

Curriculum Vitae

Name: Temitope O. Keku

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Educational Background

B.Sc. Zoology University of Jos, Nigeria (1983)
M.Sc. Medical Entomology
& Parasitology University of Jos, Nigeria (1987)
M.S.P.H. Parasitology & Lab. Univ. of NC School of Public Health, Chapel Hill, NC (1989)
Practice
Ph.D. (Epidemiology) Univ. of NC School of Public Health, Chapel Hill, NC (1992)

Professional Experience

1982 (June-Sept.) Laboratory Assistant, Lafia Medical Center, Jos. Nigeria.
1983-1984 Biology Teacher, Government Girls Secondary School, Bauchi. Nigeria.
1986 (January-May) Teaching Assistant, Zoology Department, University of Jos, Jos, Nigeria
1986-88 Research Officer, Nigerian Institute for Trypanosomiasis Research, Vom. Nigeria.
1990-1991 Graduate Assistant, Dept. of Parasitology and Laboratory Practice, School of Public
Health, University of North Carolina, Chapel Hill, NC.
1989-1992 Graduate Student Research Assistant, Division of Digestive Diseases and
Nutrition, Department of Medicine, University of North Carolina, Chapel Hill,
NC
1992-1998 Research Associate, Division of Digestive Diseases and Nutrition,
Department of Medicine, University of North Carolina at Chapel Hill, NC.
1998- 2002 Assistant Professor, Division of Digestive Diseases and Nutrition,
Dept.of Medicine, University of North Carolina at Chapel Hill, NC.
1999-2004 Co-Director High Throughput Genotyping Core Facility, Schools of Medicine
& Public Health, University of North Carolina at Chapel Hill, NC.
2002- Present Associate Professor, Division of Gastroenterology and Hepatology,
Dept.of Medicine, and Department of Epidemiology, School of Public Health,
University of North Carolina at Chapel Hill, NC.
2003-Present Co-Director, CGIBD Imaging and Cell Services Core, Center for Gastrointestinal
Biology and Disease, School of Medicine, University of North Carolina at Chapel
Hill, NC
2008-Present Adjunct Associate Professor, Department of Nutrition, School of Public Health, UNC-

Chapel Hill

Research Interests Understand the role of genetic susceptibility and environment factors in cancer etiology with particular emphasis on colorectal cancer. Determine the role of obesity, insulin resistance, inflammation in the etiology of colorectal adenomas and cancer. Identify the relationship between molecular and genetic signatures of colorectal tumors health outcomes. Determine the contribution of the microbiota to the etiology of colorectal cancer.

Professional Societies

American Gastroenterological Association
American Association for the Advancement of Science.
American Public Health Association
American Association for Cancer Research

Contracts and Grants

1997 Center for Gastrointestinal Disease & Biology (CGIBD) Scholarship to attend the Molecular Biology Techniques Workshop at the University of North Carolina, Chapel Hill (September 21-October 4 1997)

1999-2000 Center for Gastrointestinal Disease & Biology (CGIBD) Pilot Feasibility. The IGF system and the risk of colorectal Adenomas, 1999-2000. (Keku TO, Principal Investigator; \$10,000).

1999-2001 University Research Council, UNC Chapel Hill. IGF-I, IGFBP-3, insulin and the risk of colorectal adenomas, 1999-2001. (Keku TO, Principal Investigator; \$3,900)

1999-2002 NIDDK Minority Investigator Supplement. Intestinal adaptation-Role of hormones and growth factors. 1999-2002 (Lund PK, Principal Investigator; \$179,181).

2001-2003 University Research Council, UNC Chapel Hill: Microsomal Epoxide Hydrolase Polymorphism, High Meat Consumption and Colorectal Cancer Risk. October 2001-November 2003. (Keku T.O., Principal Investigator; \$4,000).

2001-2003 Private Foundation: Cancer Research Foundation of America. PPAR γ Polymorphism and Colon Cancer Risk. September 2001-August 2003 (Keku TO, Principal Investigator; \$40,000).

