Aishwarya Prakash, Ph.D.

Curriculum vitae

The University of South Alabama
Department of Biochemistry & Molecular Biology
The Mitchell Cancer Institute
1660 Springhill Ave, Mobile, AL 36604

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EDUCATION AND TRAINING

University of Vermont (Burlington, VT) Oct 2010 – Feb 2016
Postdoctoral research training. Subject: DNA Repair and Structural Biology
Mentor: Dr. Sylvie Doublié, Secondary mentor: Dr. Susan Wallace

University of Nebraska Medical Center (UNMC, Omaha, NE) Aug 2005 - Aug 2010
Doctor of Philosophy (Ph.D.) Subject: Cancer Biology
Mentor: Dr. Gloria Borgstahl

University of Nebraska at Omaha (UNO, Omaha, NE) Jan 2003 - Dec 2004
B.S., Biotechnology, with a Minor in Chemistry

Collin County Community College District (CCCCD, Plano, Texas) Jan 2001 - Dec 2002
A.A.S., Biotechnology

APPOINTMENTS AND EXPERIENCE

Associate Professor with Tenure Aug 2020 - present
University of South Alabama (USA)
Department of Biochemistry & Molecular Biology

Assistant Professor
USA, Department of Biochemistry May 2019 – Aug 2020
USA Mitchell Cancer Institute Mar 2016 – May 2019
(Joint appointment: Department of Pharmacology)

Full Member of the Graduate Faculty (USA) June 2017 - present

Research Technician, UNMC Jan 2005 - June 2005
Advisor: Dr. Tatiana Bronich, Field: Nanoparticle Drug Delivery

Summer Research Student; UNMC June 2004 - Aug 200
Advisors: Drs. Alexander Kabanov and Tatiana Bronich

Student Research Associate June 2002 - Aug 200
Mary Kay Inc. Research and Development, Dallas, TX.
Group Leader: Dr. Gopa Majmudar

TEACHING EXPERIENCE

MEDICAL EDUCATION AT THE UNIVERSITY OF SOUTH ALABAMA

- Principles of Foundational Medicine (DNA Repair; 1 contact hour) 2021-present
- Principles of Foundational Medicine (Storage Diseases; 4 contact hours) 2019-present

GRADUATE COURSES AT THE UNIVERSITY OF SOUTH ALABAMA

- Course Director (2025) and Instructor: Responsible Conduct in Research (course GIS 501) 2022-present
- Course Director and Instructor: Cancer Biology (course IDL 560) 2021-present
- Topics in Cancer Biology (IDL 566; 1.5 contact hours) 2020-present
- Fundamentals of Biochemistry (IDL 580; 4 contact hours) 2020-present
- University of Pittsburgh, Hillman Cancer Center, Pittsburgh, PA
  - DNA Repair Course, Mismatch Repair (2 contact hours) Spring 2020
- Introduction to Research Methods, (IDL 577; 2 contact hours) 2016-present
- Cancer Biology (IDL 560; 2 contact hours) 2017-2020
- Guest Instructor

PRE-MEDICAL AT THE UNIVERSITY OF SOUTH ALABAMA

- DREAM summer program (3 contact hours) 2022-present
- South Med Prep (3 – 6 contact hours) 2022-present

GRADUATE COURSES AT THE UNIVERSITY OF VERMONT

- Macromolecular Structure of Proteins and Nucleic Acids (MMG240) 2014

GRADUATE COURSES AT THE UNIVERSITY OF NEBRASKA MEDICAL CENTER

- Graduate Student Teaching Assistant for Cell Biology (BRTP 822) 2007
- Student Tutor for incoming Cancer Research Graduate Program 2006

UNDERGRADUATE COURSES AT THE UNIVERSITY OF NEBRASKA AT OMAHA

- Teaching Assistant for Beginning Algebra and College Algebra 2003-2004

UNDERGRADUATE COURSES AT COLLIN COUNTY COMMUNITY COLLEGE DISTRICT (PLANO, TX)

- Teaching Assistant/ Tutor, Mathematics Laboratory 2001-2002

RESEARCH SUPPORT

Active

Award Number: 2450845 – Prakash, Aishwarya, PI. 3/115/25-3/14/27 2 calendar
National Science Foundation $300,000.00
Mitochondrial ARtificial Targeting (or MART) to Augment mtDNA Repair
→ Overall Objectives: This work aims to "supercharge" repair of mitochondrial DNA by modifying existing putative MTSs or nuclear localization signals of DNA glycosylases that participate in the first steps of Base Excision Repair. We will hijack the localization of predominantly nuclear DNA glycosylases and enhance their mitochondrial presence utilizing a computational framework, assess the cellular impact of redirecting these DNA repair proteins.

ACS1412630 – Prakash, Aishwarya, PI 9/01/25-8/31/29 2.4 calendar
American Cancer Society (ACS) $946,000.00
Mutagenic Inhibition of DNA Repair by Cadmium
→ **Overall Objectives:** We aim to uncover the detailed mechanisms by which cadmium interferes with DNA Mismatch Repair. Our team will use advanced biophysical and structural methods to examine changes in key enzyme regions when cadmium binds, causing loss of function. Additionally, we will investigate specific amino acids within the zinc/cadmium binding region of MutLAlpha. Mutations at these sites can increase cancer risk, particularly under cadmium exposure.

1R01ES03084-01 – Prakash, Aishwarya, PI. **NCE** 04/01/19 – 07/31/25 6 calendar
NIH/NIEHS $2,264,009.00
ONES – Outstanding New Environmental Scientist
Repair of Environmentally Induced Mitochondrial DNA Damage
→ These studies involve the determining three critical aspects of NEIL enzyme function in the mitochondria that include structure-driven protein interactions, post-translational modifications, and subcellular localization.

