3742365.
48. Esbenshade AJ, Simmons JH, **Koyama T**, Lindell RB, and Friedman DL. Obesity and insulin resistance in pediatric acute lymphoblastic leukemia worsens during maintenance therapy. *Pediatr Blood Cancer*, 60(8), 2013. PMID: 23444342. PMCID: PMC3881979.

49. Edwards HD, Oakley F, **Koyama T**, and Hameed O. The impact of tumor size in breast needle biopsy material on final pathologic size and tumor stage: A detailed analysis of 222 consecutive cases. *Am J Surg Pathol*, 37(5), 2013. PMID: 23552386.
50. Hoffman RM, **Koyama T**, Fan KH, Albertsen PC, Barry MJ, Goodman M, Hamilton AS, Potosky AL, Stanford JL, Stroup AM, and Penson DF. Mortality after radical prostatectomy or external beam radiotherapy for localized prostate cancer. *J Natl Cancer Inst*, 105(10), 2013. PMID: 23615689. PMCID: PMC3653822.
51. Daskivich TJ, Fan KH, **Koyama T**, Albertsen PC, Goodman M, Hamilton AS, Hoffman RM, Stanford JL, Stroup AM, Litwin MS, and Penson DF. Effect of age, tumor risk, and comorbidity on competing risks for survival in a U.S. population-based cohort of men with prostate cancer. *Ann Intern Med*, 158(10), 2013. PMID: 23689764. PMCID: PMC3760479.
52. Simmons J, Sheedy C, Lee H, Koh S, Alvarez J, **Koyama T**, and Friedman D. Prevalence of 25-hydroxyvitamin D deficiency in child and adolescent patients undergoing hematopoietic cell transplantation compared to a healthy population. *Pediatr Blood Cancer*, 60(12), 2013. PMID: 23868793.
53. Parikh AA, Ni S, **Koyama T**, Pawlik TM, and Penson D. Trends in the multimodality treatment of resectable colorectal liver metastases: An underutilized strategy. *J Gastrointest Surg*, 17(11), 2013. PMID: 24018590.
54. Janz DR, Zhao Z, **Koyama T**, May AK, Bernard GR, Bastarache JA, Young PP, and Ware LB. Longer storage duration of red blood cells is associated with an increased risk of acute lung injury in patients with sepsis. *Ann Intensive Care*, 3(1), 2013. PMID: 24059842. PMCID: PMC3848804.
55. Ware LB, **Koyama T**, Zhao Z, Janz DR, Wickersham N, Bernard GR, May AK, Calfee CS, and Matthay MA. Biomarkers of lung epithelial injury and inflammation distinguish severe sepsis patients with acute respiratory distress syndrome. *Crit Care*, 17(5), 2013. PMID: 24156650. PMCID: PMC4056313.
56. Barocas DA, Chen V, Cooperberg M, Goodman M, Graff JJ, Greenfield S, Hamilton A, Hoffman K, Kaplan S, **Koyama T**, Morgans A, Paddock LE, Phillips S, Resnick MJ, Stroup A, Wu XC, and Penson DF. Using a population-based observational cohort study to address difficult comparative effectiveness research questions: The CEASAR study. *J Comp Eff Res*, 2(4), 2013. PMID: 24236685. PMCID: PMC4920086.
57. Pallavaram S, Phibbs FT, Tolleson C, Davis TL, Fang J, Hedera P, Li R, **Koyama T**, Dawant BM, and D'Haese PF. Neurologist consistency in interpreting information provided by an interactive visualization software for deep brain stimulation postoperative programming assistance. *Neuromodulation*, 17(1), 2014. PMID: 23647701. PMCID: PMC4039015.
58. Barocas DA, Alvarez J, **Koyama T**, Anderson CB, Gray DT, Fowke JH, You C, Chang SS, Cookson MS, Smith JA Jr, and Penson DF. Racial variation in the quality of surgical care for bladder cancer. *Cancer*, 120(7), 2014. PMID: 24339051. PMCID: PMC3961490.
59. Resnick MJ, Barocas DA, Morgans AK, Phillips SE, Chen VW, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hoffman KE, Kaplan SH, Paddock LE, Stroup AM, Wu XC, **Koyama T**,