2001-2004 NCI, R01: Epidemiology of rectal mucosal proliferation. April 2001-March 2004. (Sandler RS, Principal Investigator; Keku TO, Co-Investigator 10% effort; \$343,612)

2001-2006 NCI, R01: Case-control study of rectal cancer. July 2001-June 2006. (Sandler RS, Principal Investigator; Keku TO, Co-Investigator 10% effort; \$548,612)

2002-2006 NCI, K01: Insulin Resistance and Colon Cancer in Blacks and Whites (Keku, T.O. Principal Investigator, \$733,343)

2004-2006 NIH 1-P30-DK56350 (Zeisel SH, PI), Clinical Nutrition Research Center *Pilot Feasibility*

9/30/04-3 /31/07 (*Keku, PI* \$25,000)

- 2004-2009 NIH 1P50CA106991-01 (Joel Tepper PI,) 8/1/04-7/31/09 10% Effort
Project 1 of GI SPORE (CoPI) Predictive and Prognostic Factors in Colorectal Cancer
Extension-8/1/09-7/31/09
- 2005-2006 NIH 1P50CA106991-01 (Joel Tepper PI,) GI SPORE Developmental Award (Keku PI
\$20,000) 8/15/05-8/14/06 0% Effort
The goal of the study is to examine the relationship between inflammatory cytokines
polymorphisms, apoptosis and the risk of colorectal adenomas and cancer.
- 2005-2007 American Institute for Cancer Research (Christian Jobin PI) 12/1/05-11/30/07 5% Effort
Luteolin as a dietary chemopreventive agent in colorectal cancer. The main goals are to
examine the in-vivo impact of luteolin on inhibition of carcinogenesis using the Min
intestinal neoplasia mice model and determine the effect of this flavinoid on the anti-
apoptotic NF-kB signaling pathway.
- 2006-2008 Crohn's and Colitis Foundation of America (Jobin PI) 1/1/06-12/31/09 5% Effort
\$390,000
Role of bacteria in colitis associated colon cancer.
The main goals are to determine the effect of *E. faecalis*/*E. coli* on colon carcinoma in
gnotobiotic IL-10^{-/-} mice and to establish the interplay between inflammation and colon
cancer by blocking inflammatory mediators.
- 2007-2012 NIDDK R01 DK 073338 (Jobin PI) 4/1/07-3/31/12 10% Effort
Role of Bacteria in colitis associated colon cancer.
The main goal is to determine the relationship between commensal bacteria, inflammation
and the development of colon cancer.
- 2008-2013 NIDDK RO1 DK31369 (Whitehead) 9/1/08-8/31/13 \$417,254 10% effort
Psychophysiology of Irritable Bowel Syndrome of Bacteria in colitis associated colon cancer.
Aims: 1) To determine whether IBS phenotypes discovered in the previous grant are
associated with specific genotypes, 2) to develop and test models of gene-environment and
gene-gene interactions in the etiology of IBS, and 3) to determine whether classification of
IBS patients into phenotypes is reliable over time. This is a competitive renewal of the
Psychophysiology of IBS grant funded since 12/1/02.
Role: Co-investigator
- 1996-2009 NIH/NIDDK 5P30 DK34987-21 (Sandler) 12/01/1996-11/30/2009, 10% effort (Role-
Histology Core/ Core Director) Digestive Disease Research Core Center
(Center for Gastrointestinal Biology and Disease) The major goals of this project are to
promote research and teaching on all aspects of gastrointestinal biology, physiology and
epidemiology with a special emphasis on inflammatory bowel disease. The Center achieves
this goal through core laboratories that provide technical support, laboratory animals and
assays; a pilot/feasibility grant program that funds new research; and an enrichment program
that improves the intellectual climate for gastrointestinal biology research.
- 2009-2014 NCI R01 CA136887 (Keku TO, Sandler RS; co-PIs) 5/1/09-4/30/14 \$1, 250,000 25%
effort

Intestinal Microbiota, Diet and Risk of Colorectal Adenomas

The goal of study is to evaluate the role of the intestinal microbiota in the development of colorectal adenomas and associations with inflammation and dietary risk factors

Submitted Grants- Pending Review

NIH ARRA (Keku , Brewster co-PIs) 9/30/09-9/21/11 \$696,188 10% effort
Characterizing the microbiota of the upper female genital tract
The goal of study is to examine the role of bacteria in the fallopian tube ovarian system in relation to ovarian cancer.

