

Travis A Gerke

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EDUCATION

- 2009 B.A. (Mathematics), University of Florida, Gainesville, FL
- 2009 B.S. (Statistics), University of Florida, Gainesville, FL
- 2011 A.M. (Biostatistics), Harvard University, Cambridge, MA
- 2014 Sc.D. (Epidemiology), Harvard School of Public Health, Boston, MA

ACADEMIC APPOINTMENTS AND EMPLOYMENT

- 2008–2009 Research Assistant, Rehabilitation Outcomes Research Center, Department of Veterans Affairs, Gainesville, FL
- 2011–2012 Statistician I, Department of Epidemiology, Harvard School of Public Health, Boston, MA
- 2012–2013 Graduate Research Assistant in Biostatistics, Dana-Farber Cancer Institute, Boston, MA
- 2012–2014 Graduate Research Assistant in Cancer Epidemiology, Harvard School of Public Health, Boston, MA
- 2014–2016 Assistant Professor, Department of Epidemiology, College of Medicine and College of Public Health and Health Professions, University of Florida, Gainesville, FL
- 2014– Visiting Scientist, Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA
- 2016– Assistant Professor, Department of Oncologic Sciences, Morsani College of Medicine, University of South Florida, Tampa, FL
- 2016– Assistant Member (Secondary Appointment), Department of Genitourinary Oncology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL
- 2016– Assistant Member, Department of Cancer Epidemiology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL

TEACHING

- 2008–2009 Teaching Assistant, Statistics 2023: Introduction to Statistics, Department of Statistics, University of Florida
- 2011 Lab Instructor, Biostatistics 210: The Analysis of Rates and Proportions, Department of Biostatistics, Harvard School of Public Health
- 2013 Instructor, Introduction to Biostatistics and Statistical Programming, Summer Program in Epidemiology, Department of Epidemiology, Harvard School of Public Health
- 2015 Instructor, Epidemiology Methods II (PHC 6011), Department of Epidemiology, University of Florida

2016 Instructor, Measurement in Epidemiology and Outcomes Research (PHC 6711), Department of Epidemiology, University of Florida

TRAINING

Doctoral dissertation committee membership

2014- Molly Buchanan, Department of Sociology and Criminology & Law, University of Florida
2015 Zahra Shekarkhar, Department of Sociology and Criminology & Law, University of Florida
2015-2016 Abenaa Acheampong, Department of Epidemiology, University of Florida
2015- Yuanfang Ren, Department of Computer & Information Science & Engineering, University of Florida

Master's thesis committee membership

2014-2015 Fangyu Su, Department of Epidemiology, University of Florida (Chair)
2014-2015 Chelsea Lutz, Department of Epidemiology, University of Florida (Chair)
2014-2015 Chi Wang, Department of Epidemiology, University of Florida (Chair)
2014-2015 Danmeng Li, Department of Epidemiology, University of Florida

HONORS AND AWARDS

2016 William R. Jones Most Valuable Mentor Award, Florida Education Fund McKnight Doctoral Fellowship Program

RESEARCH SUPPORT

CURRENT

Internal grants

Name of PI: Gerke, Rollison (co-PI)
Dates: 12/01/16 - 06/30/17
Funding Source: Moffitt Innovation Award
Title: Machine learning approaches to identifying cancer recurrence from EMR data.
Funded Effort: 0%
Role in Study: PI
Direct Costs: \$40,000
Award Amount: \$40,000

Contracts

Name of PI: Gerke/Bird/Manini/Prosperi
Dates: 01/01/2016 - 12/31/2017
Funding Source: UF Cancer-Aging Collaborative Team Grant
Title: Endotype discovery in prostate cancer and multi-domain analysis of age-related comorbidities.
Funded Effort: 0%
Role in Study: Co-PI
Direct Costs: \$40,000
Award Amount: \$40,000