Voucher – Prakash, Aishwarya, PI. 05/04/22 – until spent 0 calendar
Mass Spectrometry Voucher $2,000
College of Medicine, University of South Alabama
→ The studies supported by the voucher involve identifying the interaction epitope between a novel NEIL1 nanobody and the NEIL1 enzyme using protein painting.

Voucher – Prakash, Aishwarya, PI. 01/01/25 – until spent 0 calendar
Seahorse Voucher $750
College of Medicine, University of South Alabama
→ The studies supported by the voucher involve obtaining materials to perform seahorse experiments that inform mitochondrial health.

Mayer Mitchell Award, Prakash, Aishwarya, PI 11/15/22 – until spent 0 calendar
Unrestricted funds for research $10,000.00

Reed Foundation, Prakash, Aishwarya, PI 07/01/23 – until spent 0 calendar
Reed Foundation support provided by MCI director $10,000.00
→ Funds will support studies related to Cadmium induced inhibition of DNA repair pathways

Completed
1R35ES031708 - Sweasy, Joann, PI. 07/06/22 – 03/31/25 1.2 calendar
NIH/NIEHS (R35) $480,062.00
Aberrant DNA Repair and Lupus
→ These studies involve studying the role of variants in mismatch repair proteins in triggering Lupus. My role would involve performing structural and biochemical analyses of wild-type and variant proteins.
Prakash Role: Collaborator/ subcontract

Dokland, Terje, PI 02/01/20
NIH/S10 1S10OD024978
→ Acquisition of a cryo-electron microscope. Our project involves evaluating the structure of DNA repair complexes including those involved with mismatch and base excision repair.

Role: Minor User. Funded

CCTS Voucher – Prakash, Aishwarya, PI. 06/18/19 – 04/30/20 0 calendar
Internal fellowship $2,750
Center for Clinical and Translational Science Voucher Program: Analysis of cadmium levels in the blood of patients diagnosed with cancer.
→ These studies involved consenting and collecting blood samples from patients at the Mitchell Cancer Institute with cancer (IRB approved) and comparing the levels of cadmium in their blood to those without cancer. This voucher will be used for cadmium analysis and downstream biostatistical analyses.

R00ES024417 – 03 Prakash, Aishwarya, PI. 04/01/16 – 06/30/19 9 calendar
NIH/NIEHS $249,000 (NCE)
Repair of Environmentally and Endogenously Induced Oxidized Mitochondrial-DNA Damage
→ The main goals of this study are to elucidate the individual roles for the NEIL1 and NEIL2 enzymes in mitochondrial DNA repair.

Mitchell Cancer Institute Fellowship – D'Arcy, Brandon, PI. 12/01/18 – 11/30/19 3 calendar
Internal fellowship $25,000
Development and characterization of novel pro-drugs for specific inhibition of the serine/threonine protein phosphatase 5 (PP5C)
→ These studies involve determining the structural mechanism by which the PP5C can be specifically inhibited. This will be performed using a combination of protein X-ray crystallography, chemical syntheses, and mass-spectrometry approaches.

CCTS Voucher – Prakash, Aishwarya, PI. 01/01/19 – 04/30/19 0 calendar
Internal fellowship $2,150
Center for Clinical and Translational Science Voucher Program: Analysis of cadmium levels in the blood of patients diagnosed with cancer.
→ These studies involved consenting and collecting blood samples from patients at the Mitchell Cancer Institute with cancer (IRB approved) and comparing the levels of cadmium in their blood to those without cancer. This voucher will be used for cadmium analysis and downstream biostatistical analyses.

2K99ES024417 – 01 Prakash, Aishwarya, PI. 08/01/14 – 03/31/16. 12 calendar
NIH/NIEHS $85,743
Repair of Environmentally and Endogenously Induced Oxidized Mitochondrial-DNA Damage

J. Walter Juckett Fellowship (Prakash, A., Fellow) 07/01/12-06/30/14 10.8 calendar
The Vermont Cancer Center $50,000

Presidential Fellowship (Prakash, A., Graduate student) 07/01/09-06/30/10 12 calendar
University of Nebraska Medical Center $21,000

Graduate Studies Fellowship (Prakash, A., Grad student) 07/01/07-06/30/09 12 calendar
University of Nebraska Medical Center $21,000

Incoming Graduate Fellowship (Prakash, A., Grad student) 07/01/05-06/30/06 12 calendar
University of Nebraska Medical Center $21,000

Pending/ Other Status

R01ES038140 Wise, JTF (PI) 09/01/25 - 08/31/30
NIH/NIEHS $2,850,659
Hexavalent Chromium Drives Human Lung Carcinogenesis of Chemical Mixtures Through N-Acetyltransferases
The major goal of this project is to establish that hexavalent chromium drives chemical mixtures (containing aromatic and heterocyclic amines) carcinogenesis through *N*-acetyltransferases.
Role: Co-I/ Collaborator/ Subcontract
Status: Pending IRG Review

NIH/NIEHS 04/1/25-3/31/30 6 calendar
Mechanistic Insights into the Structure and Function of Mito-nuclear Excision Repair Complexes $2,207,703.00
Prakash Role: PI
Not funded.

NIH/NIEHS 4/01/24-3/31/29 3 calendar
Mutagenic Inhibition of DNA Repair by Cadmium $2,086419.00
Prakash Role: PI
Not funded

NIH/NIEHS 12/1/24-6/30/29 6 calendar
Mechanistic Insights into the Structure and Function of Mito-nuclear Excision Repair Complexes $2,207,703.00
Prakash Role: PI
Not funded

NSF/MCB 7/1/24-6/30/28 3 calendar
ATOMiC Supercharging $1,220,056.00
Prakash Role: PI
Not funded

American Cancer Society 4/01/24-3/31/29 3 calendar
Mutagenic Inhibition of DNA Repair by Cadmium $2,086419.00
Prakash Role: PI
Funded!

