

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on the Sample Form. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Michael McClelland	POSITION TITLE Professor		
eRA COMMONS USER NAME (credential, e.g., agency login) MMCCLELLAND			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Bristol, UK	BSc (honors)	06/80	Biochemistry
University of Georgia, Athens, GA	Ph.D.	06/83	Mol & Pop Genetics
University of California, Berkeley, CA		08/84	Molecular Genetics
Columbia University, NY, NY		08/86	Molecular Biology

A. Personal Statement

I am involved in a series of collaborative projects for the discovery of biomarkers associated with prostate cancer diagnosis and progression. At the UC Irvine Comprehensive Cancer Center I am the co-chair of the prostate disease oriented team, along with a surgeon. I assist the Cancer Prevention and Prognosis Research Program in the areas of etiology, cancer genomics, and personalized medicine. I am a co-investigator on the formation of a cancer tissue biorepository.

My background includes the first discovery of CpG islands, the invention of the first megabase DNA mapping tools, and invention of arbitrarily primed PCR, a simple inexpensive genotyping tool. This method was used to discover the mutator phenotype in cancer. I published one of the first complete bacterial genome sequences, with many other genomes and high-throughput genetic methods developed, thereafter. I have a project to engineer the natural ability of certain bacteria to target tumors, as a drug delivery system. I have published over 240 scientific papers which have been cited 20,000 times. I have supervised over 30 students and postdoctoral fellows.

B. Positions and Honors

Positions

1986-1989 Markey Assistant Professor, Dept. Biochemistry Molecular Biology, U. Chicago, IL
1989-1995 Research Program Director, California Institute Bio. Res., La Jolla, CA
1995-2009 Professor, Sidney Kimmel Cancer Center, San Diego, CA.
2000-2011 U. California, San Diego, Cancer Center, Member
2011-present U. California, Irvine, Cancer Center, Member
2009-2013 Professor, Scientific Director, VRISD. Director, Genomics and Bioinformatics Cores
2011-present Professor, adjunct, Department of Pathology and Laboratory Medicine
2011-present U. California, Irvine, Cancer Center, Member
2013-present Professor, VRISD.
2013-present Professor, adjunct, Department of Microbiology and Molecular Genetics, U California, Irvine

Honors

1981-1983 University-wide Predoctoral Research Fellowships, U. Georgia, Athens, GA
1983-1985 NATO Postdoctoral Fellowship
1985-1989 Lucille P. Markey Biomedical Scholarship
1986-1989 Goldblatt Cancer Research Fund, Young Investigator
2005 ASM Divisional lecture and award

Professional Memberships

1992-2007 Editorial Board, Nucleic Acids Research
1995-1998 Member, NIH Genome Study section
2011-present Editorial Boards: Prostate Cancer. Sequencing. International Journal of Microbiology

Other: Five NIH P01 site visits.
NCI Directors Challenge panel
Chair, Novel Technologies RFA Study Section
Two Bioterrorism Center Grant reviews
Twelve NCI RFA and ad hoc panels
Three USDA and NSF panels
External reviewer for DOE, UK MRC, German DFG