- and Penson DF. Contemporary prevalence of pretreatment urinary, sexual, hormonal, and bowel dysfunction: Defining the population at risk for harms of prostate cancer treatment. *Cancer*, 120(8), 2014. PMID: 24510400. PMCID: PMC4930672.
60. Barnett N, Zhao Z, **Koyama T**, Janz DR, Wang CY, May AK, Bernard GR, and Ware LB. Vitamin D deficiency and risk of acute lung injury in severe sepsis and severe trauma: A case-control study. *Ann Intensive Care*, 4(1), 2014. PMID: 24559079. PMCID: PMC3944729.
61. Jin R, Yi Y, Yull FE, Blackwell TS, Clark PE, **Koyama T**, Smith JA Jr, and Matusik RJ. Nf-kappab gene signature predicts prostate cancer progression. *Cancer Res*, 74(10), 2014. PMID: 24686169. PMCID: PMC4024337.
62. Chen Q, Wu H, Ware LB, and **Koyama T**. A Bayesian approach for the Cox proportional hazards model with covariates subject to detection limit. *Int J Stat Med Res*, 3(1), 2014. PMID: 24772198. PMCID: PMC3998726.
63. Snyder RA, Penson DF, Ni S, **Koyama T**, and Merchant NB. Trends in the use of evidence-based therapy for resectable gastric cancer. *J Surg Oncol*, 110(3), 2014. PMID: 24891231. PMCID: PMC4260801.
64. Weitkamp JH, Rosen MJ, Zhao Z, **Koyama T**, Geem D, Denning TL, Rock MT, Moore DJ, Halpern MD, Matta P, and Denning PW. Small intestinal intraepithelial TCRgammadelta+ T lymphocytes are present in the premature intestine but selectively reduced in surgical necrotizing enterocolitis. *PLoS One*, 9(6), 2014. PMID: 24905458. PMCID: PMC4048281.
65. Resnick MJ, Barocas DA, Morgans AK, Phillips SE, **Koyama T**, Albertsen PC, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hoffman KE, Hoffman RM, Kaplan SH, McCollum D, Paddock LE, Stanford JL, Stroup AM, Wu XC, and Penson DF. The evolution of self-reported urinary and sexual dysfunction over the last two decades: Implications for comparative effectiveness research. *Eur Urol*, 67(6), 2015. PMID: 25174325. PMCID: PMC4412750.
66. Fasano RM, Booth GS, Miles M, Du L, **Koyama T**, Meier ER, and Luban NL. Red blood cell alloimmunization is influenced by recipient inflammatory state at time of transfusion in patients with sickle cell disease. *Br J Haematol*, 168(2), 2015. PMID: 25256676.
67. Daskivich TJ, Fan KH, **Koyama T**, Albertsen PC, Goodman M, Hamilton AS, Hoffman RM, Stanford JL, Stroup AM, Litwin MS, and Penson DF. Prediction of long-term other-cause mortality in men with early-stage prostate cancer: Results from the Prostate Cancer Outcomes Study. *Urology*, 85(1), 2015. PMID: 25261048. PMCID: PMC4275422.
68. Johnson A, Wright JP, Zhao Z, **Koyama T**, Parikh A, Merchant N, and Shi C. Cadherin 17 is frequently expressed by 'sclerosing variant' pancreatic neuroendocrine tumour. *Histopathology*, 66(2), 2015. PMID: 25307987. PMCID: PMC4302003.
69. Morgans AK, Fan KH, **Koyama T**, Albertsen PC, Goodman M, Hamilton AS, Hoffman RM, Stanford JL, Stroup AM, Resnick MJ, Barocas DA, and Penson DF. Influence of age on incident diabetes and cardiovascular disease in prostate cancer survivors receiving androgen deprivation therapy. *J Urol*, 193(4), 2015. PMID: 25451829. PMCID: PMC4542148.

70. Bassett JC, Alvarez J, **Koyama T**, Resnick M, You C, Ni S, Penson DF, and Barocas DA. Gender, race, and variation in the evaluation of microscopic hematuria among medicare beneficiaries. *J Gen Intern Med*, 30(4), 2015. PMID: 25451992. PMCID: PMC4371014.
71. Simon SD, **Koyama T**, Zacharia BE, Schirmer CM, and Cheng JS. Impact of clinical trials on neurosurgical practice: An assessment of case volume. *World Neurosurg*, 83(4), 2015. PMID: 25655690.
72. Hoffman RM, **Koyama T**, Albertsen PC, Barry MJ, Daskivich TJ, Goodman M, Hamilton AS, Stanford JL, Stroup AM, Potosky AL, and Penson DF. Self-reported health status predicts other-cause mortality in men with localized prostate cancer: Results from the Prostate Cancer Outcomes Study. *J Gen Intern Med*, 30(7), 2015. PMID: 25678374. PMCID: PMC4471031.
73. Shi C, Gonzalez RS, Zhao Z, **Koyama T**, Cornish TC, Hande KR, Walker R, Sandler M, Berlin J, and Liu EH. Liver metastases of small intestine neuroendocrine tumors: Ki-67 heterogeneity and World Health Organization grade discordance with primary tumors. *Am J Clin Pathol*, 143(3), 2015. PMID: 25696798. PMCID: PMC4354931.
74. Samuelson LE, Scherer RL, VanSaun MN, Fan KH, Dozier EA, Carter KJ, **Koyama T**, Shyr Y, Aschner M, Stanwood GD, Bornhop DJ, Matrisian LM, and McIntyre JO. New tools for the quantitative assessment of prodrug delivery and neurotoxicity. *Neurotoxicology*, 47, 2015. PMID: 25732874. PMCID: PMC4501381.
75. Lindell RB, Koh SJ, Alvarez JM, **Koyama T**, Esbenschade AJ, Simmons JH, and Friedman DL. Knowledge of diagnosis, treatment history, and risk of late effects among childhood cancer survivors and parents: The impact of a survivorship clinic. *Pediatr Blood Cancer*, 62(8), 2015. PMID: 25894324.
76. O'Neil B, **Koyama T**, Alvarez J, Conwill RM, Albertsen PC, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hoffman KE, Hoffman RM, Kaplan SH, Stanford JL, Stroup AM, Paddock LE, Wu XC, Stephenson RA, Resnick MJ, Barocas DA, and Penson DF. The comparative harms of open and robotic prostatectomy in population based samples. *J Urol*, 195(2), 2016. PMID: 26343985. PMCID: PMC4916911.
77. Archer KR, Devin CJ, Vanston SW, **Koyama T**, Phillips SE, George SZ, McGirt MJ, Spengler DM, Aaronson OS, Cheng JS, and Wegener ST. Cognitive-behavioral-based physical therapy for patients with chronic pain undergoing lumbar spine surgery: A randomized controlled trial. *J Pain*, 17(1), 2016. PMID: 26476267. PMCID: PMC4709178.
78. Ware LB, Zhao Z, **Koyama T**, May AK, Matthay MA, Lurmann FW, Balmes JR, and Calfee CS. Long-term ozone exposure increases the risk of developing the acute respiratory distress syndrome. *Am J Respir Crit Care Med*, 193(10), 2016. PMID: 26681363. PMCID: PMC4872663.
79. Sohn W, Resnick MJ, Greenfield S, Kaplan SH, Phillips S, **Koyama T**, Goodman M, Hamilton AS, Hashibe M, Hoffman KE, Paddock LE, Stroup AM, Wu XC, Penson DF, and Barocas DA. Impact of adherence to quality measures for localized prostate cancer on patient-reported health-related quality of life outcomes, patient satisfaction, and treatment-related complications. *Med Care*, 54(8), 2016. PMID: 27219634. PMCID: PMC4945364.