NIH/NIEHS 4/01/24-3/31/29 3 calendar
Mutagenic Inhibition of DNA Repair by Cadmium $2,086419.00
Prakash Role: PI
Scored but not funded

American Brain Tumor Association – ABTA 11/01/23-10/31/25 LOI
Cell Penetrating Peptide Disruption of Base Excision Repair Complexes in Glioma
Prakash Role: Co-PI
Rejected

US Department of Defense 10/01/23 - 9/30/26 3 calendar

Gene-Environment Synergism: where hereditary cancer syndromes meet environmental exposure to toxic metals.
Not funded

US Department of Defense 9/30/23 - 9/29/25 LOI
Cd-Induced Loss of Functional Mismatch Repair Accelerates Genome Instability in Lynch Syndrome Carriers
LOI - Rejected

NIH/NIEHS $1,929,150.00 3 calendar
Title: Cadmium Induced Structural Changes to the MutL Complex Results in Loss of Mismatch Repair Function and Accelerates Genome Instability
→ These studies involve determining the extent to which carcinogenic metals like cadmium can exacerbate the impact of hereditary cancer syndromes such as Lynch syndrome. We propose to use novel tools to determine the extent to which MSI, a hallmark of Lynch syndrome is exacerbated in the presence of the toxicant cadmium. Furthermore, we wish to determine the mechanism by which cadmium inhibits PMS2 activity.
Status: New Application; Study section CE. Review cycle October 2022. Not funded.

Department of Defense - Prakash, Aishwarya, PI. 01/01/23 – 12/31/25 3 calendar
Peer Reviewed Cancer Research Program $400,000
Title: Cd-Induced Loss of Functional Mismatch Repair Accelerates Genome Instability in Lynch Syndrome Carriers
→ This research endeavor focuses on the extent to which cadmium (Cd), an environmental carcinogen, accelerates progression to cancer in individuals with Lynch syndrome (LS), a hereditary cancer syndrome. The mechanism of Cd inhibition will also be scrutinized using biophysical and structural studies.
Status: Not Funded

Research Scholar Grant - Prakash, Aishwarya, PI. 01/01/23 – 12/31/27 2.04 calendar
American Cancer Society $779,166.00
Title: Cd-Induced Loss of Functional Mismatch Repair Accelerates Genome Instability in Lynch Syndrome Carriers
→ This research endeavor focuses on the extent to which cadmium (Cd), an environmental carcinogen, accelerates progression to cancer in individuals with Lynch syndrome (LS), a hereditary cancer syndrome. The mechanism of Cd inhibition will also be scrutinized using biophysical and structural studies.
Status: Not Funded

Pilot Project – Johnsten Tom, PI 04/01/22 – 04/30/23 0 calendar
USA ORED $25,000
Biological Validation of Computationally Generated Synthetic Signal Peptides
→ Validate synthetic signal peptides generated via computational means using confocal microscopy. Specifically signals will be validated by targeting the NEIL1 DNA glycosylase to the mitochondrion. Mitochondrial health will also be monitored.
Prakash Role: Collaborator
Status: Not Funded

Pilot Project – Prakash, Aishwarya, PI 05/01/22 – 04/30/23 1.4 calendar
CCTS, UAB $60,000

Environmental toxicants exacerbate cancer risk in Lynch syndrome patients
→ These studies involve determining the extent to which carcinogenic metals like cadmium can exacerbate the impact of hereditary cancer syndromes such as Lynch syndrome. We propose to use novel tools to determine the extent to which MSI, a hallmark of Lynch syndrome is exacerbated in the presence of the toxicant cadmium. Furthermore, we wish to determine the mechanism by which cadmium inhibits PMS2 activity.
Status: Not Funded

R01CA258619 - Swingle, Mark, Lead PI. 04/01/22 – 03/31/27 1.2 calendar
NIH/NIEHS $250,000
Defining the roles of ser/thr protein phosphatases in disease processes resulting from environmental exposures and exploring the therapeutic applications of specific inhibitors.
→These studies involve determining new ligands to inhibit the activity of PPP5C in several cancers. The approach involves structure activity relationships of compounds built upon two novel scaffolds and high-resolution crystal structures of PPP4C in complex with four novel fragment-like inhibitors.
Prakash Role: Co-PI. Status: Not Discussed

NIH/NCI – Piazza, Gary, PI 01/01/22 – 12/31/27 1.2 calendar
A novel reversible pan-RAS inhibitor for colorectal cancer.
→ The goals of this project are to find a Pan-RAS inhibitor using chemical synthesis and further characterizing the inhibition in tissue culture models. The Prakash lab will biochemically define the binding of the inhibitor to RAS and determine the crystal structure of the compound bound to RAS.
Prakash Role: Co-I. Not Funded.

Sobol, Robert, PI 04/01/21 – 03/31/23 0.6 calendar
NIH/SBIR Phase II
Follow-up to 1 R43 ES025138-01A1
Quantitative Real-Time DNA Repair Analysis Tools
→ These studies involve building upon a Phase I study aimed at developing a DNA repairomics functional platform. My role will involve obtaining purified proteins especially DNA glycosylases and assisting with structure-based drug design to screen for inhibitors for Base Excision Repair proteins.
Prakash Role: Collaborator. Not Funded.

Mark Foundation – Prakash, Aishwarya PI 01/01/22 – 12/31/24
Living In limbo: How environmental factors increase cancer incidence in families with preexisting hereditary conditions.
Status: Not funded

R01ES032796 - Prakash, Aishwarya PI. 04/01/21 – 03/31/26 3.6 calendar
NIH/NIEHS $250,000
Environmental toxicants exacerbate cancer risk in Lynch syndrome patients
→ These studies involve determining the extent to which carcinogenic metals like cadmium can exacerbate the impact of hereditary cancer syndromes such as Lynch syndrome. We propose to use novel tools to determine the extent to which MSI, a hallmark of Lynch syndrome is exacerbated in the presence of the toxicant cadmium. Furthermore, we wish to determine the mechanism by which cadmium inhibits PMS2 activity. Status: Resubmission ND; A0 score 36th percentile.