NIH ARRA (Satia , PI) 9/30/09-9/21/11 \$665,553
Role: Co-investigator 7% effort
Nutrient Biomarkers, inflammation, oxidative stress in colorectal adenoma patients and controls.
The overall goal of this project is to clarify inconsistent associations between dietary factors and CRC/adenoma risk and to determine whether inflammation and oxidative stress are potential mechanisms underlying these relationships.

NIH (Sandler , PI) 2/01/10-1/31/15 \$16, 588,026
Role: Co-investigator 10% effort
Chemoprevention of colorectal cancer using curcumin.
This is a phase III clinical study to evaluate the efficacy of curcumin in preventing colorectal adenomas and cancer.

NIH (Sandler , PI) 12/01/09-11/30/11 \$193,721
Role: Co-investigator 5% effort
Environmental and genetic risk factors for hepatocellular carcinoma
This is a pilot population-based case-control study to examine several environmental and genetic risk factors in hepatocellular carcinoma.

Teaching

HEA 314 Disease Processes, Invited Lecturer, University of North Carolina Greensboro November 2008 (Dr. Sharon Morrison, Professor)

NUTR/EPID 815 Diet and Cancer, Diet/gene interactions in cancer--Lecture and cases study (October 14 and 21 2008, Dr. Jessie Satia, Professor)

Research Presentation, Department of Biology, North Carolina A&T State University. Influence of bacteria on colorectal cancer development, November 5 2008. (Dr. Minnie McNary-Holmes, Professor)

HEA 314 Disease Processes-Colorectal cancer, Invited Lecturer, University of North Carolina Greensboro November 5, 2007 (Dr. Sharon Morrison, Professor)

HEA 314 Disease Processes-Colorectal cancer, Invited Lecturer, University of North Carolina Greensboro November 20 2006 (Dr. Sharon Morrison, Professor)

NUTR/EPID 815 Diet and Cancer, Invited Lecturer; Molecular and genetic epidemiology of cancer September 9 2006 (Dr. Jessie Satia –Professor)

NUTR/EPID 815 Diet and Cancer, Invited Lecturer; Diet-Gene interactions in Cancer October 24 2006 (Dr. Jessie Satia –Professor)

Partnership for Minorities in Biomedical Sciences (PMABS), Guest Speaker, UNC Pembroke, October 12, 2005

North Carolina State University Human Metabolism course Toxicology Dept.; Guest lecturer. Polymorphisms in human metabolism genes related to industrial and agricultural chemicals. January 10 2005 (Ernest Hodgson, Professor)

North Carolina State University Human Metabolism course Toxicology Dept.; Guest lecturer. Polymorphisms in human metabolism genes related to industrial and agricultural chemicals. January 24, 2006 (Ernest Hodgson, Professor)

Genetics, Genomics and Public Health Course School of Public Health, Guest lecturer, Fall 2002, Fall 2003, Spring 2004. (Jim Sorenson, Professor)

Research Teaching/Mentorships: Teaching responsibilities include teaching hands-on laboratory research methods, serving on dissertation committees, serving as faculty advisor and mentor.

Undergraduate students

Year	Name	Status
1996-1997	Jamie Bower	Graduated
Summer 1998	Sima Pendharkar	Graduated
Spring 1999	Ted Lord	Graduated
2001-2003	Erika Hanami	Graduated
2001-2005	Maya McDoom,	Graduated, Currently PhD student at Boston College
2002-2006	Seun Omofoye	Graduated (Medical Student, UNC Chapel Hill, Fall 2007)
2003-2005	Helen Onabanjo	Transferred to ECU (Biology)
2004-2005	Akin Omofoye	Transferred to NCSU (Chemical Engineering)
2004-2006	Beri Massa	Graduated, Georgetown University, Medicine
2005-2006	Patti Williams	Graduated
2005-2008	Michelle Wolfe	Graduated
2005-2007	Rachel Holston	Graduated
2005-2008	Lauren Burcal	Graduated
2006-2008	Natascha Jenkins	Graduated
Summer 2006	Shannon Oliver	(Partnership for Minority Advancement in the Biomolecular Sciences, Summer Student)
Summer 2006	Jenny Besse	Undergraduate Summer Student from UC Davis
Summer 2007	Jesseca Gray	Undergraduate Summer Student Johnson Smith University, Charlotte
2007-2008	Vanessa Jenkins	Graduated
2006-Present	Samuel Nzewi	Current Student
2008-Present	Kevin Smith	Current Student
2008-Present	Jasmine Gaston	Current Student
2008-2009	Nathan Yarnall	Graduated