PENDING

Contracts

Name of PI: Smith-Warner (Harvard), Egan (MCC)
Dates: 08/01/2017 – 07/31/2021
Funding Source: NIH-NCI/Harvard University
Title: An Investigation of Glioma Risk Factors in an International Consortium of Cohort Studies
Funded Effort: 10%
Role in Study: Co-Investigator, Subcontract
Direct Costs: \$445,711
Award Amount: \$766,623

COMPLETED FUNDING

Internal grants

Name of PI: Gerke, Kahveci (co-PI)
Dates: 02/15/2015 – 02/14/2016
Funding Source: UF Health Cancer Center Pilot Project Award
Title: Inferring the genetic architecture of gene expression in prostate cancer.
Funded Effort: 0%
Direct Costs: \$60,000
Award Amount: \$60,000

DISSERTATION

Title: Discovering and validating prognostic biomarkers in prostate cancer by focusing on population impact.
Defended: November 12, 2014, Harvard School of Public Health, Boston, MA
Committee: Lorelei Mucci (chair), Giovanni Parmigiani, Meir Stampfer, Christopher Sweeney

SERVICE

Moffitt Cancer Center

2016– Member, Data Documentation and Management Best Practices Task Force. Monthly meetings; 5 hr/month commitment.
2017– Member, Unstructured Data Mining Advisory Group. Monthly meetings; 2 hr/month commitment.

University of Florida

2015–2016 Co-chair, Graduate Admissions Committee, Department of Epidemiology
2015–2016 Member, Epidemiology Faculty Committee, Department of Epidemiology
2015–2016 Member, Seminar Committee, Department of Epidemiology
2015–2016 Member, Cancer Recruitment Committee, Department of Epidemiology
2015–2016 Member, Fundraising Committee, Department of Epidemiology
2015–2016 Member, TLI Advisory Committee, Clinical and Translational Science Institute
2015–2016 Consultant, Biostatistics, Epidemiology and Research Design Program (BERD), Clinical and Translational Science Institute

Profession

- 2011–2013 IRB panel member, Brigham and Women’s Hospital, Boston, MA
2014, 2017 Ad-hoc reviewer, Cancer Medicine
2016 Ad-hoc reviewer, Cancer Epidemiology, Biomarkers & Prevention
2016, 2017 Ad-hoc reviewer, IEEE/ACM Transactions on Computational Biology and Bioinformatics
2016 Member, Scientific Review Committee, The Science of Global Prostate Cancer Disparities Conference, Nov 9-12; Orlando, FL.
2016 Session moderator, Personalized Medicine: From Bench to Bedside to Community; The Science of Global Prostate Cancer Disparities Conference, Nov 9-12; Orlando, FL.
2017 Ad-hoc reviewer, BMC Urology
2015– Co-leader, Computational Patho-Epidemiology Working Group, Transdisciplinary Prostate Cancer Partnership (ToPCaP), Boston, MA

PROFESSIONAL ASSOCIATION MEMBERSHIPS

- 2011– Active member, Transdisciplinary Prostate Cancer Partnership (ToPCaP), Boston, MA
2014– Active member, Prostate Cancer Transatlantic Consortium (CaPTC), Gainesville, FL
2015– Active member, American Association for Cancer Research (AACR)