R01CA258619 - Swingle, Mark, Lead PI. 04/01/21 – 03/31/26 1.2 calendar
NIH/NCI $250,000
Fragment-based discovery of novel ligands for serine/threonine protein phosphatase 5 (PPP5C)
→These studies involve determining new ligands to inhibit the activity of PPP5C in several cancers. The approach involves structure activity relationships of compounds built upon two novel scaffolds and high-resolution crystal structures of PPP4C in complex with four novel fragment-like inhibitors.
Prakash Role: Co-PI. Status: Not Discussed.

Lung Cancer Research Foundation – Prakash, Aishwarya 01/01/22 – 12/31/24
Cadmium genotoxicity in lung carcinogenesis.
Status: Not Funded

SPECIALIZED TRAINING

Leadership in Healthcare Certification Program, University of South Alabama, Mobile, AL	2025
Cryo-Electron Microscopy workshop in data processing, University of Alabama in Birmingham (July 10 - 14th, 2023)	2023
Cryo-Electron Microscopy workshop in data processing, University of Alabama in Birmingham (July 22 - 26th, 2019)	2019
Quantitative Fluorescence Microscopy Workshop, MDI laboratories, Salisbury Cove, Bar Harbor, Maine	2019
BIO-CAT Advanced SAXS Training Course, Argonne National Labs, Argonne, IL	2016
RapiData Fundamentals in Crystallography, Brookhaven National Labs, Long Island, NY.	2012
Eppley Institute (UNMC) Short Course: Metastasis and the Tumor Environment	2010
Eppley Institute (UNMC) Short Course: MicroRNA and Cancer	2009
Eppley Institute (UNMC) Short Course: Metabolic Regulation of Human Malignancies	2008
Principles and Methods in Light Scattering, Wyatt Technology, Santa Barbara, CA	2007
Eppley Institute (UNMC) Short Course: Ubiquitin and Cancer	2007
Eppley Institute (UNMC) Short Course: Stem Cells in Cancer and Development	2006
Certified Nursing Assistant, Omaha, NE	2004

PROFESSIONAL RECOGNITION AND AWARDS

Research and Technology Showcase Awardee, University of South Alabama	2025
Samuel H. Wilson Award for Studies on DNA Repair, awarded by the Environmental Mutagenesis and Genomics Society (EMGS)	2024
Mayer Mitchell Award for Excellence in Cancer Research, USA Health Mitchell Cancer Inst.	2022
Top Downloaded Article during its first 12 months of publication in Environmental and Molecular Mutagenesis (EMM)	2022
Environmental and Molecular Mutagenesis (EMM), Editor's choice award	2019
Travel Award for Translational Training Symposium, New Orleans, LA	2019
Young Scientist Award, Environmental Mutagenesis and Genomics Society (EMGS)	2018

Mobile Bay Magazine's 40 Under Forty Award, Mobile, AL (Recognition of the top 40 individuals who demonstrate leadership, professional excellence and a commitment to the Mobile Bay Area)	2017
Norman and Bernice Harris Award in Cancer Research, Eppley Cancer Institute	2010
Berndt Graduate Student Travel Award, UNMC	2009
NIH Graduate Student Research Festival Travel award, NIH Nov. 12-13th 2009.	2009
Summa Cum Laude Graduate, University of Nebraska at Omaha, Dec 2004	2004
International Students' Scholarship, University of Nebraska at Omaha	2003-2004
Regent Scholarship for Excellence in Academics, University of Nebraska at Omaha	2003-2004
Dean's List, University of Nebraska at Omaha	2003-2004
Finalist, Student Employee of the Year, University of Nebraska at Omaha	2003-2004
Emerging Scholar in Math Award, Collin County Community College District (CCCCD), TX	2002
The Pamela Justice Scholarship for Women in Math and Natural Sciences, CCCCD	2002
The Edward Bock Scholarship for proficiency in Math, CCCCD	2002
Dean's List/ President's List, CCCCD	2001-2002
Math World Honor for Young Mathematicians – All India competition, Bangalore, India	1999

SCIENTIFIC CONFERENCES & SYMPOSIA ORGANIZED

Environmental Mutagenesis and Genomics Society; DNA Repair Special Interest Group: Webinars and Online Workshops (WOW) Event on "Mutagenesis and Cellular Responses to DNA Damage" (May 2022); Co-Chair.	2022
Environmental Mutagenesis and Genomics Society; Women in the EMGS: WOW Event (July 2021); Co-Chair. featuring Dr. Emily Crawford, UCSF, who, in "eight crazy days," transformed a research lab into a clinical diagnostics lab for SARS-CoV-2.	2021
Environmental Mutagenesis and Genomics Society; DNA Repair Special Interest Group: WOW Event on "Genome Instability and Disease" (Feb 2021); Co-Chair.	2021
Environmental Mutagenesis and Genomics Society Annual Meeting, Palm Springs, CA. Role: Young Investigator Co-chair (virtual).	2020
Chair, 1st Southern Structural Biology Symposium, October 2019; Mobile, AL.	2019
Organizing Committee and Scientific Advisory Panel, 1st Southern Genome Maintenance Conference; Mobile, AL. Role: Fund raising, scientific input, award decisions, and crafting award certificates.	2018
Environmental Mutagenesis and Genomics Society Annual meeting (Raleigh, NC; San Antonio, TX; and Washington DC). Role: DNA Repair Platform session and Symposium co-chair.	2017-2019
Chair, Gordon Research Seminar (GRS), Mutagenesis (Girona, Spain). Role: inviting speakers, making the schedule, and fund raising for the event.	2016

PUBLICATIONS

Peer-reviewed Publications, Review Articles, Editorials, Conference Papers, and Book Chapters

Thompson MK, Eggers MH, Flores D, Valenzuela I, Zhengrong Y, Andrews JF, Johnsten T, **Prakash A[#].** Development and characterization of a novel NEIL1 Nanobody. *Accepted, May 17th, 2025. DNA Repair*. **[#]Corresponding Author**.