Graduate students (Masters and Doctoral)

Year	Program	Name	Status
1998	Epidemiology, Doctoral	Lesley Butler	UC, Davis

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1999-2003	Epidemiology, Doctoral	Eric Miller	CDC Atlanta
2002-2005	Epidemiology, Doctoral	Lexi Connelly	NC State Health Dept., Charlotte
2001-2006	Medicine (Academic Advisor)	Adebowale Odulana	Graduated
2001-2003	Environmental Science, Masters	Kendra Worley	--
2002-2004	Epidemiology, Masters	Allison Eaton	Science Teacher Orange County, NC
2003-Present	Cell & Molecular Physiology, Doctoral	Arianne Theiss	Post-Doc, Emory Univ. GA
2004-2005	Medicine (Medical student, NIDDK T-32 Trainee)	Gajarah Ballard	Graduated
2005	Environmental Science Masters Student	Scott Winkel	Physician Assit., Duke Univ.
2005-2006	Medicine	Ahmad Amin	MD-Residency
2006-2007	Epidemiology, Masters	Nikhil Gupta	Graduated
2006 -2007	Epidemiology, Doctoral	Sangmi Kim	Graduated
2006-2008	Epidemiology, Doctoral	Melanie Young	
2007-2009	Nutrition, Doctoral	Christina Williams	Graduated, Post-Doc Duke Univ.
2008-2009	Physiology, Doctoral	Kathryn Hamilton	Current

Postdoctoral Fellows

2005 (Jan-June)	Simone Cummings, PhD
2006	Peijun Zuo, MD PhD
2006-2008	Xiang Jun Shen PhD

Student Awards

Gajarah Ballard, John B Graham Student Research Award Winner
Arianne Theiss, Winner Impact Award for Outstanding Graduate Student Research
Beri Massa, AAAS Student Poster Competition, Winner Medicine and Public Health Poster Presentation

Service

2003-Present	Co-Director, CGIBD Imaging and Histology Core (Medicine)
199-2004	Co-Director High Throughput Genotyping Core Facility (SPH and Medicine)
2005-Present	Functional GI & Motility Disorders, Research Advisory Committee (member)
2005-2008	UNC Partnership for Minority Advancement in the Biomolecular Sciences (PMABS), Faculty Mentor
2005-2008	UNC-CH Post Baccalaureate Research Education Program (Advisory Board Member)

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Manuscript Reviews: Cancer Research

Journal of the American Medical Association
Journal of the National Cancer Institute
American Journal of Preventive Medicine
American Journal of Epidemiology
Gastroenterology
Nutrition and Cancer
Cancer Epidemiology Biomarkers and Prevention
Carcinogenesis
BMC Cancer

Editorial Board: BMC Cancer (Associate Editor)
World Journal of Gastroenterology (Associate Editor)

Grant Review: NIDDK Reviewer ARRA Challenge grants 2009
NCI Special Emphasis Review Panel September 2006
NCI Special Emphasis Review Panel June 2006
NCI Comprehensive Minority Biomedical Branch, Training and Manpower (K01 grant applications)
Center for Environmental Health & Susceptibility (Pilot Applications)
Lineberger Cancer Research (Grant Applications)
Medical Research Council of South Africa (Grant Applications)

Other Reviews Environmental Protection Agency (EPA: Review of Applications for the position of Director of Toxicology)
Oakridge Associated Universities

Conference Session Chair Cancer Susceptibility and Inherited GI Cancer, Molecular Epidemiology (Genetic Mutations and Polymorphisms) of GI Cancers, Novel Translational and Therapeutic Approaches in GI Cancers, Research Forum Session, Digestive Diseases Week, May 20, 2008

Genetic Susceptibility and Polymorphisms in GI Cancers, Research Forum Session, Digestive Diseases Week, May 30-June 4, 2009

Publications

Tobey NA, Reddy SP, Keku TO, Cragoe EJ, Orlando RC. Studies of pHi in rabbit esophageal basal and squamous epithelial cells in culture. *Gastroenterology* 1992, 103:830-839.