80. Fowke JH, **Koyama T**, Fadare O, and Clark PE. Does inflammation mediate the obesity and BPH relationship? An epidemiologic analysis of body composition and inflammatory markers in blood, urine, and prostate tissue, and the relationship with prostate enlargement and lower urinary tract symptoms. *PLoS One*, 11(6), 2016. PMID: 27336586. PMCID: PMC4918934.
81. Tsugawa D, Fukumoto T, Kido M, Takebe A, Tanaka M, Kuramitsu K, Matsumoto I, Ajiki T, **Koyama T**, and Ku Y. The predictive power of serum alpha-fetoprotein and des-gamma-carboxy prothrombin for survival varies by tumor size in hepatocellular carcinoma. *Kobe J Med Sci*, 61(5), 2016. PMID: 27363395.
82. Hull PC, Buchowski M, Canedo JR, Beech BM, Du L, **Koyama T**, and Zoorob R. Childhood obesity prevention cluster randomized trial for hispanic families: Outcomes of the healthy families study. *Pediatr Obes*, 2016. PMID: 27884047. PMCID: PMC5443700.
83. Luo L, Shaver CM, Zhao Z, **Koyama T**, Calfee CS, Bastarache JA, and Ware LB. Clinical predictors of hospital mortality differ between direct and indirect ards. *Chest*, 151(4), 2017. PMID: 27663180. PMCID: PMC5472517.
84. Tyson MD, Alvarez J, **Koyama T**, Hoffman KE, Resnick MJ, Wu XC, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hashibe M, Paddock LE, Stroup A, Chen VW, Penson DF, and Barocas DA. Racial variation in patient-reported outcomes following treatment for localized prostate cancer: Results from the CEASAR study. *Eur Urol*, 72(2), 2017. PMID: 27816300. PMCID: PMC5413424.
85. Goff LW, Cardin DB, Whisenant JG, Du L, **Koyama T**, Dahlman KB, Salaria SN, Young RT, Ciombor KK, Gilbert J, Smith SJ, Chan E, and Berlin J. A phase I trial investigating pulsatile erlotinib in combination with gemcitabine and oxaliplatin in advanced biliary tract cancers. *Invest New Drugs*, 35(1), 2017. PMID: 27853997. PMCID: PMC5306261.
86. Eifler JB, Alvarez J, **Koyama T**, Conwill RM, Ritch CR, Hoffman KE, Resnick MJ, Penson DF, and Barocas DA. More judicious use of expectant management for localized prostate cancer during the last 2 decades. *J Urol*, 197(3 Pt 1), 2017. PMID: 27984110. PMCID: PMC5315642.
87. Rapoport Y, Freeman T, **Koyama T**, Engelhardt BG, Jagasia M, Savani BN, Tran U, and Kassim AA. Validation of international chronic ocular graft-versus-host disease (GVHD) group diagnostic criteria as a chronic ocular GVHD-specific metric. *Cornea*, 36(2), 2017. PMID: 28060078.
88. Russell DW, Janz DR, Emerson WL, May AK, Bernard GR, Zhao Z, **Koyama T**, and Ware LB. Early exposure to hyperoxia and mortality in critically ill patients with severe traumatic injuries. *BMC Pulm Med*, 17(1), 2017. PMID: 28158980. PMCID: PMC5291954.
89. Lang MF, Tyson MD, Alvarez JR, **Koyama T**, Hoffman KE, Resnick MJ, Cooperberg MR, Wu XC, Chen V, Paddock LE, Hamilton AS, Hashibe M, Goodman M, Greenfield S, Kaplan SH, Stroup A, Penson DF, and Barocas DA. The influence of psychosocial constructs on the adherence to active surveillance for localized prostate cancer in a prospective, population-based cohort. *Urology*, 103, 2017. PMID: 28189554. PMCID: PMC5410889.