PEER-REVIEWED PUBLICATIONS

1. **Gerke TA**, Randles RH. A method for resolving ties in asymptotic relative efficiency. *Stat Probabil Lett* 2010; 80:1065–1069.
2. Kachouie NN, **Gerke TA**, Huybers P, Schwartzman A. Nonparametric regression for estimation of spatiotemporal mountain glacier retreat from satellite images. *IEEE Trans Geosci Remote Sens* 2014; 53(3): 1135–1149.
3. Shui IM, Lindström S, Berndt SI, Campa D, **Gerke TA**, Penney KL, Albanes D, Berg C, Bueno-de-Mesquita HB, Chanock S, Crawford ED, Diver WR, Gapstur SM, Gaziano JM, Hoover R, Johansson M, Ma J, Navarro C, Overvad K, Siddiq A, Stampfer MJ, Stevens VL, Travis R, Trichopoulos D, Vineis P, Mucci LA, Yaeger M, Giovannucci EL, Kraft P. Prostate Cancer (PCa) Risk Variants and Risk of Fatal PCa in the National Cancer Institute Breast and Prostate Cancer Cohort Consortium. *Eur Urol* 2014; 65(6): 1069–1075.
4. Bismar TA, Alshalalfa M, Petersen LF, Teng LH, **Gerke TA**, Bakkar A, Al-Mami A, Liu S, Dolph M, Mucci LA, Alhadj R. Interrogation of ERG gene rearrangements in prostate cancer identifies a prognostic 10-gene signature with relevant implication to patients’ clinical outcome. *Brit J Urol Int* 2014; 113(2): 309–319.
5. Penney KL, Sinnott JA, Tyekucheva S, **Gerke TA**, Shui IM, Kraft P, Sesso HD, Freedman M, Loda MF, Mucci LA, Stampfer MJ. Association of prostate cancer risk variants with gene expression in normal and tumor tissue. *Cancer Epidemiol Biomarkers Prev* 2015; 24(1): 255–260
6. Shui IM, Mondul AM, Lindström S, Tsilidis KK, Travis RC, **Gerke TA**, Albanes D, Black A, Berg CD, Bueno-de-Mesquita HB, Gapstur SM, Haiman C, Henderson B, Hoover R, Hunter DJ, Johansson M, Key TJ, Khaw K, Marchand L, Ma J, McCullough ML, Siddiq A, Stampfer M, Stram DO, Stevens VL, Trichopoulos D, Tumino R, Willett W, Ziegler RG, Kühn T, Barricarte A, Tjønneland A, Mucci LA, Giovannucci E, Kraft P. Circulating vitamin D, vitamin D-related genetic variation,