Keku TO, Seed JR, Sechelski JB, Balber A. *Trypanosoma brucei rhodesiense*: The inhibition of HL-60 growth by the African trypanosomes. *Experimental Parasitology* 1993, 77:306-314.

Tobey NA, Reddy SP, Keku TO, Cragoe EJ, Orlando RC. Mechanisms of HCl-induced lowering pHi in rabbit esophageal epithelial cells. *Gastroenterology* 1993, 105:1035-1044.

Lyles CM, Sandler RS, Keku TO, Kupper LL, Millikan RC, Murray SC, Bagdiwala SI, Ulshen MH. Reproducibility and variability of the rectal mucosal proliferation index using proliferating cell nuclear antigen immunohistochemistry. *Cancer Epid. Biomarkers Prev.* 1994, 3:597-605

Keku TO, Seed JR, Tidwell RR. The in vitro HL-60 cell - Trypanosoma brucei rhodesiense culture system: A rapid in vitro drug screen. *Tropical Med. Parasit.* 1995, 46: 257-262.

Sandler RS, Murray SC, Keku TO, Lyles, CM, Millikan RC, Bangdiwala SI, Kupper LL, Ulshen MH. Comparison of rectal mucosal proliferation measured by PCNA immunohistochemistry and whole crypt dissection. *Cancer Epid. Biomarkers Prev.* 1995; 4: 715-720.

Licato LL, Keku TO, Wurzelmann, JI, Murray SC, Woosley JT, Sandler RS, Brenner DA. In vivo activation of mitogen-activated protein kinases [JNK and ERK MAP kinases] in gastrointestinal neoplasia. *Gastroenterology.* 1997, 113:1589-1598.

Keku TO, Galanko JA, Murray SC, Sandler RS. Rectal Mucosal Proliferation, dietary factors and risk of colorectal adenomas. *Cancer Epidemiology Biomarkers and Prevention.* 1998, 7: 993-999.

Sandler, RS, Cummings SM, Keku TO, Terse A, Mehta N. Disposable versus reusable forceps for colorectal epithelial cell proliferation in humans. *Cancer Epidemiology Biomarkers and Prevention* 2000, 9: 1123-1126.

Wilkins HR, Keku TO, Ohneida K, Lund PK. Reduction of spontaneous and irradiation-induced apoptosis in the small intestinal mucosa of IGF-I transgenic mice. *American Journal of Physiology Am J Physiol Gastrointest Liver Physiol.* 2002, 283: G457-464,.

Simmons JG, Pucilowska JB, Keku TO, Lund PK. Insulin-like growth factor I and transforming growth factor-beta1 have distinct effects on phenotype and proliferation of intestinal fibroblasts. *American J. Physiology. Gastrointest. Liver Physiol.* 283: G809-818, 2002.

Martin CM, Connelly A, Keku TO, Thomas S, Galanko J, Woosley JT, Schliebe B, Lund PK and Sandler RS. NSAIDs, apoptosis and colorectal adenomas. *Gastroenterology* 123: 1770-1777, 2002

Lin HJ, Lakkides KM, Keku TO, Reddy ST, Louie AD, Kau IH, Zhou H, Gim JSY, Ma HL, Matthies CF, Lin J, Frankl HD, Lee ER, Hardy S, Herschman HR, Garavito RM, Sandler RS, Haile RW, Smith WL. Prostaglandin H synthase-2 (cyclooxygenase-2) variant in African Americans and a case-control study of colorectal adenomas. *Cancer Epidemiology Biomarkers and Prevention.* 2002, 11: 1305-1315.

Keku TO, Millikan RC, Worley K, Winkel S, Eaton A, Biscocho L, Martin M, Sandler R. 5,10-Methylenetetrahydrofolate reductase codon 677 and 1298 polymorphisms and colon cancer in African Americans and whites. *Cancer Epidemiology, Biomarkers and Prevention.* 2002, 11: 1611-1621.

Keku TO, Millikan RC, Rahrkra-Burris T, Martin C, Sandler RS. Family History of Colon Cancer: What does it mean and how useful is it? *American Journal of Preventive Medicine* 2003, 24: 170-176.

