

Program Director/Principal Investigator (Last, First, Middle): Sundaram, Uma

BIOGRAPHICAL SKETCH

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NAME: John Crutchley

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Research Instructor

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
The College of William and Mary, Williamsburg, Virginia	B.Sc.	05/2002	Biology
Duke University, Durham, North Carolina	Ph.D.	12/2008	Genetics and Genomics

A. Personal Statement

I received my Ph.D. in Genetics and Genomics from Duke University. I have a diverse background in basic biological research; my past projects have included cell cycle checkpoints, DNA damage repair, RNA regulation, and phase separation. I have used a variety of model systems, from budding yeast and filamentous fungi, to cell culture. Currently, I assist students, postdocs, and faculty members by developing genetic tools and performing molecular biology experiments.

B. Positions and Honors

Positions and Employment

2019-Present

Research Instructor. Department of Clinical and Translational Sciences, Joan C. Edwards School of Medicine, Marshall University, Huntington, WV.

2017-2019

Lab Manager. Department of Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

2011-2017

Research Analyst. Department of Pharmacology and Cancer Biology, Duke University, Durham, NC.

Honors

2002-2004

Post-Baccalaureate Intramural Research Training Award, National Institutes of Health, Laboratory of Cellular Carcinogenesis and Tumor Promotion.

C. Contributions to Science

1: Cannon KS, Woods BL, Crutchley JM, Gladfelter AS. An amphipathic helix enables septins to sense micrometer-scale membrane curvature. *J Cell Biol.* 2019 Apr 1;218(4):1128-1137. doi: 10.1083/jcb.201807211. Epub 2019 Jan 18. PubMed PMID: 30659102; PubMed Central PMCID: PMC6446858.

2: Langdon EM, Qiu Y, Ghanbari Niaki A, McLaughlin GA, Weidmann CA, Gerbich TM, Smith JA, Crutchley JM, Termini CM, Weeks KM, Myong S, Gladfelter AS. mRNA structure determines specificity of a polyQ-driven phase separation. *Science.* 2018 May 25;360(6391):922-927. doi: 10.1126/science.aar7432. Epub 2018 Apr 12. PubMed PMID: 29650703; PubMed Central PMCID: PMC6192030.

3: Chen J, Crutchley J, Zhang D, Owzar K, Kastan MB. Identification of a DNA Damage-Induced Alternative Splicing Pathway That Regulates p53 and Cellular Senescence Markers. *Cancer Discov.* 2017 Jul;7(7):766-781. doi: 10.1158/2159-8290.CD-16-0908. Epub 2017 Mar 13. PubMed PMID: 28288992; PubMed Central PMCID: PMC5501752.

4: Suh KS, Malik M, Shukla A, Ryscavage A, Wright L, Jividen K, Crutchley JM, Dumont RA, Fernandez-Salas E, Webster JD, Simpson RM, Yuspa SH. CLIC4 is a tumor suppressor for cutaneous squamous cell cancer. *Carcinogenesis.* 2012 May;33(5):986-95. doi: 10.1093/carcin/bgs115. Epub 2012 Mar 1. PubMed PMID: 22387366; PubMed Central PMCID: PMC3334517.

5: Crutchley J, King KM, Keaton MA, Szkotnicki L, Orlando DA, Zyla TR, Bardes ES, Lew DJ. Molecular dissection of the checkpoint kinase Hsl1p. *Mol Biol Cell.* 2009 Apr;20(7):1926-36. doi: 10.1091/mbc.E08-08-0848. Epub 2009 Feb 11. PubMed PMID: 19211841; PubMed Central PMCID: PMC2663927.

6: Szkotnicki L, Crutchley JM, Zyla TR, Bardes ES, Lew DJ. The checkpoint kinase Hsl1p is activated by Elm1p-dependent phosphorylation. *Mol Biol Cell.* 2008 Nov;19(11):4675-86. doi: 10.1091/mbc.E08-06-0663. Epub 2008 Sep 3. PubMed PMID: 18768748; PubMed Central PMCID: PMC2575171.

7: Suh KS, Mutoh M, Mutoh T, Li L, Ryscavage A, Crutchley JM, Dumont RA, Cheng C, Yuspa SH. CLIC4 mediates and is required for Ca²⁺-induced keratinocyte differentiation. *J Cell Sci.* 2007 Aug 1;120(Pt 15):2631-40. Epub 2007 Jul 17. PubMed PMID: 17636002.

8: Suh KS, Crutchley JM, Koochek A, Ryscavage A, Bhat K, Tanaka T, Oshima A, Fitzgerald P, Yuspa SH. Reciprocal modifications of CLIC4 in tumor epithelium and

stroma mark malignant progression of multiple human cancers. Clin Cancer Res. 2007 Jan 1;13(1):121-31. PubMed PMID: 17200346.

9: Suh KS, Mutoh M, Gerdes M, Crutchley JM, Mutoh T, Edwards LE, Dumont RA, Sodha P, Cheng C, Glick A, Yuspa SH. Antisense suppression of the chloride intracellular channel family induces apoptosis, enhances tumor necrosis factor {alpha}-induced apoptosis, and inhibits tumor growth. Cancer Res. 2005 Jan 15;65(2):562-71. PubMed PMID: 15695400.

10: Suh KS, Mutoh M, Nagashima K, Fernandez-Salas E, Edwards LE, Hayes DD, Crutchley JM, Marin KG, Dumont RA, Levy JM, Cheng C, Garfield S, Yuspa SH. The organellar chloride channel protein CLIC4/mtCLIC translocates to the nucleus in response to cellular stress and accelerates apoptosis. J Biol Chem. 2004 Feb 6;279(6):4632-41. Epub 2003 Nov 10. PubMed PMID: 14610078.

11: Suh KS, Tatunchak TT, Crutchley JM, Edwards LE, Marin KG, Yuspa SH. Genomic structure and promoter analysis of PKC-delta. Genomics. 2003 Jul;82(1):57-67. PubMed PMID: 12809676.

D. Additional Information: Research Support and/or Scholastic Performance