

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.  
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NAME Manisha Desai, PhD		POSITION TITLE Clinical Associate Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) DESAIM			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Boston University, Boston Massachusetts	BA	1993	Mathematics
Boston University, Boston Massachusetts	MA	1993	Mathematics
University of Washington, Seattle, WA	MS	1997	Biostatistics
University of Washington, Seattle, WA	PhD	2000	Biostatistics

**A. Personal Statement**

As director of the Quantitative Sciences Unit (QSU) in the Department of Medicine at Stanford University, I am well qualified to provide statistical support for this project in the role of statistical mentor. My statistical expertise is diverse and includes work on both observational and experimental studies in the areas of cancer, oral health, psychiatric epidemiology, and cystic fibrosis to name a few. Currently, much of my collaborative focus is on large complex observational studies with application to cardiovascular health and chronic kidney disease.

The QSU is a new biostatistical unit created largely for the purpose of providing the statistical infrastructure for large-scale research projects. Prior to my appointment at Stanford in July 2009, I was a member of the faculty in the Department of Biostatistics at Columbia University from 2000 to 2009, where I advised students, mentored junior faculty and collaborated with investigators at the Herbert Irving Comprehensive Cancer Center in the design and analysis of studies. My collaborations were largely with investigators in the Genitourinary Malignancies Program (GUMP), the Cancer Epidemiology Program (CEP), and the Prevention and Disparities Program (PDP). As part of my work with the PDP, I directed the Biostatistics Core for a U54 Partnership grant with Long Island University, where the goal was to study cancer-related issues in the Caribbean population. The core supported approximately 11 active projects that were diverse in topic as well as statistical need. A major role of the Biostatistics Core was to provide mentoring and training for fellows and junior faculty in research methods. In my current position at Stanford, I direct the analytic center of the western regional center for the Women's Health Initiative. In addition to my collaborations in the Divisions of Nephrology and Cardiovascular Medicine, I have been involved in studies investigating patterns of breast cancer care, the etiology of chronic fatigue syndrome, and the comparative effectiveness of HIV therapies on cardiovascular outcomes. The areas of my statistical expertise are also varied. They include the design of clinical trials, methods for analyzing high throughput data, missing data, the modeling of correlated data, and methods for analyzing epidemiologic studies.

**B. Positions and Honors****Positions and Employment**

2000-2009	Assistant Professor of Clinical Biostatistics, Columbia University, New York, NY
1/2009-6/2009	Associate Professor of Clinical Biostatistics, Columbia University, New York, NY
7/2009-	Clinical Associate Professor, Medicine, General Medical Disciplines, Stanford University, Palo Alto, CA
3/1/2011-	Clinical Associate Professor, Health Research & Policy – Biostatistics, Stanford University, Palo Alto, CA

**Honors**

- 1993 Phi Beta Kappa National Honor Society, Boston University, Boston, MA  
Distinction in Statistics, Boston University, Boston, MA  
Magna Cum Laude, Boston University, Boston, MA  
Golden Key National Honor Society, Boston University, Boston, MA  
Pi Mu Epsilon National Mathematics Honor Society, Boston University, Boston, MA
- 1994-1995 NIEHS Predoctoral Biostatistics Training Grant, University of North Carolina at Chapel Hill, NC
- 1996-1997 NIH Predoctoral Public Health Training Grant, University of Washington, Seattle, WA
- 1997-1998 NIH Predoctoral Genetic Events Training Grant, University of Washington, Seattle, WA
- 1998-2000 NIH Predoctoral Cancer Epidemiology Training Grant, University of Washington, Seattle, WA
- 2002-2003 Calderone Junior Faculty Achievement Prize, Columbia University, New York, NY