Shaheen JN, Silverman LM, Keku TO, Lawrence LB, Martin CF, Maynard R, Rohlfs EM. Are Hemochromatosis gene (HFE) mutations a risk factor for colon cancer? *Journal of the National Cancer Institute.* 95:154-159, 2003

Connelly AE, Satia-Abouta J, Martin CF, Keku TO, Woosley JT, Lund PK, Sandler RS. Vitamin C intake and apoptosis in normal rectal epithelium. *Cancer Epidemiol Biomarkers Prev.* 2003, 12: 559-565.

Keku TO, Rakhra-Burris T., Millikan RC. Gene Testing: What health professionals need to know. *Nutr.* 2003, 133:3754S-3757S

Jung B, Doctolero RT, Tajima A, Nguyen AK, Keku T, Sandler RS, Carethers JM. Loss of activin receptor type 2 protein expression in microsatellite unstable colorectal cancers. *Gastroenterology*, 2004; 126:654-659

Millikan RC, Player J, Rene de Cotreat A., Moorman P., Pittman G., Vannapagari V., Tse J., KeKu T.O. Manganese superoxide dismutase (MnSOD) polymorphism and risk of breast cancer in a population based case-control study of African Americans and whites. *Breast Cancer Res* 2004, 6:R264-R274.

Miller EA, Keku TO, Satia JA, Martin CF, Galanko JA, Sandler RS. Calcium, vitamin D and apoptosis in the rectal epithelium. *Cancer Epidemiology Biomarkers and Prevention* 2005; 14:525-528.

Satia JA, Keku T, Galanko JA, Martin C, Doctolero RT, Tajima A, Sandler RS, Carethers JM. Diet, Lifestyle, and Genomic Instability in the North Carolina Colon Cancer Study. *Cancer, Epidemiology, Biomarkers, and Prevention* 2005; 14:429-436.

Guilera M, Frost AC, Keku, TO, Martin CF, Galanko J, Connelly AE, Sandler RS, Does physical activity modify the association between body mass index and colorectal adenomas? *Nutrition and Cancer* 2005;51:140-145

Millkan RC, Player JS, Rene de Cotret, Tse CK, Keku TO. Polymorphisms in DNA repair genes, medical exposure to ionizing radiation and breast cancer risk. *Cancer Epidemiology Biomarkers, and Prevention* 2005;14 2326-2334

Eaton AM, Sandler RS, Carethers JM, Millikan RC, Galanko J, Keku TO. MTHFR 677 and 1298 polymorphisms, folate intake and microsatellite instability in colon cancer. *Cancer Epidemiology Biomarkers and Prevention* 2005; 14: 2023-2029.

Keku TO, Lund PK, Galanko J, Simmons JG, Woosley JT, Sandler RS. Insulin resistance, apoptosis and colorectal adenoma risk. *Cancer Epidemiology Biomarkers and Prevention* 2005; 14: 2076-2081

Sansbury, LB, Millikan RC, Schroeder JC, North KE, Moorman PG, Keku T O, Rene' de Cotret A, Player J Sandler RS. COX-2 Polymorphism, Use of Nonsteroidal Anti-inflammatory Drugs, and Risk of Colon Cancer in African Americans *Cancer Causes Control* 2006;17:257-266.

Jung B, Smith EJ, Doctolero RT, Gervaz P, Alonso JC, Keku T, Sandler RS, Carethers JM. Influence of target gene mutations on survival, stage and histology in sporadic microsatellite unstable colon cancers. *Int. J Cancer.* 2006;118:2509-13.

Morgan DR, Dominguez RL, Keku TO, Heidt PE, Martin CF, Galanko JA, Omofoye OA,

Sandler RS. Gastric cancer and the high combination prevalence of host cytokine genotypes and *H. pylori* in Honduras. *Clin Gastroenterol Hepatol.* 2006;4:1103-11.

Mechanic LE, Millikan RC, Player JS, Rene de Cotret A, Heard K, Heard KM, Tse CK, Keku TO. Polymorphisms in nucleotide excision repair genes, smoking, breast cancer in African Americans and Whites: A population-based case-control study. *Carcinogenesis.* 2006;27:1377-85.

Penland SK, Keku TO, Torrice C, He X, Krishnamurthy J, Hoadley KA, Woosley JT, Thomas N, Perou CM, Sandler RS, Sharpless NE. RNA expression analysis of formalin-fixed paraffin embedded tumors *Lab Investigation* 2007; 87:383-91

Miller EA, Keku TO, Satia JA, Martin CF, Galanko JA, Sandler RS Calcium, dietary, and lifestyle factors in the prevention of colorectal adenomas. *Cancer.* 2007;109:510-7.