Al-Rahahleh RQ, Saville KM, Andrews JF, Wu Z, Koczor CA, **Prakash A**, and Sobol RW. Overexpression of the WWE domain of RNF146 modulates poly-(ADP)-ribose dynamics at sites of DNA damage. *Accepted, May 6th, 2025. DNA Repair*. My Role: Structural Analysis and WWE domain mapping.

Thompson MK, Eggers MH, Benton RG, Johnsten T, **Prakash A[#].** Artificial Targeting of the NEIL1 DNA Glycosylase to the Mitochondria. *Environ Mol Mutagen*. 2024 Oct;65(8):243-250. PMID: 39324705. PubMed Central PMCID: pending. **[#]Corresponding Author**.

Thompson MK, Sharma N, Thorn A, **Prakash A[#].** Deciphering the crystal structure of a novel nanobody against the NEIL1 DNA glycosylase. *Acta Crystallogr D Structural Biol.* 2024 Feb 1;80(Pt 2):137-146. PMID: 38289715; PubMed Central PMCID: PMC10836396. **[#]Corresponding Author**.

Editorial: Regulatory Networks in Genome Stability Pathways. Ashton NW, **Prakash A**, and Moiseeva TN. *Frontiers in Genetics*. Specialty Section: *Cancer Genetics and Oncogenomics*. 21st Feb 2023. My Role: Associate Editor.

Koczor C, Thompson MK*, Sharma N*, **Prakash A[#]**, Sobol RW[#]. Polβ/XRCC1 heterodimerization dictates DNA damage recognition and basal Polβ protein levels without interfering with mouse viability or fertility. *DNA Repair*. My Role: Solving the polymerase B mouse WT and mutant structures, manuscript preparation/editing. PMID: 36702010. * These authors contributed equally to this work. **[#]Co-corresponding Author.**

Sharma N, Thompson MK, Terry MD, Arrington JF, Chakravarthy C, Previlege P, **Prakash A[#]**. Novel interaction interfaces mediate the interaction between the NEIL1 DNA Glycosylase and Mitochondrial Transcription Factor A. Front Cell Dev Biol. 2022 July 22;10:893806. Doi: 10.3389/fcell.2022.893806. *Special Issue "Mechanistic Studies of Genome Integrity, Environmental Health, and Cancer Etiology"*. PubMed PMID: 35938152; PubMed Central PMCID: PMC9354671. **[#]Corresponding Author**.

Daly G, **Prakash A,** Clark T, Benton R, Johnston T. Conference Paper. Computational Framework for Generating Synthetic Signal Peptides. *ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB*). Accepted June 2022. My role: Data analysis, interpretation, manuscript editing.

D'Arcy B, Arrington JF, Weisman J, McClellan S, Vandana, Yang Z, Deivanayagam C, Blount J, **Prakash A[#]**. *PMS2* Variant Results in Loss of ATPase Activity without Compromising Mismatch Repair. Molecular Genetics & Genomic Medicine. 2022 Feb 21;e1908. doi: 10.1002/mgg3.1908. PubMed PMID: 35189042; PubMed Central PMCID: PMC9034662. **[#]Corresponding Author**.

Coley A, Ward A, Keeton AB, Chen X, Maxuitenko Y, **Prakash A**, Piazza G. Pan-Ras Inhibitors: Hitting Multiple RAS Isozymes with One Stone. Book chapter, Elsevier; Published Data: 1st Feb, 2022. My role: Manuscript and figure preparation and manuscript editing.

Thompson MK, Sobol RW, **Prakash A**[#]. Exploiting DNA endonucleases to advance DNA Repair. Invite Review. *Biology (Basel)* ***2021****, Jun 14;10(6): 530.* PubMed PMID: 34198612. PubMed Central PMCID: PMC8232306. [#]**Corresponding Author**.

Williams JD, Houserova D, Johnson BR, Dyniewski B, Berroyer A, French H, Barchie AA, Barnes CE, Bilbrey DD, Crosby AC, Demeis JD, Ghee KR, Horton JM, Hughes AG, Kreitz NW, McInnis CH, Patterson ZA, Prusak JE, Pudner SC, Reeves MN, Sahori LN, Simon EV, Turcu A, Tyes TM, Walker JD, Watters BC, Langley RJ, Gillespie MD, **Prakash A**, Larson ED, Jinks-Robertson S, and Borchert GM. G4-rich regions of the human genome are associated with increased genomic variation and form higher order, composite G4 structures via a novel loop:loop kissing interaction *in vitro*. Nucleic Acids Research. 2020 June 19;48(11):5907-5925. PubMed PMID 32383760. PubMed Central PMCID: PMC7293029. My role: intellectual and manuscript editing.