- and risk of fatal prostate cancer in the National Cancer Institute Breast and Prostate Cancer Cohort Consortium. *Cancer* 2015; 121(12): 1949–1956.
7. Sinnott JA, Rider JR, Carlsson J, **Gerke TA**, Tyekucheva S, Penney K, Sesso HD, Loda M, Parmigiani G, Fall K, Stampfer MJ, Mucci LA, Pawitan Y, Andersson S, Andrén O. Molecular Differences in Transition Zone and Peripheral Zone Prostate Tumors. *Carcinogenesis* 2015; 36(6): 632–638.
 8. Rider JR, Fiorentino M, Kelly R, **Gerke TA**, Jordahl K, Sinnott JA, Giovannucci EL, Loda MF, Mucci LA, Finn S. Tumor expression of Adiponectin Receptor 2 and lethal prostate cancer. *Carcinogenesis* 2015; 36(6): 639–647.
 9. Terry RS, **Gerke TA**, Mason JB, Sorenson MD, Joseph JP, Dahm P, Su L. Postoperative rhabdomyolysis following robotic renal and adrenal surgery: a cautionary tale of compounding risk factors. *J Robotic Surg* 2015; 9(3): 195–200.
 10. Martin NE, **Gerke TA**, Sinnott JA, Stack EC, Andrén O, Andersson S, Johansson J, Fiorentino M, Finn S, Fedele G, Stampfer MJ, Kantoff PW, Mucci LA, Loda MF. Measuring PI3K activation: Clinicopathologic, immunohistochemical, and RNA expression analysis in prostate cancer. *Mol Cancer Res* 2015; 13(10): 1431–1440.
 11. **Gerke TA***, Martin NE*, Ding Z, Nuttall E, Stack EC, Giovannucci EL, Lis RT, Stampfer MJ, Kantoff PW, Parmigiani G, Loda MF, Mucci LA. Evaluation of the time-dependent prognostic value of a molecular signature of lethal outcome in prostate cancer. *Prostate* 2015; 75(16): 1926–1933.
 12. Ahearn T, Pettersson A, Ebot EM, **Gerke TA**, Graff R, Morais CL, Hicks J, Wilson KM, Rider JR, Sesso HD, Fiorentino M, Flavin R, Finn S, Giovannucci EL, Loda M, Stampfer MJ, De Marzo AM, Mucci LA, Lotan TL. A prospective investigation of PTEN loss and ERG expression in lethal prostate cancer. *JNCI* 2015; 108(2): pii djv346.
 13. Conboy L, **Gerke TA**, Hsu KY, St John M, Goldstein M, Schnyer R. The effectiveness of individualized acupuncture protocols in the treatment of Gulf War Illness: A pragmatic randomized clinical trial. *PLoS One* 2016; 11(3): e0149161.
 14. Lu D, Sinnott JA, Valdimarsdóttir U, Fang F, **Gerke TA**, Tyekucheva S, Fiorentino M, Lambe M, Sesso HD, Sweeney CJ, Wilson KM, Giovannucci EL, Loda M, Mucci LA, Fall K. Stress-related signaling pathways in lethal and non-lethal prostate cancer. *Clin Cancer Res* 2016; 22(3): 765–772.
 15. Stopsack KH, **Gerke TA**, Sinnott JA, Penney KL, Tyekucheva S, Sesso HD, Andersson S, Andrén O, Cerhan JR, Giovannucci EL, Mucci LA, Rider JR. Cholesterol metabolism and lethal prostate cancer. *Cancer Res* 2016; 76(16): 4785–4790.
 16. Preston MA, Batista JL, Carlsson SV, **Gerke TA**, Sjoberg DD, Dahl DM, Sesso H, Feldman AS, Gann PH, Vickers AJ, Mucci LA. Baseline prostate-specific antigen (PSA) levels in midlife predict lethal prostate cancer. *J Clin Oncol* 2016; 34(23): 2705–2711.
 17. Moore II RA, **Gerke TA**, Bourgoine D, Eamranond PP. Transition coach program implementation associated with thirty-day readmission rates in a community hospital setting. *Arch Community Med Public Health* 2016; 2(1): 022–026. DOI: 10.17352/2455-5479.000012.
 18. Waniga HM, **Gerke TA**, Shoemaker A, Bourgoine D, Eamranond P. The impact of revised discharge instructions on patient satisfaction. *J Patient Experience* 2016; 3(3): 64–68.

19. Sinnott JA, Peisch S, Tyekucheva S, **Gerke TA**, Lis RT, Rider JR, Fiorentino M, Stampfer MJ, Mucci LA, Loda M, Penney KL. Prognostic utility of a new mRNA expression signature of Gleason score. *Clin Cancer Res* 2016; In press: DOI: 10.1158/1078-0432.CCR-16-1245.
20. Kelly RS, Sinnott JA, Rider JR, Ebot E, **Gerke TA**, Bowden M, Pettersson A, Loda M, Sesso H, Kantoff PW, Martin NE, Giovannucci EL, Tyekucheva S, Vander Heiden M, Mucci LA. The role of tumor metabolism as a driver of prostate cancer progression and lethal disease: Results from a nested case-control study. *Cancer Metab* 2016; 4(22): DOI 10.1186/s40170-016-0161-9.
21. Fankhauser CD, Mucci LA, **Gerke TA**. Re: New prostate cancer grading system predicts long-term survival following surgery for Gleason score 8-10 prostate cancer. *Eur Urol* 2016; In press: DOI 10.1016/j.eururo.2017.01.016.
22. Pettersson A*, **Gerke TA***, Fall K, Pawitan Y, Holmberg L, Giovannucci EL, Kantoff PW, Adami H, Rider JR, Mucci LA. The ABC model of prostate cancer: a conceptual framework for the design and interpretation of prognostic studies. *Cancer* 2017; In press: DOI 10.1002/cncr.30582.
23. Zareba P, Flavin R, Isikbay M, Rider JR, **Gerke TA**, Finn S, Pettersson A, Giunchi F, Unger RH, Andersson SO, Giovannucci EL, Andr n O, Fall K, Fiorentino M, Mucci LA. Perineural invasion and risk of lethal prostate cancer. *Cancer Epidemiol Biomarkers Prev* 2017; In press: DOI 10.1158/1055-9965.EPI-16-0237.