90. Charoenpitakchai M, Liu E, Zhao Z, **Koyama T**, Huh WJ, Berlin J, Hande K, Walker R, and Shi C. In liver metastases from small intestinal neuroendocrine tumors, SSTR2A expression is heterogeneous. *Virchows Arch*, 470(5), 2017. PMID: 28213807. PMCID: PMC5623953.
91. Barocas DA, Alvarez J, Resnick MJ, **Koyama T**, Hoffman KE, Tyson MD, Conwill R, McCollum D, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hashibe M, Kaplan SH, Paddock LE, Stroup AM, Wu XC, and Penson DF. Association between radiation therapy, surgery, or observation for localized prostate cancer and patient-reported outcomes after 3 years. *JAMA*, 317(11), 2017. PMID: 28324093. PMCID: PMC5782813.
92. Zhao Z, Wickersham N, Kangelaris KN, May AK, Bernard GR, Matthay MA, Calfee CS, **Koyama T**, and Ware LB. External validation of a biomarker and clinical prediction model for hospital mortality in acute respiratory distress syndrome. *Intensive Care Med*, 43(8), 2017. PMID: 28593401.
93. Ark JT, Alvarez JR, **Koyama T**, Bassett JC, Blot WJ, Mumma MT, Resnick MJ, You C, Penson DF, and Barocas DA. Variation in the diagnostic evaluation among persons with hematuria: Influence of gender, race and risk factors for bladder cancer. *J Urol*, 198(5), 2017. PMID: 28655530. PMCID: PMC5827951.
94. Abana CO, Bingham BS, Cho JH, Graves AJ, **Koyama T**, Pilarski RT, Chakravarthy AB, and Xia F. Il-6 variant is associated with metastasis in breast cancer patients. *PLoS One*, 12(7), 2017. PMID: 28732081. PMCID: PMC5521838.
95. Avulova S, Zhao Z, Lee D, Huang LC, **Koyama T**, Hoffman KE, Conwill RM, Wu XC, Chen V, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hashibe M, Paddock LE, Stroup A, Resnick MJ, Penson DF, and Barocas DA. The effect of nerve sparing status on sexual and urinary function: 3-year results from the CEASAR study. *J Urol*, 2017. PMID: 29253578.
96. Tyagi P, Motley SS, **Koyama T**, Kashyap M, Gingrich J, Yoshimura N, and Fowke JH. Molecular correlates in urine for the obesity and prostatic inflammation of BPH/LUTS patients. *Prostate*, 78(1), 2018. PMID: 29080225. PMCID: PMC5716834.
97. McAlister RK, Aston J, Pollack M, Du L, **Koyama T**, and Chism DD. Effect of concomitant phosphate-elevating medications with pazopanib on progression-free survival and overall survival in patients with metastatic renal cell carcinoma. *Oncologist*, 2018. PMID: 29487220.
98. Tyson MD 2nd, **Koyama T**, Lee D, Hoffman KE, Resnick MJ, Wu XC, Cooperberg MR, Goodman M, Greenfield S, Hamilton AS, Hashibe M, Paddock LE, Stroup A, Chen V, Conwill R, McCollum D, Penson DF, and Barocas DA. Effect of prostate cancer severity on functional outcomes after localized treatment: Comparative effectiveness analysis of surgery and radiation study results. *Eur Urol*, 2018. PMID: 29501451.

## B. Extramural Seminars and Presentations

### Invited presentations

1. A calculus for design of two-stage adaptive procedures. *Workshop on Adaptive Designs*. The Fields Institute, Toronto, Ontario, Canada. September 25-27, 2003.

2. A flexible method for design of two-stage adaptive procedures. *Meisei University*, Tokyo, Japan. December 15, 2003.
3. Two-stage adaptive procedures for simultaneously testing noninferiority and superiority. *American Statistical Association Middle Tennessee Chapter Meeting*. Nashville, TN. February 27, 2004.
4. Proper inference from Simon's two-stage designs. *Conference and Celebration for Leon Gleser and Tom Savits*. Department of Statistics, University of Pittsburgh. Pittsburgh, PA. May 5-6, 2006.
5. Applications of adaptive designs. *The 2006 Japanese Joint Statistical Meeting*. Sendai, Japan. September 7, 2006.
6. Applications of adaptive designs in phase II clinical trials. *Tokai Medical Association*, Isehara, Japan. September 11, 2006.
7. Miscellaneous topics in probability. *American Statistical Association Middle Tennessee Chapter Meeting*. Nashville, TN. October 27, 2006.
8. Inference from general adaptive designs. *Grants-in-Aid Conference on Applications of Multiple Decision Making in Clinical Drug Development*. Kobe, Japan. February 27-28, 2007.
9. Flexible designing of a two-stage adaptive procedures. *Targeted Designs for Clinical Trials*. Philadelphia, PA. July 19-20, 2007.
10. Bayesian statistics in academics in the United States. *Bayesian Statistics and the Future of Clinical Trials*. StatCom Company Fifth Anniversary Symposium, Tokyo, Japan. December 5, 2008.
11. Fundamentals of adaptive designs. *Forum for Antineoplastic Agent Development*. Japanese Foundation for Cancer Research. Tokyo, Japan. June 18, 2011.
12. The prudent statistician's guide to two-stage designs. *Public Health & Preventive Medicine Grand Rounds*. Knit Cancer Institute, Oregon Health Science & Science University. Portland, OR. December 19, 2013.
13. Statistical considerations for dose finding phase I clinical trials: a scientific reviewer's perspective. *Tokai Medical Association*, Isehara, Japan. July 10, 2014.
14. Rigorous statistics for basic and clinical sciences. *Division of Mathematical Sciences*, Osaka University, Osaka, Japan. July 16, 2014.
15. Statistics in phase I clinical trials. *University of Osaka*, Osaka, Japan. July 16, 2014.
16. Statistical considerations for dose finding phase I clinical trials. *Department of Statistics, National Cheng Kung University*, Tainan, Taiwan. September 9, 2014.