D'Arcy B, **Prakash A**[#], Honkanen RE. Targeting phosphatases in cancer: suppression of many versus the ablation one. Oncotarget, Invited Editorial. 2019; 10 6543-6545. PubMed PMID: 31762936; PubMed Central PMCID: PMC6859926. [#]**Co-corresponding Author**

Sharma N, Pasala MS, **Prakash A**[#]. Mitochondrial DNA: epigenetics and environment. Environmental and Molecular Mutagenesis, Invited Review. Aug 2019. PubMed PMID: 31335990. PubMed Central PMCID: PMC6461610. [#]**Corresponding Author**. **Editor's choice award, October 2019, featured on the cover of the *EMM* journal. Journal's most cited article 2019 – 2020. Top Downloaded Article 2020-2022.**

Fang Q, Wilk A, Sharma N, Koczor CA, Clark J, Slyskova J, Andrews J, Lans H, **Prakash A**, Sobol RW. "Stability and subcellular localization of DNA polymerase B is regulated by interactions with NQO1 and XRCC1 in response to oxidative stress". Nucleic Acids Research July 2019. PubMed PMID: 31287140. PubMed Central PMCID: PMC6614843. My contributions to the manuscript were interpretation of structural information and generation of structural figures. Furthermore, my post-doctoral fellow Nidhi Sharma, performed the binding studies using OpenSPR where I contributed to the experimental design and troubleshooting.

D'Arcy BM, Swingle MR, Schambeau L, Pannell L, **Prakash A**, Honkanen RE. Development of a Synthetic 3-ketosteroid Δ_1-dehydrogenase for the Generation of a Novel Catabolic Pathway Enabling Cholesterol Degradation in Human Cells. Scientific Reports. 2019 Apr 12;9(1):5969. PubMed PMID: 30979909. PubMed Central PMCID: PMC6461610. My role: manuscript drafting and editing; current mentor for first author Dr. D'Arcy.

D'Arcy B, Blount J, **Prakash A**[#]. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. Human Mutation. 2019 Apr; 40(4):458-471. doi:10.1002/humu.23708. PubMed PMID: 30653781; PMCID: PMC6450075. [#]**Corresponding Author. Selected for the Journal Front Cover Image.**

D'Arcy BM, Swingle MR, Papke CM, Abney KA, Bouska ES, **Prakash A**,[#] Honkanen RE.[#] Serine/threonine protein phosphatase 5 (PP5C/PPP5C) is a target of the antitumor drug LB-100. Molecular Cancer Therapeutics, 2019; Mar;18(3):556-566. PubMed PMID: 30679389; PubMed Central PMCID: PMC6397705. [#]**Co-corresponding author.**

Sharma N, Chakravarthy S, Longley MJ, Copeland WC, **Prakash A[#]**. The C-terminal tail of the NEIL1 DNA glycosylase interacts with the human mitochondrial single-stranded DNA binding protein. DNA Repair. 2018 Mar; 65:11-19. PubMed PMID: 29522991; PubMed Central PMCID: PMCID: PMC5911420. **[#]Corresponding Author**.

Blount J, **Prakash A[#]**. The Changing Landscape of Lynch Syndrome due to *PMS2* Mutations. Clinical Genetics. 2017; Dec 29. doi: 10.1111/cge.13205. PMID: 29286535. PMCID: PMC5995637. **[#]Corresponding Author**.

Galick HA, Marsden CG, Kathe S, Dragon JA, Volk L, Nemec AA, Wallace SS, **Prakash A**, Doublié S, Sweasy JB. The NEIL1 G83D germline DNA glycosylase variant induces genomic instability and cellular transformation. Oncotarget. 2017 Sep. PubMed PMID: 29156764; PubMed Central PMCID: PMC5689654. My role: contributed to the intellectual framework, data interpretation, and writing the manuscript.

Prakash A[#], Moharana K, Wallace SS, and Doublié S. Destabilization of PCNA Mediated by the interaction with the NEIL1 DNA Glycosylase. Nucleic Acids Research. 2017 Mar 17;45(5):2897-2909. PubMed PMID: 27994037; PubMed Central PMCID: PMC5389659. **[#]Co-Corresponding Author.**

Saki M, **Prakash A[#]**. DNA damage related crosstalk between the nucleus and mitochondria. Free Radical Biology and Medicine. 2016;Nov S0891-5849(16)31086-3. PubMed PMID: 27915046; PubMed Central PMCID: PMC5449269. **[#]Corresponding Author.**

Prakash A[#], Cao VB, and Doublié S. Phosphorylation sites identified in NEIL1 are sites for the JNK1 kinase. Plos One. 2016 Aug;11(8):e0157860. PubMed PMID: 27518429; PubMed Central PMCID: PMC4982613. **[#]Co-Corresponding Author.**

Prakash A[#], Doublié S. Base Excision Repair in the Mitochondria. J Cell Biochem. 2015 Aug;116(8):1490-9. PubMed PMID: 25754732; PubMed Central PMCID: PMC4546830. **[#]Corresponding Author.**

Sjolund A, Nemec AA, Paquet N, **Prakash A**, Sung P, Doublié S, Sweasy JB. A germline polymorphism of thymine DNA glycosylase induces genomic instability and cellular transformation. PLoS Genet. 2014 Nov;10(11):e1004753. PubMed PMID: 25375110; PubMed Central PMCID: PMC4222680. My role: interpretation of structural information and figure generation.

Prakash A, Carroll BL, Sweasy JB, Wallace SS, Doublié S. Genome and cancer single nucleotide polymorphisms of the human NEIL1 DNA glycosylase: activity, structure, and the effect of editing. DNA Repair (Amst). 2014 Feb;14:17-26. PubMed PMID: 24382305; PubMed Central PMCID: PMC3926126.

Prakash A, Eckenroth BE, Averill AM, Imamura K, Wallace SS, Doublié S. Structural investigation of a viral ortholog of human NEIL2/3 DNA glycosylases. DNA Repair (Amst). 2013 Dec;12(12):1062-71. PubMed PMID: 24120312; PubMed Central PMCID: PMC3856876.

Prakash A, Doublié S, Wallace SS. The Fpg/Nei family of DNA glycosylases: substrates, structures, and search for damage. Prog Mol Biol Transl Sci. 2012;110:71-91. PubMed PMID: 22749143; PubMed Central PMCID: PMC4101889.