### C. Publications (selected from a total of XX)

#### Most relevant to the current application

#### Additional recent publications of importance to the field (in chronological order)

1. Liu PY, LeBlanc M, Desai M. False-positive rates for randomized phase II designs. *Control Clin Trials*. 1999 Aug;20(4):343-352. [PMID: 10440561]
2. Carr DB, McDonald GB, Brateng D, Desai M, Thach CT, Easterling TR. The relationship between hemodynamics and inflammatory activation in women at risk for preeclampsia. *Obstet Gynecol*. 2001 Dec;98(6):1109-16. [PMID: 11755562]
3. Lam JS, Desai M, Mansukhani MM, Benson MC, Goluboff ET. Is Hispanic race an independent risk factor for pathological stage in patients undergoing radical prostatectomy? *J Urol*. 2003 Dec;170 (6 Pt 1):2288-2291. [PMID: 14634398]
4. Weisberg SP, McCann D, Desai M, Rosenbaum M, Leibel RL, Ferrante AW Jr. Obesity is associated with macrophage accumulation in adipose tissue. *J Clin Invest*. 2003 Dec;112(12):1796-808. [PMID: 14679176]
5. Goetzl MA, Desai M, Mansukhani M, Goluboff ET, Katz AE, Sawczuk IS, Benson MC, Olsson CA, McKiernan JM. Natural history and clinical outcome of sporadic renal cortical tumors diagnosed in the young adult. *Urology*. 2004 Jan;63(1):41-45. [PMID: 14751345]
6. Opler M, Brown A, Babulas V, Graziano J, Desai M, Zheng W, Schaefer C, Factor-Litvak P, Susser E. Prenatal Lead Exposure, d- Aminolevulinic Acid, and Schizophrenia. *Environ Health Perspect*. 2004 Apr;112 (5):548-552. [PMID: 15064159]
7. Bemis DL, Capodice JL, Desai M, Buttyan R, Katz AE. A concentrated aglycone isoflavone preparation (GCP) that demonstrates potent anti-prostate cancer activity in vitro and in vivo. *Clin Cancer Res*. 2004 Aug 1;10(15):5282-92. [PMID: 15297432]
8. Chen AC, MacChia RJ, Conway F, Magai C, Desai M, Neugut AI. Prostate-specific antigen, sex steroid hormones, and the insulin-like growth factor axis in U.S.-born, Jamaican, and Haitian black men: a pilot study. *Urology*. 2004 Sep;64(3):522-527. [PMID: 15351583]
9. Lam JS, Sclar JD, Desai M, Mansukhani MM, Benson MC, Goluboff ET. Is Hispanic race an important predictor of treatment failure following radical prostatectomy for prostate cancer? *J Urol*. 2004 Nov;172(5 PT 1):1856-9. [PMID: 15540738]
10. Desai M, Emond MJ. A new mixture model approach to analyzing allelic-loss data using Bayes factors. *BMC Bioinformatics*. 2004 Nov 24;5:182. [PMID: 15563371]
11. Gorin SS, Ashford AR, Lantigua R, Hossain A, Desai M, Troxel A, Gemson D. Effectiveness of academic detailing on breast cancer screening among primary care physicians in an underserved community. *J Am Board of Fam Med*. 2006 Mar-Apr 19;19(2):110-21. [PMID: 16513899]
12. Zhou J, Garber E, Desai M, Saiman L. Compliance of clinical microbiology laboratories in the United States with current recommendations for processing respiratory tract specimens from patients with cystic fibrosis. *J Clin Microbiol*. 2006 Apr; 44(4):1547-9. [PMID: 16597890]
13. Mitchell RE, Desai M, Shah JB, Olsson CA, Benson MC, McKiernan JM. Preoperative serum prostate specific antigen remains a significant prognostic variable in predicting biochemical failure after radical