#### Contributed Presentations

17. Flexible designing of two-stage adaptive procedures. *ENAR Spring Meeting*. Pittsburgh, PA. March 28-31, 2004.



18. Combinations of two-stage designs for testing multiple treatments in phase II cancer trials. *ENAR Spring Meeting*. Austin, TX. March 20 -23, 2005.
19. Significant design components in general two-stage adaptive procedures. *Joint Statistical Meeting*. Minneapolis, MI. August 7-11, 2005.
20. Pitfalls of simplistic normalization in basic science experiments. *Joint Statistical Meeting*. Vancouver, BC, Canada. July 29-August 5, 2010.

#### Contributed Posters

21. Two-stage procedures for simultaneously testing noninferiority and superiority. *Midwest Biopharmaceutical Statistical Workshop*. Muncie, IN. May 24-26, 2004.

#### C. Intramural Seminars and Presentations at Vanderbilt

1. Two-stage adaptive procedures for simultaneously testing noninferiority and superiority. *Biostatistics Seminar*. Department of Biostatistics. February, 2004.
2. General two-stage adaptive designs in phase III clinical trials. *Biostatistics Seminar*. Department of Biostatistics. February, 2005.
3. Proper inference from Simon's two-stage designs. *Biostatistics Seminar*. Department of Biostatistics. February, 2007.
4. Miscellaneous topics in probability and statistics. *Cancer Biostatistics Center Luncheon*. November, 2007
5. Bayesian biostatistics. *Cancer Biostatistics Center Luncheon*. March, 2008
6. *T*-test on fold changes. *Biostatistics Seminar*. Department of Biostatistics. June, 2010.

#### RESEARCH PROGRAMS<sup>1</sup>

---

**R21 DK069527** (Bhowmick) 09/30/2003 - 08/31/2008  
 NIDDKD Role: Co-investigator  
 TGF $\beta$  Signaling in the Bladder Stroma

The major goal of this project is to explore the TGF $\beta$ -mediated signals in the stroma that mediate bladder estrogen and androgen responsiveness associated with bladder stromal hyperplasia.

**5P50 CA090949** (Carbone) 09/01/2003 - 03/31/2012  
 NIH/NCI Role: Co-investigator  
 SPORE in lung cancer

The major goal of this project is to investigate the molecular features of tumors or tumor-host interactions to identify targets for intervention and improve outcomes for lung cancer patients.

**5K24 CA080908** (Carbone) 09/01/2003 - 05/31/2005  
 NIH/NCI Role: Co-investigator  
 Molecular therapeutics of cancer

<sup>1</sup>The list includes some grants to which Dr. Koyama has contributed though the efforts have subsequently been transferred to other members of the Department of Biostatistics and Center for Quantitative Sciences.

The major goal of this project is to enable the partnering of premiere institutions based in the Lung Cancer SPORE program to determine how the information derived from comprehensive molecular analyses can be used to improve patient care and outcomes.

**2U01 CA099177** (Rothenberg) 12/01/2003 - 02/28/2009  
NCI Role: Co-investigator

Vanderbilt phase I translational research program

The major goal of this project is to conduct early-phase, dose-ranging trials of new anticancer agents to characterize their toxicity, pharmacology, and effects on molecular targets.

**5P01 CA077839** (DuBois) 05/01/2004 - 04/30/2010  
NIH/NCI Role: Co-investigator

Mechanisms for chemoprevention of cancer

The major goal of this project is to determine the molecular mechanisms involved in the chemoprevention of cancer by NSAIDs.

**5R01 CA108646** (Bhowmick) 08/01/2004 - 05/31/2010  
NCI Role: Co-investigator

TGF $\beta$  signals in prostate stromal-epithelial interactions

The major goal of this project is to specifically identify the TGF $\beta$ -mediated signals in the stroma that mediate prostate androgen responsiveness.

**W81XWH-04-1-0867** (Hayward) 09/10/2004 - 09/14/2007  
DOD Role: Co-investigator

An Myc-driven *in vivo* model of human prostate cancer

The major goal of this project is to develop a novel *in vivo* model of human prostate cancer based upon overexpression of the cMyc proto-oncogene.