CONFERENCE PRESENTATIONS

Martin NE, **Gerke TA**, Loda MF, Stampfer MJ, Finn S, Rider JR, Mucci LA. Tumor adiponectin signaling underlies the association between obesity and lethal outcome in prostate cancer. In: American Association for Cancer Research Annual Meeting: 2012 Mar 31-Apr 4; Chicago, IL.

Zareba P, Pettersson A, **Gerke TA**, Fiorentino M, Flavin R, Rider JR, Giovannucci EL, Finn S, Loda MF, Mucci LA. Immunohistochemical expression of BRCA1 and prostate cancer progression in a large radical prostatectomy cohort. In: 32nd Congress of the Soci t  Internationale d'Urologie: 2012 Sep 30-Oct 4; Fukuoka, Japan.

Shui IM, Lindstr m S, **Gerke TA**, Kraft P. Prostate cancer risk variants and disease progression in the NCI Breast and Prostate Cancer Cohort Consortium. In: Proceedings of the AACR Special Conference on Post-GWAS Horizons in Molecular Epidemiology: Digging Deeper into the Environment: 2012 Nov 11-14; Hollywood, FL.

Gerke TA, Fiorentino M, Choudhury D, Pettersson A, Zareba P, Kantoff P, Loda MF, Finn S, Mucci LA. Molecular markers associated with altered BRCA1 expression in prostate cancer. In: Sixth Annual Prostate Cancer Program Retreat: 2013 Mar 18-20; Fort Lauderdale, FL.

Ahearn TU, Pettersson A, Stack EC, Ma J, **Gerke TA**, Meisner A, Pollak MN, Finn S, Stampfer MJ, Loda M, Giovannucci EL, Mucci LA. The IGF/insulin signaling axis TMPRSS2:ERG and prostate cancer survival. In: American Association for Cancer Research Annual Meeting: 2013 Apr 6-10; Washington, DC.

Schwartzman A, Kachouie NN, Huybers P, **Gerke TA**. Spatiotemporal estimation of mountain glacier retreat. In: American Statistical Association Conference on Statisti-

cal Practice: 2014 Feb 20-22; Tampa, FL.

Preston M, Batista J, Carlsson S, **Gerke T**, Dahl D, Feldman A, Gann P, Vickers A, Stampfer M, Mucci L. Prostate-specific antigen (PSA) levels in men <60 years of age predicts lethal prostate cancer. In: American Urological Association Annual Meeting: 2014 May 16-21; Orlando, FL.

Gerke T, Tyekucheva S, Penney K, Sweeney C, Lis R, Nuttall I, Loda M, Stampfer M, Parmigiani G, Mucci L. Discovering a gene expression signature of prostate cancer prognostication by focusing on indolent tumors. In: American Urological Association Annual Meeting: 2014 May 16-21; Orlando, FL.

Gerke T. Bioinformatics 101: Big data's role in addressing prostate cancer disparities. In: The Third Biennial Science of Global Prostate Cancer Disparities in Black Men: 2014 Nov 5-8; Montego Bay, Jamaica.

Gerke T, Tyekucheva S, Penney K, Sweeney C, Lis R, Sesso H, Nuttall E, Loda M, Stampfer M, Parmigiani G, Mucci L. Discovery and validation of a 30-gene expression signature to identify prostate cancer patients who are candidates for active surveillance. In: Genitourinary Cancers Symposium: 2015 Feb 26-28; Orlando, FL.