- prostatectomy. *J Urol*. 2006 May;175(5):1663-7. [PMID: 16600724]
14. McKiernan JM, Masson P, Murphy AM, Goetzi M, Olsson CA, Petrylak DP, Desai M, Benson MC. Phase I Trial of intravesical docetaxel in the management of superficial bladder cancer refractory to standard intravesical therapy. *J Clin Oncol*. 2006 Jul 1;24(19):3075-80. [PMID: 16809732]
  15. Herman DB, Brown AS, Opler MG, Desai M, Malaspina D, Bresnahan M, Schaefer CA, Susser ES. Does unwantedness of pregnancy predict schizophrenia in the offspring? Findings from a prospective birth cohort study. *Soc Psychiatry Psychiatr Epidemiol*. 2006 Aug;41(8):605-10. [PMID: 16732398]
  16. Shen J, Desai M, Agrawal M, Kennedy DO, Senie RT, Santella RM, Terry MB. Polymorphisms in nucleotide excision repair genes and DNA repair capacity phenotype in sisters discordant for breast cancer. *Cancer Epidemiol Biomarkers Prev*. 2006 Sep;15(9):1614-9. [PMID: 16985021]
  17. Fine RL, Chen J, Balmaceda C, Bruce JN, Huang M, Desai M, Sisti MB, McKhann GM, Goodman RR, Bertino JS Jr, Nafziger AN, Fetell MR. Randomized study of paclitaxel and tamoxifen deposition into human brain tumors: implications for the treatment of metastatic brain tumors. *Clin Cancer Res*. 2006 Oct 1;12(19):5770-6. [PMID: 17020983]
  18. Mitchell RE, Shah JB, Desai M, Mansukhani MM, Olsson CA, Benson MC, McKiernan JM. Changes in prognostic significance and predictive accuracy of Gleason grading system throughout PSA era: impact of grade migration in prostate cancer. *Urology*. 2007 Oct;70(4):706-10. [PMID: 17707892]
  19. Guerrero-Preston R, Santella RM, Blanco A, Desai M, Berdasco M, Fraga M. Global DNA hypomethylation in liver cancer cases and controls: a phase I preclinical biomarker development study. *Epigenetics*. 2007 Oct-Dec;2(4):223-6. [PMID: 18032927]
  20. Gorin SS, Ashford AR, Lantigua R, Desai M, Troxel A, Gemson D. Implementing academic detailing for breast cancer screening in underserved communities. *Implement Sci*. 2007 Dec 17;2:43. [PMID: 18086311]
  21. Fine RL, Fogelman DR, Schreiber SM, Desai M, Sherman W, Strauss J, Guba S, Andrade R, Chabot J. The gemcitabine, docetaxel, and capecitabine (GTX) regimen for metastatic pancreatic cancer: a retrospective analysis. *Cancer Chemother Pharmacol*. 2008 Jan;61(1):167-75. [PMID: 17440727]
  22. Kaufman EL, Jacobson JS, Hershman DL, Desai M, Neugut AI. Effect of breast cancer radiotherapy and cigarette smoking on risk of second primary lung cancer. *J Clin Oncol*. 2008 Jan 20;26(3):392-8. [PMID: 18202415]
  23. Desai M, Begg MD. A comparison of regression approaches for analyzing clustered data. *Am J Public Health*. 2008 Aug;98(8):1425-9. [PMID: 18556621]
  24. Garber E, Desai M, Zhou J, Alba L, Angst D, Cabana M, Saiman L; CF Infection Control Study Consortium. Barriers to adherence to cystic fibrosis infection control guidelines. *Pediatr Pulmonol*. 2008 Sep;43(9):900-7. [PMID: 18671274]
  25. Laudano MA, Klafter FE, Katz M, McCann TR, Desai M, Benson MC, McKiernan JM. Pathological tumor diameter predicts risk of conventional subtype in small renal cortical tumors. *BJU Int*. 2008 Nov;102(10):1385-8. [PMID: 18710458]
  26. Kaufman BD, Desai M, Reddy S, Osorio JC, Chen JM, Mosca RS, Ferrante AW, Mital S. Genomic profiling of left and right ventricular hypertrophy in congenital heart disease. *J Card Fail* 2008 Nov;14(9):760-7. [PMID: 18995181]
  27. Mann MJ, DeCastro GJ, Desai M, Benson MC, McKiernan JM. Predictive significance of surgical margin status following prostatectomy for prostate cancer during the PSA-era. *Urology*. 2008 Dec;72(6):1203-7. [PMID: 18674807]
  28. Pierorazio P, Desai M, McCann T, Benson M, McKiernan J. The relationship between preoperative prostate-specific antigen and biopsy Gleason sum in men undergoing radical retropubic prostatectomy: a novel assessment of traditional predictors of outcome. *BJU Int*. 2009 Jan;103(1):38-42. [PMID: 18778352]
  29. Laudano MA, Lambert SM, Masson P, McCann TR, Desai M, Benson MC, McKiernan JM. How often do available preoperative risk factors accurately predict risk assessed after surgery for localized prostate cancer? *BJU Int*. 2009 Feb;103(3):317-20. [PMID: 18778341]
  30. Bemis DL, Capodice JL, Desai M, Katz AE, Buttyan R. beta-carboline alkaloid enriched extract from the amazonian rainforest tree pao pereira suppresses prostate cancer cells. *J Soc Integr Oncol*. 2009 Spring;7(2):59-65. [PMID: 19476740]
  31. Crew KD, Gammon MD, Steck SE, Hershman DI, Cremers S, Dworakowski E, Shane E, Terry MB,