C. Fifteen recent cancer-related publications from over 240 peer-reviewed publications

- Stuart, RO, Wachsman W, Berry CC, Wang-Rodriguez J, Wasserman L, Klacansky I, Masys D, Arden K, Goodison S, McClelland M, Wang Y, Sawyers A, Kalcheva I, Tarin D, Mercola D. *In silico dissection of cell-type-associated patterns of gene expression in prostate cancer*. **Proc Natl Acad Sci USA**, 2004. **101**: 615-20. PMID: 327196
- Hayakawa J, Mittal S, Wang Y, Korkmaz K, Adamson E, English C, McClelland M, Mercola D. *Identification of genes bound and regulated by c-Jun and ATF2 transcription factors in vivo following DNA damage using promoter arrays*. **Molecular Cell**, 2004, 16:521-35. PMID: not available
- Wang, Y, Yu Q, Cho A, Rondeau G, Welsh J, Adamson E, Mercola D, and McClelland M. *Survey of differentially methylated promoters in prostate cancer cell lines*. **Neoplasia**, 2005. **7**: 748-60. PMID: 1501885
- Spence, J, Duggan D, Eckhardt C, McClelland M, and Mercola D. *Messenger RNAs under differential translational control in Ki-ras-transformed cells*. **Mol Cancer Res**, 2006. **4**: 47-60. PMID: 16446406
- Arora, S, Wang Y, Jia Z, Vardar-Sengul J, Munawar A, K, Doctor K, Birrer M, McClelland M, Adamson E, Mercola D, *Egr1 regulates the coordinated expression of numerous EGF receptor target genes as identified by ChIP-on-chip*. **Genome Biol**, 2008. **9**: R166. PMID: 2614498
- Arrach, N, Zhao M, S. Porwollik, Hoffman RM, and McClelland M, *Salmonella promoters preferentially activated inside tumors*. **Cancer Res**, 2008. **68**: 4827-32. PMID: 18559530
- Hoemme, C, Peerzada A, Behre G, Wang Y, McClelland M, Nieselt K, Zschunke M, Disselhoff C, Agrawal S, Isken F, Tidow N, Berdel W, Serve H, and Muller-Tidow C. *Chromatin modifications induced by PML-RARalpha repress critical targets in leukemogenesis as analyzed by ChIP-Chip*. **Blood**, 2008. **111**: 2887-95. PMID: 2254548
- Cairo, S, Wang Y, de Reynies A, Duroure K, Dahan J, Redon MJ, Fabre M, McClelland M, Wang X, Croce, C, Buendia M. *Stem cell-like micro-RNA signature driven by Myc in aggressive liver cancer*. **Proc Natl Acad Sci USA**, 2010. **107**: 20471-6. PMID: 2996672
- Muller-Tidow, C, Klein H, Hascher A, Isken F, Tickenbrock L, Thoennissen N, Agrawal-Singh S, Tschanter P, Disselhoff C, Wang Y, Becker A, Thiede C, Ehninger G, zur Stadt U, Koschmieder S, Seidl M, Muller F, Schmitz W, Schlenke P, McClelland M, et al.,. *Profiling of histone H3 lysine 9 trimethylation levels predicts transcription factor activity and survival in acute myeloid leukemia*. **Blood**, 2010. **116**: 3564-71. PMID: 2981478
- Bie L, Zhao G, Cheng P, Rondeau G, Porwollik S, Ju Y, Xia XQ, McClelland M. *The accuracy of survival time prediction for patients with glioma is improved by measuring mitotic spindle checkpoint gene expression*. **PLoS One**. 2011. **6**:e25631
- Wang, Y, Xia XQ, Jia Z, Sawyers A, Yao H, Wang-Rodriguez J, Mercola D, McClelland M, *In silico estimates of tissue components in surgical samples based on expression profiling data*. **Cancer Res**, 2010. **70**: 6448-55. PMID: 20663908
- Jia Z, Wang Y, Sawyers A, Yao H, Rahmatpanah F, Xia XQ, Xu Q, Pio R, Turan T, Koziol JA, Goodison S, Carpenter P, Wang-Rodriguez J, Simoneau A, Meyskens F, Sutton M, Lernhardt W, Beach T, Monforte J, McClelland M, Mercola D. *Diagnosis of prostate cancer using differentially expressed genes in stroma*. **Cancer Res**. 2011 **71**:2476-87. PMID: 3071046
- Agrawal-Singh S, Isken F, Agelopoulos K, Klein HU, Thoennissen NH, Koehler G, Hascher A, Bäumer N, Berdel WE, Thiede C, Ehninger G, Becker A, Schlenke P, Wang Y, McClelland M, et al.,. *Genome-wide analysis of histone H3 acetylation patterns in AML identifies PRDX2 as an epigenetically silenced tumor suppressor gene*. **Blood**. 2012 **19**:2346-57. PMID: 22207736

Jia Z, Rahmatpanah FB, Chen X, Lernhardt W, Wang Y, Xia XQ, Sawyers A, Sutton M, McClelland M (joint corresponding author), Mercola D. *Expression changes in the stroma of prostate cancer predict subsequent relapse*. **PLoS One**. 2012. 7:e41371. PMID: 3411675