Prakash A, Borgstahl GE. The structure and function of replication protein A in DNA replication. Subcell Biochem. 2012;62:171-96. PubMed PMID: 22918586.

Lada AG, Waisertreiger IS, Grabow CE, **Prakash A**, Borgstahl GE, Rogozin IB, Pavlov YI. Replication protein A (RPA) hampers the processive action of APOBEC3G cytosine deaminase on single-stranded DNA. PLoS One. 2011;6(9):e24848. PubMed PMID: 21935481; PubMed Central PMCID: PMC3174200. My role: protein purification, intellectual contribution, and manuscript editing.

Prakash A, Natarajan A, Marky LA, Ouellette MM, Borgstahl GE. Identification of the DNA-Binding Domains of Human Replication Protein A That Recognize G-Quadruplex DNA. J Nucleic Acids. 2011;2011:896947. PubMed PMID: 21772997; PubMed Central PMCID: PMC3136212.

Prakash A, Kieken F, Marky LA, Borgstahl GE. Stabilization of a G-Quadruplex from Unfolding by Replication Protein A Using Potassium and the Porphyrin TMPyP4. J Nucleic Acids. 2011;2011:529828. PubMed PMID: 21772995; PubMed Central PMCID: PMC3136172.

Deng X*, **Prakash A***, Dhar K, Baia GS, Kolar C, Oakley GG, Borgstahl GE. Human replication protein A-Rad52-single-stranded DNA complex: stoichiometry and evidence for strand transfer regulation by phosphorylation. Biochemistry. 2009 Jul 21;48(28):6633-43. PubMed PMID: 19530647; PubMed Central PMCID: PMC2710861.
*** These authors contributed equally to this work.**

Manuscripts submitted/ in preparation

Balu KE, Almohdar D, Ratcliffe J, Tang Q, Parwal T, **Prakash A**, and Cağlayan, M. Structural and biochemical characterization of LIG1 during mutagenic nick sealing of oxidatively damaged ends at the final step of DNA repair. *In revision*. *NAR*. My Role: Structure solving and refinement.

Chokshi S, Lee K, Elkadi O, **Scalici J, Prakash A**. Geo-MX analysis reveals dramatic alterations in gene expression between Lynch-associated and sporadic endometrial cancers. *In preparation*. My role: Data collection, processing, and manuscript writing.

Thompson MK, Yoshie N, Price J, **Prakash A**[#]. High-resolution structure of the full-length NEIL1 enzyme bound to a novel nanobody. In preparation for submission to NSMB. [#]**Co-Corresponding Author**.

Sharma N, Arrington JF, Lange C, Pasala MS, **Prakash A**[#]. The NEIL2 DNA glycosylase gets (de)acetylated in the mitochondria by the concerted action of SIRT3 and ACAT1. *In preparation*. [#]**Corresponding Author**.

Manuscripts submitted to bioRχiv

Daly G, **Prakash A,** Benton R, Johnston T. A Method for Computationally Constructing Eukaryotic Synthetic Signal Peptide Sequences. 2021. My role: Data analysis, interpretation, manuscript editing.

PATENT APPLICATIONS

October 2021: Provisional Patent: Method for Computational Construction of Peptide Sequences. Inventors: Daly G, **Prakash A,** Benton R, Johnston T.

September 2022: Non-Provisional patent of the above filed.

PROFESSIONAL MEMBERSHIPS AND SOCIETIES

Society for Toxicology, SOT, Membership accepted	2024 – present
International Society for Trace Elements Research in Humans (ISTERH), Member	2023 – present
Environmental Mutagenesis and Genomics Society (EMGS), Member	2016 – present
Faculty Member, Faculty Opinions	2010 – present
Post-doctoral association, University of Vermont	2011 – 2016
American Cancer Society, Hope Lodge, Volunteer	2011 – 2015
American Cancer Society, Relay for Life, Team Captain	2007 – 2010
Student Senate, Graduate College Senator	2006 – 2010
Student Representative, Eppley Cancer Institute, University of Nebraska Medical Center	2007 – 2008
Graduate Studies Association, Executive Committee: Social Chair and PR Representative	2010

SERVICE

Grant Peer Review

Ad hoc: NIH/ CSR: MSFB (Molecular Structure and Function, Section B)	Jun 2025
Ad hoc: NIH/CSR: CMAD (Cellular Mechanisms in Aging and Development)	Oct 2024
Ad hoc: NIH Fellowships: Genes, genomes, and Genetics (ZRG F08-L (20)	Feb 2024
Ad hoc: NIH/NIEHS ZES1 ARL-S (R1) 1	July 2023
Ad hoc: NIH Fellowship applications ZRG1 F08-L (20)	Jun 2023
Ad hoc: NIH ZRG1-BN-Z52	Mar 2023
Ad hoc: NIH/NIEHS ZCA1 SRB-K (J2) S (R21/R03 NCI)	Oct 2022
Ad hoc: NIH/NIEHS ViCTER Award R01 Study Section ZES1 VSM-D (RV) 1	Jun 2022
Dean's Fellowship, University of South Alabama, College of Medicine	Dec 2021
Ad hoc: NIH Cancer Etiology Study section (CE)	Oct 2021
Ad hoc: NIH/NIEHS ViCTER Award R01 Study Section ZES1 ARL-D (R0) 2	Mar 2021
Ad hoc: NIH/NCI P01 Grant Applications Study Section ZCA1 SRB-K (M1) P	Feb 2021
Ad hoc: NSF Faculty Early Career Development (CAREER) Program Review	Sep 2020
Ad hoc: NIH Study Section ZRG1 MDCN-B (03)	Jul 2020
Ad hoc: Graduate Women in Science National Fellowship Applications	Apr 2020
Ad hoc: NIH (NIEHS) Study Section ZES1 LAT-S(K9)1 Career Development K applications	Oct 2019
Ad hoc: University of Alabama, Birmingham Comprehensive Cancer Center and Mitchell Cancer Institute Collaborative Grant Reviewer	Nov 2018
Ad hoc: North Carolina State University (NCSU) Center for Human Health and the Environment (CHHE) Pilot Project Reviewer	Oct 2018
Ad hoc: NIH Study Section ZES1 RAM-K (R) R13 grants	Dec 2017

Guest Editor/ Review Editor

2020-present Frontiers in Genetics. Guest Associate Editor in Cancer Genetics and Oncogenomics. Special Issue: Regulatory Networks in Genome Stability Pathways.