- Desai M, Teitelbaum SL, Neugut AI, Santella RM. Association between plasma 25-hydroxyvitamin D and breast cancer risk. *Cancer Prev Res (Phila)*. 2009 Jun;2(6):598-604. [PMID: 19470790]
32. Greenlee H, Gammon MD, Abrahamson PE, Gaudet MM, Terry MB, Hershman DL, Desai M, Teitelbaum SL, Neugut AI, Jacobson JS. Prevalence and predictors of antioxidant supplement use during breast cancer treatment: the Long Island Breast Cancer Study Project. *Cancer*. 2009 Jul;115(14):3271-3282. [PMID: 19507173]
33. Laudano MA, Badani KK, McCann TR, Mann MJ, Ritch C, Desai M, Benson MC, McKiernan JM. Significant change in predicted risk of biochemical recurrence after radical prostatectomy more common in black than in white men. *Urology*. 2009 Sep;74(3):660-4. [PMID: 19589568]
34. Tehranifar P, Neugut AI, Phelan JC, Link BG, Liao Y, Desai M, Terry MB. Medical advances and racial/ethnic disparities in cancer survival. *Cancer Epidemiol Biomarkers Prev*. 2009 Oct;18(10):2701-8. [PMID: 19789367]
35. Borgovan T, Bellistri JP, Slack KN, Kopelovich L, Desai M, Joe AK. Inhibition of BCL2 expression and activity increases H460 sensitivity to the growth inhibitory effects of polyphenon E. *J Exp Ther Oncol*. 2009; 8(2):129-44. [PMID: 20192119]
36. Murphy AM, Berkman DS, Desai M, Benson MC, McKiernan JM, Badani KK. The number of negative pelvic lymph nodes removed does not affect the risk of biochemical failure after radical prostatectomy. *BJU Int*. 2010 Jan;105(2):176-9. [PMID: 19549117]
37. Laudano MA, Barlow LJ, Murphy AM, Petrylak DP, Desai M, Benson MC, McKiernan JM. Long-term clinical outcomes of a phase I trial of intravesical docetaxel in the management of non-muscle-invasive bladder cancer refractory to standard intravesical therapy. *Urology*. 2010 Jan;75(1):134-7. [PMID: 19913890]
38. Kranick JA, Schaefer C, Rowell S, Desai M, Petrek JA, Hiatt RA, Senie RT. Is pregnancy after breast cancer safe? *Breast J*. 2010 Jul-Aug;16(4):404-411. [PMID: 20522097]
39. Lee DJ, Ritch C, Desai M, Benson MC, McKiernan JM. The interaction of body mass index and race in predicting biochemical failure after radical prostatectomy. *BJU Int*. 2010 Oct 13 doi: 10.1111/j.1464-410X.2010.09768.x [Epub ahead of print] [PMID: 20942835]
40. Korets R, Motamedinia P, Yeshchina O, Desai M, McKiernan JM. Accuracy of the Kattan nomogram across prostate cancer risk-groups. *BJU Int*. 2010 Nov 9 doi: 10.1111/j.1464-410X.2010.09838.x. [Epub ahead of print] [PMID: 21062396]
41. Piggott K, Deng J, Warrington K, Younge B, Kubo JT, Desai M, Goronzy JJ, Weyand CM. Blocking the NOTCH pathway inhibits vascular inflammation in large-vessel vasculitis. *Circulation*. 2011 Jan 25;123(3):309-18. [PMID: 21220737]
42. Chang TI, Friedman GD, Cheung AK, Greene T, Desai M, Chertow GM. Systolic blood pressure and mortality in prevalent hemodialysis patients in the HEMO study. *J Hum Hypertens*. 2011 Feb;25(2):98-105. [PMID: 20410919]
43. Chang TI, Desai M, Solomon DH, Winkelmayr WC. Kidney Function and long-term medication adherence after myocardial Infarction in the elderly. *Clin J Am Soc Nephrol*. 2011 Apr;6(4):864-9. [PMID: 21233459]
44. Linde R, Peng L, Desai M, Feldman D. The Role of vitamin D and the SLC01B1 gene polymorphism in statin-associated myalgias. *Dermato-Endocrinology*. 2011, in Press.
45. Desai M, Kubo J, Esserman D, Terry MB. The Handling of Missing Data in Molecular Epidemiologic Studies. *Cancer Epidemiol Biomarkers Prev*. 2011, in Press.