Kim S, Keku TO, Martin C, Galanko J, Woosley JT, Schroeder JC, Satia JA, Halabi S, Sandler RS Circulating levels of inflammatory cytokines and risk of colorectal adenomas. *Cancer Research Cancer Res.* 2008;68:323-328.

Keku, TO, Amin A, Galanko J, Martin C, Schliebe B, Sandler RS Apoptosis in Normal Rectal Mucosa Predicts Adenoma Recurrence *Cancer Epidemiol Biomarkers Prev.* 2008 ;17:306-310.
Steck SE, Keku TO, Galanko J, Masa B, Millikan RC, Sandler RS. Polymorphisms in Methionine Synthase, Methionine Synthase Reductase and Serine Hydroxymethyltransferase, Folate and Alcohol Intake, and Colon Cancer Risk. *J. Nutrigenetics and Nutrigenomics* 2008; 1: 196-204.

Ransohoff DF, Martin C, Mansfield M, Levine P, Coleman T, Hitt B, Yip P, Keku, TO, Galanko JA, Sandler RS. Assessment of serum proteomics to detect large colon adenomas. *Cancer Epidemiology Biomarkers Prevention* 2008 17:2188-2193.

Kim S, Martin C, Galanko J, Woosley JT, Schroeder JC, Keku TO, Satia JA, Halabi S, Sandler RS Non-steroidal anti-inflammatory drugs and distal large bowel cancer in Whites and African Americans. *Am J Epidemiology* 2008;168:1292-300.

Qu P, Chu H, Ibrahim JG, Peacock J, Shen XJ, Tepper J, Sandler, RS, Keku, TO Statistical Strategies to Improve the Efficiency of Molecular Studies of Colorectal Cancer Prognosis *Br. J Cancer* 2008; 99:2001-2005.

Butler LM, Millikan RC, Sinha R, Keku TO, Winkel S, Harlan B, Eaton A, Gammon MD, Sandler RS. Modification by N-acetyltransferase 1 genotype on the association between dietary heterocyclic amines and colon cancer in a multiethnic study *Mutat Res.* 2008 ;638:162-74.

Keku TO, Sandler RS, Simmons JG, Galanko J, Woosley JT, Proffitt M, Omofoye O, McDoom M, Lund PK. Local IGF1BP-3 mRNA expression apoptosis and risk of colorectal adenomas. *BMC Cancer.* 2008; 8:143.

Vinikoor LC, Long MD, Keku TO Martin CF Galanko JA Sandler RS The association between diabetes, insulin use and colorectal cancer among Whites and African Americans. *Cancer Epidemiol Biomarkers Prev.* 2009;18:1239-42 .

Der C, Yeh JJ, Routh E, Rubinas T, Peacock J, Martin T, Sandler RS, Kim HJ, Shen XJ, Keku TO. KRAS/BRAF mutation status and ERK1/2 activation as biomarkers for MEK1/2 inhibitor therapy in colorectal cancer. . *Molecular Cancer Therapeutics* 2009; 8:834-43

Hoyo C, Grubber J, Denmark-Wahnefried, Lobaugh B, Jeffreys AS, Mstat SC, Marks JR, Keku TO, Walther PJ, Schildkraut JM. Predictors of variation in serum IGF-I and IGFBP-3 levels in healthy African American and White men. *Journal of the National Medical Association* 2009 (Accepted)

Williams CD, Satia JA, Adair LS, Stevens J, Galanko J, Keku TO, Sandler RS. Dietary patterns, food groups and rectal cancer risk in Whites and African Americans *Cancer Epid Biomarkers Prevention* 2009;18:1552-1561.