**AICR** (Fowke) 02/01/2005 - 01/31/2007  
American Institute for Cancer Research Role: Co-investigator

Effects of brassica or indole-3-carbinol in prostatectomy patients with PSA recurrence

The major goal of this project is to determine the effect of a diet rich in Brassica vegetables, or a non-nutrient diet supplement containing the Brassica-derived chemical believed to be biologically active, on PSA velocity.

**U01 HL081332** (Ware) 08/12/2005 - 06/30/2010  
NHLBI Role: Co-investigator

Biomarker profiles in the diagnosis/prognosis of ARDS

The major goal of this project is to utilize a multi-disciplinary clinical proteomics approach to identify biomarkers for the diagnosis and prognosis of acute respiratory distress syndrome (ARDS).

**5U01 CA114771** (Carbone) 09/30/2005 - 05/31/2011  
NCI Role: Co-investigator

Molecular signature of lung cancer (SPECS)

The major goal of this project is to evaluate the potential clinical usefulness of several molecular signatures already developed using a variety of molecular analysis technologies, including DNA, RNA, and protein-based technologies addressing both diagnostic and predictive signatures.

**LAF Research Award** (Matthews) 01/01/2006 - 12/31/2007  
Lance Armstrong Foundation Role: Co-investigator

Exercise intervention for chemotherapy-related cognitive dysfunction

The major goal of this project is to investigate the effects of exercise on chemotherapy-related cognitive dysfunction.

**2R01 CA106176** (El-Rifai) 03/20/2006 - 06/30/2008  
NCI Role: Co-investigator

Biomarkers in Barrett's tumorigenesis

The major goal of this project is to discover novel diagnostic and/or prognostic molecular markers for Barrett's carcinomas.

**2005 Research Reward** (Fowke) 04/01/2006 - 03/31/2008  
Prostate Cancer Foundation Role: Co-investigator

Glitazones and prostate cancer risk in a large cohort of men with type II diabetes

The major goal of this project is to determine the duration of glitazone use, age at use, and most effective glitazone associated with reduced prostate cancer risk.

**P50 GM015431** (Oates) 07/03/2006 - 06/30/2011  
NIH/NIGMS Role: Biostatistician

Research center for pharmacology and drug toxicology

The major goal of this project is to support research related to eicosanoid biology and pharmacology.

**R01 EB006193** (Dawant) 05/01/2007 - 02/28/2011  
NIBIB Role: Co-investigator

Autosegmentation for head and neck radiotherapy planning

The major goal of this project is to develop, implement, and test the methodology required to automate the segmentation of structures in the treatment of patients with intracranial and head-and-neck cancers.

**VUMC Discovery Grant** (Koyama) 07/01/2007 - 06/30/2009  
VUMC Role: Principal investigator

Proper inference from a Simon's design when the sample size is changed

The major goal of this project is to develop a new analysis method that will compute a more accurate or proper p-value and confidence intervals for two-stage clinical trials.

**5P30 DK058404** (Polk) 08/30/2007 - 05/31/2017  
NIDDKD Role: Core leader

Molecular and cellular basis of digestive diseases

The major goal of this project is to investigate the molecular and cellular mechanisms responsible for digestive diseases.

**5R01 HL088263** (Ware) 02/01/2008 - 01/31/2013  
NHLBI Role: Co-investigator

Treatment of pulmonary edema in organ donors

The major goal of this project is to determine whether administration of an aerosolized beta-2 agonist in brain-dead organ donors will improve: 1) donor oxygenation by enhancing clearance of pulmonary edema and 2) donor lung procurement rates.

**5R01 HD059253** (Malow) 04/01/2008 - 03/31/2010  
NINDS Role: Co-investigator

Melatonin for sleep in children with autism: safety, tolerability, and dosing

The major goals of this project are to optimize the intervention strategy for administering supplemental melatonin in children with asd; characterize the pharmacokinetic profile of supplemental melatonin; and pilot a group of behavioral and parental stress scales in preparation for an rct.

**5R01 CA077955** (Peek) 06/01/2008 - 03/31/2013

NCI Role: Co-investigator

H. Pylori relationship to digestive diseases and cancer

The major goal of this project is to define mechanisms through which h. pylori induce epithelial responses with carcinogenic potential.

**5R01 CA093999** (El-Rifai) 07/01/2008 - 04/30/2013

NCI Role: Co-investigator

Gene amplification and overexpression at 17q in gastric cancer

The major goal of this project is to investigate the prevalence of 17q alterations in gastric cancer and identify critical changes at this chromosomal region.

**5P50 CA098131** (Arteaga) 09/11/2008 - 05/31/2013

NCI Role: Co-investigator

SPORE in breast cancer

The major goal of this project is to address basic, clinical, and population research questions in breast cancer.

**5R01 CA095405** (Mahadevan-Jansen) 09/19/2008 - 07/31/2013

NCI Role: Co-investigator

Diagnosis of cervical precancers using raman spectroscopy

This project aims to assess the validity of the hypothesis that Raman spectroscopy can provide differential diagnosis of cervical precancers from inflammation, squamous metaplasia and normal areas of the cervix.