Kelly RS, Sinnott JA, Rider JR, Ebot E, **Gerke TA**, Penney KL, Bowden M, Pettersson A, Loda M, Stampfer M, Kantoff PW, Martin NE, Giovannucci EL, Tyekucheva S, Vander Heiden M, Mucci LA. Tumor metabolism as a driver of lethal prostate cancer. In: AACR Special Conference, Metabolism and Cancer: 2015 June 7-10; Bellevue, WA.

Ebot EM, **Gerke T**, Tyekucheva S, Labbé DP, Zadra G, Kelly RS, Bowden M, Rider JR, Wilson KM, Martin NE, Brown M, Vander Heiden MG, Giovannucci EL, Loda M, Mucci LA. Identifying obesity-linked gene expression changes in prostate cancer. In: AACR Special Conference, Metabolism and Cancer: 2015 June 7-10; Bellevue, WA.

Stopsack KH, **Gerke T**, Cerhan JR, Mucci LA, Rider JR. Increased cholesterol synthesis via squalene monooxygenase to predict lethal prostate cancer. In: Genitourinary Cancers Symposium: 2016 Jan 7-9; San Francisco, CA.

Wilson KM, **Gerke T**, Ebot E, Sinnott JA, Rider JR, Mucci LA. Differential gene expression in prostate tissue according to vasectomy. In: Genitourinary Cancers Symposium: 2016 Jan 7-9; San Francisco, CA.

Rider JR, Wilson KM, **Gerke T**, Ebot E, Sinnott JA, Mucci LA. Differential gene expression in prostate tissue according to sexual behaviors. In: American Urological Association Annual Meeting: 2016 May 6-10; San Diego, CA.

Preston M, Wilson K, **Gerke T**, Carlsson S, Sjoberg D, Kibel A, Trinh Q, Signorello L, Steinwandel M, Vickers A, Lilja H, Mucci L. Baseline prostate-specific antigen (PSA) levels in midlife predict total and aggressive prostate cancer in African-American men. In: American Urological Association Annual Meeting: 2016 May 6-10; San Diego, CA.

INVITED SEMINARS

- 2009 A method for resolving ties in asymptotic relative efficiency. Undergraduate Research Symposium, University of Florida.
- 2010 Spatial design and geometry with applications in environmental statistics. Department

- 2011 of Biostatistics Summer Project Presentation Series, Harvard School of Public Health. Estimation of mountain glacier retreat via analysis of satellite imagery. Environmental Statistics Seminar Series, Harvard School of Public Health.
- 2012 Gene expression data management and analysis pipeline: an applied example. Bioinformatics Working Group, Channing Division of Network Medicine.
- 2012, 2013 IRB panels and ethics in human subjects research. Undergraduate Seminar in Ethics, Values, and Diversity, Northeastern University.
- 2013 Epidemiologic methods for case-control studies of gene expression. Cancer Epidemiology Fellows Seminar, Harvard School of Public Health.
- 2015 Understanding molecular cancer research. Alachua County Prostate Cancer Alliance.
- 2015 Building clinically useful prognostic models from high-dimensional feature spaces by focusing on partial AUC. University of Florida Department of Statistics Seminar Series.
- 2015 Computational approaches to the challenge of molecular discovery in prostate cancer. University of Florida Health Cancer Center Seminar Series.
- 2016 Designing molecular epidemiology studies. University of Florida Biostatistics, Epidemiology and Research Design (BERD) Studio.
- 2016 Leveraging big data resources to understand public health disparities. Translational Research and Therapeutics: Bench, Bedside, Community, & Policy; University of Florida course GMS 7593.
- 2017 Confounding. Moffitt Cancer Center Population Science Seminar Series for Research Staff.

SOFTWARE DEVELOPMENT

Barr CD, **Gerke TA**, Diez DM. `voronoi`: Methods and applications related to Voronoi tessellations. R package 2011; version 1.0.

OTHER EDUCATION

Frontiers in Causal Inference Workshop: 2012 March 23-24; Harvard University, Cambridge, MA.

AACR Workshop on Integrative Molecular Epidemiology: 2016 August 5-9; Boston, MA.