Abstracts (Presented at national meetings)

Eisner J, Reddy SP, Tobey NA, Keku TO, Orlando RC. Identification of H^+ exchange in human esophageal epithelial cells grown in primary culture. *Gastroenterology* 1992;102:62
Tobey NA, Reddy SP, Keku TO, Cragoe EJ, Orlando RC. Mechanisms of cell acidification in acid exposed rabbit esophageal epithelial cells. *Gastroenterology* 1993; 104:212

Sandler RS, Murray SC., Keku TO, Bangdiwala SI, Lyles CM, Millikan RC, Ulshen MH. Comparison of whole crypt dissection to PCNA immunohistochemistry to measure rectal mucosal proliferation. *Gastroenterology* 1994; 106: A436

Lyles CM, Sandler RS, Keku TO, Millikan RC, Murray SC, Ulshen MH, Bangdiwala SI. Reproducibility and variability of rectal mucosal proliferative index using PCNA. *Gastroenterology* 1994; 106: A410.

Licato LL, Keku TO, Sandler RS, Brenner DA. JNK and ERK kinases are activated in DMH induced colonic tumors. *Gastroenterology* 1996; 110: A551

Keku TO, Galanko JA, Murray SC, Sandler RS. Rectal mucosal proliferation, dietary factors and risk of colorectal adenomas. *Gastroenterology* 1997; 112: A590

Keku TO, Murray SC, Rippe RA, Brenner DA, Licato LL, Woosley JT, Sandler RS. Mucosal proliferation and crypt fission in the rat colon. *Gastroenterology* 1998, 114: A620.

Rippe RA, Scanga AE, Schrum LW, Keku TO, Iozzo RV, Brenner DA. Sp1 and NF- κ B regulate transcription of biglycan in hepatic stellate cells. *Hepatology* 1998, 28: 726A.

Russo MP, Mehta NP, Keku TO, Sartor RB, Jobin C. Increased susceptibility to Fas-mediated apoptosis in differentiated HT-29 cells independent of its effect on NF- κ B activation and IL-8 secretion., *Gastroenterology* 2000; 118: A4335.

Shaheen JN, Silverman LM, Keku TO, Lawrence LB, Martin CF, Maynard R, Rohlf EM. Are Hemochromatosis gene (HFE) mutations a risk for colon cancer? *Gastroenterology* 2000; 118: A3844.

Keku TO, Galanko, JA Mehta NP, Terse AP, Woosley JT, Lund PK, Sandler RS. IGF Axis, proliferation, apoptosis and colorectal adenoma risk. *Gastroenterology* 2000; 118: A2829.

Butler LM, Millikan RC, Keku TO, Sinha, R, Winkel S, Harlan B, Eaton A, Sandler RS. Exposure to Dietary Heterocyclic Amines and Genetic Susceptibility to N-Acetyltransferases 1

and 2, Among Blacks and Whites in a Population-Based Study of Colon Cancer. 92nd Annual Meeting of the American Association for Cancer Research, New Orleans, LA, March 2001.

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Invited Presentations

Mentor Second Annual AGA-Abbott Immunology Investing in the Future Program: Promoting Diversity in GI Training; Minority populations, Disparities in Health Outcomes. Digestive Diseases Week , San Diego May 2008

Invited Speaker, AACR Frontiers in Cancer Prevention, November 16-19, 2008. Presentation title: Intestinal Microbiota, Diet and colorectal adenomas.

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Center for Functional GI and Motility Disorders: Biopsychosocial Gastrointestinal Research at UNC. Genetics of Irritable Bowel Syndrome. Research day June 17, 2006

University of North Carolina, Linerberger Cancer Research Center, Annual Scientific Retreat 2005. Obesity, Insulin Resistance and Colon Cancer

Lessons from the North Carolina Colon Cancer Study: Genetic Susceptibility, Diet, Lifestyle and Colon Cancer Disparity. Conference on Racial Disparities in Colon Cancer. Vanderbilt Nov. 3 2005

Partnership for Minority Advancement in the Biomolecular Sciences, University of North Carolina Chapel Hill. Colorectal Cancer Health Outcomes: Impact of Race and Ethnicity. Guest Speaker, UNC Pembroke October 11 2005.

American Gastroenterological Association, Digestive Diseases Week 2004: GI Health outcomes: Impact of race and ethnicity. New Orleans, LA. May 2004

American Institute for Cancer Research: Gene Testing, What Clinicians need to know? Washington DC, July 2003

Nutritional Epidemiology Core. Gene Nutrient Interactions: Incorporating genomics and proteomic techniques in human nutritional studies. School of Public Health, University of North Carolina, Chapel Hill March 2003

American Public Health Association: Family history of colorectal cancer. Philadelphia, PA. November 2002

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