Chen X, Xu S, McClelland M, Rahmatpanah F, Sawyers A, Jia Z, Dan Mercola D. *An accurate prostate cancer prognosticator using a Seven-Gene signature -plus Gleason score and taking cell type heterogeneity into account*. **PLoS One**. 2012. 7:e45178. PMID: 3460942

Pio R, Jia Z, Baron VT, Mercola D; UCI NCI SPECS Consortium of the Strategic Partners for the Evaluation of Cancer Signatures-Prostate Cancer. *Early growth response 3 (Egr3) is highly over-expressed in non-relapsing prostate cancer but not in relapsing prostate cancer*. **PLoS One**. 8:e54096. PMID: 23342084

Jia Z, Wang Y, Hu Y, McLaren C, Yu Y, Ye K, Xia XQ, Koziol JA, Lernhardt W, McClelland M, Mercola D. *A sample selection strategy to boost the statistical power of signature detection in cancer expression profile studies*. **Anti-Cancer Agents Medicinal Chem**, 2013. 13:203-11. PMID: 22934703

Lee C, Zhang Q, Kozlowski J, Brendler C, Soares MB, Dash A, McClelland M, Mercola D. 2013. Natural products and transforming growth factor-beta (TGF- β) signaling in cancer development and progression. **Curr Cancer Drug Targets**. 2013 Epub ahead of print. PMID: 23597196

D. Research Support

ACTIVE (with annual support for McClelland laboratory)

DOD CDMRP PC120465 (Mercola) 06/01/13-05/30/16
Validation of Biomarkers of the Tumor Microenvironment \$21K
Role: Co-Principal Investigator.
Major Goal: Studies of prostate stroma for diagnosis.
Overlap: None.

1U01CA152738 (Mercola) 09/01/10-10/01/15
NCI Early Detection Research Network. \$21K
The Prostate Cancer Tumor Microenvironment Exhibits Differentially Expressed Genes Useful for Diagnosis
Role: Co-Principal Investigator.
Major Goal: Studies of prostate stroma for prognosis.
Overlap: None.

5P30CA062203-17 (Meyskens) 02/01/09-01/31/15
NIH/NCI \$26K
University of California Irvine Cancer Center Support Grant.
Development of a Personalized Medicine program at UCI (Mercola)
Role: Co-investigator.
Cancer Prevention and Prognosis
Role: Leader, etiology.
Prostate Disease Oriented Team
Role: Project leader (joint).
Overlap: None.

UCI School of Medicine, Dean's Office (D. Mercola) 06/1/12-06/30/14
"A Pilot Program toward the development of Proactive Personalized Cancer Medicine".
Role: Co-investigator. \$5K
Major Goal: Develops methods for the banking of primary tumor of all cancer cases.
Overlap: None.

CPS (McClelland/Teplitski) 01/15/13-01/14/15
Role: Principal Investigator. \$50K
Avirulent Salmonella strains and their use to model behavior of the pathogens.

Major Goal: Safe models for food safety.

Overlap: None.

USDA 2009-03579 (Andrews)

06/01/10-05/31/14*

*including NCE

\$93K

Defining Salmonella Genes Important for Colonization and Persistence in Poultry

Role: Site Principal Investigator.

Major Goal: Screening for genes involved in infection and persistence in chickens.

Overlap: None.

USDA UF11033 (Teplitski/McClelland)

02/01/11-01/31/14

Salmonella interactions with tomatoes.

\$70K

Role: Site Principal Investigator.

Major Goal: Interactions of human pathogen with plants.

Overlap: None.

R01 AI077645-03 (Andrews)

06/01/09-11/30/13

NIH

\$75K

Identification of Salmonella Genes Involved in Persistence in Murine Intestine

Role: Site Principal Investigator.

Major Goal: Genetics of Persistence, the main cause of contamination in human consumption.

Overlap: None.

NIH contract (McClelland)

10/01/10-09/30/13

Fitness annotation of bacterial genomes

\$100K

Role: Principal Investigator.

Major Goal: Generate fitness information to be released in the PATRIC database.

Overlap: None.