**D. Research Support.** List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and responsibilities of principal investigator identified above.

### **Ongoing**

1 K24 DK085446 Chertow (PI)

06/01/10 – 05/31/11

NIH/NIDDK

Mentoring Patient Oriented Clinical Investigators in Nephrology

Goal: To mentor students, residents, fellows and junior faculty in clinical nephrology research

Role: Co-Mentor

1 RC1A1086927 Owens (PI) 9/30/09-8/31/11  
NIH

Comparative effectiveness of ART for HIV in patients with comorbidities  
Goal: To evaluate the comparative effectiveness and cost effectiveness of Anti Retroviral Therapy in two specific patient populations of HIV-infected individuals.

Role: Biostatistician

Brennan Family Gift Fund Montoya (PI) 2/15/09-12/31/14

Gene expression and immune system dynamics of infection in acute and chronic diseases

Goal: To investigate molecular pathways of chronic diseases particularly those of a viral origin such as chronic fatigue syndrome

Role: Biostatistician

UCAKK SPO#49494 Kurian (PI) 7/1/10-6/30/11

California Breast Cancer Project

Measuring real world breast cancer outcomes award UCAKK

Goal: To determine factors affecting treatment decisions at Stanford and PAMF for breast cancer patients

Role: Biostatistician

HHSN268201100003C Stefanick (PI) 10/01/10 – 09/30/15

Women's Health Initiative Extension

Goal: To provide statistical support including study design, database management, and analysis for WHI studies.

Role: Biostatistician

1U01HL103629-01 Robinson (PI) 9/1/10 – 4/30/17

NIH

Clinic, Family & Community Collaboration To Treat Overweight And Obese Children

Goal: To develop an integrated approach for treating overweight and obese children

Role: Biostatistician

### **Completed**

Columbia Cancer Center Support Grant Dalla Favera (PI) 09/01/02-05/31/09

The purpose of this funding is to provide support for cancer-related research.

Role: Biostatistician

U54 CA101598-01 Neugut (PI) 09/01/02 - 05/31/09

NCI

Cancer research in older minority populations with a Caribbean American Emphasis

Partnership grant between Long Island University and Columbia University to promote health disparities research and research careers of minority faculty

Role: Biostatistician

1 R25 CA94061-01 Neugut (PI) 08/01/03 - 05/31/09

NIH

Training Program in Cancer-Related Population Sciences

Role: Co-Director

BCRF CU2001101 Santella (PI) 10/01/05-05/31/09

The Breast Cancer Research Foundation

DNA Repair & Methylation & Breast Cancer Risk

We will expand our ongoing studies of DNA repair pathways and investigate the role of DNA methylation on breast cancer risk using biospecimens and data from the Metropolitan New York Breast Cancer Family Registry of families at high risk

Role: Biostatistician

1 U54 UL1 RR023568-01 Ginsberg (PI)

09/30/06 – 05/31/09

NIH/NCRR

Clinical and Translational Science Award

Through the CTSA award, Columbia will establish the Irving Institute for Clinical and Translational Research (ICTR), the academic and intellectual home of outstanding senior faculty who will lead junior investigators in clinical and translational science. In addition to funding training programs, interdisciplinary research initiatives and infrastructure, the ICTR will accelerate the direct utilization of research advances to benefit patients and the community.

Role: Biostatistician

5 K23 CA101669 Joe (PI)

06/15/07-12/15/07

NCI

Targeted Biochemoprevention in Barrett's Esophagus

This study is a translational study involving preclinical and clinical investigations of Barrett's Esophagus

Role: Biostatistician

T.J Martell Benson(PI)

01/01/99-12/31/07

Foundation for AIDS and Cancer Research

The purpose of this funding is to support developmental projects regarding prostate cancer .

Role: Biostatistician