**5P50 CA128323** (Gore) 09/22/2008 - 08/31/2013

NIH/NCI Role: Co-investigator

Vanderbilt *in vivo* cellular and molecular imaging center

The major goal of this project is to establish a new In Vivo Cellular and Molecular Imaging Center at Vanderbilt University which will be dedicated to highly innovative molecular imaging studies of cancer biology of direct relevance and translational potential to clinical cancer care.

**5P01 CA116087** (Peek) 01/01/2009 - 12/31/2018

NCI Role: Co-investigator

H. Pylori-induced inflammation and gastric cancer

The major goal of this project is to delineate the molecular signaling events initiated by H. pylori: epithelial cell contact that regulates phenotypes related to gastric carcinogenesis.

**DOD PC081246** (Bhowmick) 04/01/2009 - 03/31/2012

DOD Role: Co-investigator

Regulation and function of cytokines that predict prostate cancer metastasis

The major goal of this project is to identify the biologic role of specific chemokines shown to predict biochemical prostate cancer recurrence following prostatectomy.

**5R01 DK081134** (Yan) 04/01/2009 - 03/31/2014

NIDDKD Role: Biostatistician

Probiotics-derived soluble proteins regulate intestinal inflammation

The major goals of this project are to investigate the relationships between p40 and intestinal cell survival, inflammation, and apoptosis.

**5R01 CA131225** (El-Rifai) 06/01/2009 - 04/30/2014

NCI Role: Co-investigator

The role of Aurora Kinase A in upper gastrointestinal adenocarcinomas

The major goal of this project is to characterize the role of AURKA in GEC tumorigenesis to identify its biological, clinical, diagnostic, and prognostic value.

**2R01 DK056008** (Polk) 08/01/2009 - 07/31/2014

NIDDK Role: Co-investigator

Cytokine regulation of intestinal epithelial restitution

The major goal of this project is to characterize the role of the TNFRs in regulating intestinal epithelial cells in health and after injury.

**5R01 CA133738** (El-Rifai) 08/13/2009 - 07/31/2012

NCI Role: Co-investigator

The role of t-Darpp in upper gastrointestinal adenocarcinomas

The major goals of this project are to determine the effects of t-Darpp expression on trastuzumab resistance, to investigate the mechanism(s) by which t-Darpp regulates apoptosis, and to determine the molecular signaling targets of t-Darpp.

**7R01 CA114524** (Penson) 09/25/2009 - 07/31/2011

NCI Role: Co-investigator

Race, comorbidity, long-term prostate cancer outcomes

The major goal of this project is to explore the relationships among race, comorbidity, and long-term prostate cancer outcomes.

**5R01 CA106176** (El-Rifai) 04/01/2010 - 03/31/2011

NCI Role: Co-investigator

Molecular pathobiology of Barrett's tumorigenesis

The major goal of this project is to discover novel diagnostic and/or prognostic molecular markers for Barrett's carcinomas.

**5R01 CA142565** (Yankeelov) 05/01/2010 - 04/30/2015

NCI Role: Co-investigator

PET-MRI for assessing treatment response in breast cancer clinical trials

The major goal of this project is to provide the breast cancer community with practical data acquisition and analysis protocols that facilitate the translation of advanced imaging technologies into clinical practice.

**5R01 DK087962** (Fowke) 07/01/2010 - 06/30/2014

NIDDK Role: Co-investigator

Biomarkers of obesity, prostate tissue inflammation, and BPH progression

The major goal of this project is to investigate the molecular/cellular and clinical associations among obesity, prostate inflammation, and prostate hyperplasia.

**1R01 HS022640** (Penson) 09/30/2013 - 09/29/2018

AHRQ -CHOICE Role: Co-investigator

Comparative effectiveness of treatments for localized prostate cancer

The major goals of this project are to compare the effectiveness and harms of contemporary surgery, radiation, and AS, to identify patient-level characteristics that influence the comparative effectiveness and harms of treatment, and to evaluate the association of quality of care with clinical and patient-reported outcomes.

**1R01 CA143094** (Lynch) 07/01/2010 - 6/30/2015

NIH Role: Co-investigator

Host MMP-mediated regulation of the vicious cycle of prostate to bone metastases

The major goal of this project is to investigate how individual matrix metalloproteinases (MMPs) expressed by the host facilitate the metastasis of prostate cancer to bone by regulating the bioactivity and bioavailability of various growth factors and cytokines.

**5R21 AR062880** (Archer-Swygert) 04/20/2012 - 03/31/2014

NIAMS Role: Co-investigator

Cognitive-behavioral based physical therapy: improving surgical spine outcomes

The major goal of this project is to study the efficacy of a brief cognitive-behavioral based PT (CBPT) intervention in patients at-risk for poor outcomes following lumbar spine surgery for degenerative conditions.

**1P20 DK097782** (Hayward) 09/29/2012 - 07/31/2014

NIDDK Role: Co-investigator

Obesity, inflammation, and resistance to BPH

This project aims to determine the role of obesity in the development of benign prostatic hyperplasia (BPH).

**1R03 CA173812** (Barocas) 01/01/2013 - 12/31/2014

NCI Role: Co-investigator

Trends in surveillance for localized prostate cancer and barriers to its use

The major goal of this project is to identify differences in the patient and disease characteristics among men with prostate cancer who chose surveillance from two eras (1990's and 2010's).

**1R03 CA173807** (Barocas) 01/01/2013 - 12/31/2014

NCI Role: Co-investigator

The quality of care in evaluating patients suspected of having bladder cancer

This project aims to determine the current quality of evaluation of patients with hematuria, identify racial variation in the timely and complete evaluation of hematuria and determine the underlying reasons for such variation.

**IRG 58-009-53** (Esbenshade) 01/01/2013 - 12/31/2013

ACS-IRG Role: Co-investigator

ALL-Active: A family-based lifestyle program for pediatric acute leukemia patients

The major goal of this project is to develop a feasible and acceptable family-based nutrition and exercise intervention for overweight or overweight at risk patients during the maintenance phase of the ALL therapy, which can be further tested for efficacy in a larger scale randomized clinical trial.

**1R21 HL117676** (Bastarache) 04/01/2013 - 03/31/2015

NHLBI Role: Co-investigator

Free hemoglobin potentiates pulmonary vascular dysfunction in acute lung injury

The major goal of this project is to determine whether free hemoglobin is an important determinant of pulmonary vascular dysfunction in clinical ALI/ARDS.

- 5R21 HL112656** (Ware) 05/01/2013 - 04/30/2014  
 NHLBI Role: Co-investigator  
 Inflammatory and epithelial injury  
 The major goal of this project is to validate SP-D and IL-8 as predictors of clinical outcome in 888 patients enrolled in the NHLBI ARDS Network Fluid and Catheter Treatment Trial (FACTT).
- VUMC 41268 / CE-12-11-4667** (Penson) 09/01/2013 - 08/31/2016  
 PCORI Role: Co-investigator  
 Generating critical patient-centered information for decision making in localized prostate cancer  
 The major goal of this project is to better align clinical decision-making with individual patient values and preferences and inform patient choice of healthcare providers based on the quality of care provided.
- 1K23 NS091524-01** (Patel) 04/01/2015 - 03/31/2020  
 NINDS Role: Co-investigator  
 DASH (Decreasing Adrenergic or Sympathetic Hyperactivity) after TBI study  
 The major goals of this project are to determine the effect of adrenergic blockade on short-term ICU outcome after severe TBI, to determine the effect of adrenergic blockade on long-term cognitive and functional outcomes, and to determine the effect of adrenergic blockade on autonomic endpoints after severe TBI.
- Pilot Project** (Ware) 10/01/2013 - 03/31/2015  
 NIH/VUMC Role: Co-investigator  
 VU Center for Molecular Toxicology Pilot Project  
 Funding awarded by the Vanderbilt University Center for Molecular Toxicology (NIEHS P30 ES000267).
- 1R01 HL126176-01** (Ware) 12/01/2014 - 11/30/2019  
 NHLBI Role: Co-investigator  
 The GOLD Study: Goal of open lung ventilation in donors  
 The major goal of this project is to determine whether ventilation of organ donors with an OLPV strategy during the donor management period will improve donor lung utilization and oxygenation compared to a conventional higher tidal volume and lower PEEP strategy and to investigate the cellular and molecular mechanisms of human ventilator-associated lung injury.
- W81XWH-15-1-0259** (Fowke) 09/01/2015 - 08/31/2017  
 DOD Role: Co-investigator  
 Magnesium predicts high-grade prostate cancer and a poorer prognosis among black and white men  
 The major goal of this project is to extend our prior epidemiologic analysis of Mg and PC in white men to evaluate the Mg-PC association among black men.
- 5UM1 CA186689-02** (Berlin) 03/01/2014 - 02/28/2019  
 NCI Role: Co-investigator  
 ViKTriY Early clinical trials consortium  
 The ultimate purpose of this project is to define better approaches for the development of novel anticancer agents that capitalize on the ability to characterize tumors molecularly and find appropriate biomarkers to select patients most likely to respond to specific agents.
- 5R01HL126176-02** (Ware) 12/01/2014 - 11/30/2019  
 — Role: Co-investigator  
 The GOLD Study: Goal of Open Lung Ventilation in Donors

The current supply of donor lungs is inadequate to meet the growing demand. Well-designed studies of scientifically compelling donor management strategies are urgently needed to improve the quality and availability of donor lungs. The proposed studies will test a new mechanical ventilator strategy to optimize donor lung function in order to increase utilization of donor lungs for transplantation.

**2K24HL103836-06** (Ware)

6/01/2016 - 5/31/2021

Role: Co-investigator

Midcareer Investigator Award in Patient-Oriented Research in Acute Lung Injury

The overall goal of this application is to provide support for Dr. Ware to continue to build and expand her research and mentoring programs in patient-oriented research in acute respiratory distress syndrome, a common cause of acute lung failure. In addition to providing support for mentoring activities, this award will support new research in the causes of acute respiratory distress syndrome after lung transplantation, the most common cause of death in the acute period after lung transplantation.

\_\_\_\_\_ (Aronoff)

\_\_\_\_\_ Role: Co-investigator

Repurposing misoprostol for clostridium difficile colitis as identified by pheWAS

\_\_\_\_\_ (Hull)

\_\_\_\_\_ Role: Co-investigator

Increasing HPV vaccination in community-based pediatric practices