Professional Committees

University of South Alabama, Mobile, AL

Graduate Council (USA, Graduate School)	Oct 2022 – present
College of Medicine Faculty Assembly, Past President	Oct 2024 – 2025
College of Medicine Faculty Assembly, President	Oct 2023 – 2024
College of Medicine Faculty Assembly, Vice President	Oct 2022 – 2023
College of Medicine Faculty Assembly, Secretary	Oct 2021 – 2022
Scholarship and Financial Aid Committee	Aug 2021 – Jul 22
Faculty Committee on Promotions and Tenure (FCAPE)	July 2021 – present
Track Leader/Director Cancer Biology Track	Aug 2021 – present
Celebrate Hope Committee (Mitchell Cancer Inst.)	Jan 2021 – 2022
Committee on Diversity & Inclusion (CDI): In addition to monthly meetings I actively take part in: • Interviewing applications for Dream Applicants (Medical School) • Reviewing applications for South Med Prep & Dream programs • Selection of Henrietta Lax scholars	Jun 2020 – present
Faculty Search Committee, Department of Biochemistry	Aug 2019 – 2021
Employee Annual Giving Campaign for the South Fund	2019
University of South Alabama Graduate Student Admissions Committee, Biochemistry and MCI Representative	Dec 2018 – 2021
University of South Alabama Graduate Affairs Curriculum Committee	Nov 2018 – present
University of South Alabama Faculty Senate MCI Caucus leader	Apr 2018 – 2019
MCI/ Biochemistry representative to the University of South Alabama Faculty Senate	Apr 2017 – 2022
Chemical Safety committee, MCI, Mobile, AL	Sep 2017 – 2019
Employee recognition committee, MCI, Mobile, AL	Feb 2017 – 2019

Environmental Mutagenesis and Genomics Society (EMGS)

EMGS Executive Board (Council Representative)	2022 – 2024
EMGS Council (Elected in December 2020)	2021 – 2024
EMGS Finance and Fundraising Committee	2024 – present
DNA Repair Special Interest Group, Co-Chair/ Representative (3 year term)	2020 – 2023
Program Committee and Young Investigator co-chair; EMGS Annual meeting, Palm Springs, CA	2020
Environmental and Molecular Mutagenesis – Editor's choice team - The March 2020 Editor's Choice article is "Effects of micronucleus frequencies and mitochondrial DNA copy numbers among benzene-exposed workers in China" - The November 2020 Editor's Choice article is "Quantification of cancer driver mutations in human breast and lung DNA using targeted, error-corrected CarcSeq"	Aug 2019 – present
Co-Chair Women in the EMGS	Aug 2019 – 2022

Chair, Young Scientist Award Committee	Jan 2019 – 2022
Nominating Committee	Jan 2019 – 2022
New Directions Task Force Committee	Jan 2019 – 2022

Faculty of 1000: Post publication Peer Review

July 2019 Our published work in collaboration with Dr. Robert W. Sobol by Fang Q, Wilk A, Sharma N, Koczor CA, Clark J, Slyskova J, Andrews J, Lans H, Prakash A, and Sobol RW entitled "Stability and subcellular localization of DNA polymerase B is regulated by interactions with NQO1 and XRCC1 in response to oxidative stress" in *Nucleic Acids Research*, was highlighted and recommended in an F1000 recommendation authored by Dr. Olga Lavrik.

Faculty Opinions (formerly Faculty of 1000): Post publication Peer Review - Evaluations

Prakash A[#]: Faculty Opinions Recommendation of [Fleming AM et al., Biochimie 2023]. In Faculty Opinions, 19 Jul 2023; 10.3410/f.742713675.793599747. **[#]Faculty opinions member.**

Prakash A[#] and Sharma N: Faculty Opinions Recommendation of [Tian G et al., Sci Rep 2022 12(1):14685]. In Faculty Opinions, 19 Dec 2022; 10.3410/f.742302199.793597082. **[#]Faculty opinions member.**

Prakash A[#] and Sharma N: Faculty Opinions Recommendation of [Riccio AA et al.,Proc Natl Acad Sci USA 2022 119(32):e2207459119]. In Faculty Opinions, 10 Oct 2022; 10.3410/f.742262539.793595813. **[#]Faculty opinions member.**

Prakash A[#]: Faculty Opinions Recommendation of [Hildrestrand GA et al., Commun Biol 2021 4(1):1354]. In Faculty Opinions, 27 Jul 2022. **[#]Faculty opinions member.**

Prakash A[#]: Faculty Opinions Recommendation of [Jia X et al., Am J Hum Genet 2021 108(1):163-175]. In Faculty Opinions, 19 Apr 2022; 10.3410/f.739273151.793592481. **[#]Faculty opinions member.**

Prakash A[#]: Faculty Opinions Recommendation of [Köger N et al., Genes Chromosomes Cancer 2018 57(7):350-358]. In Faculty Opinions, 08 Jun 2018; 10.3410/f.732834439.793546615. **[#]Faculty opinions member.**

Prakash A[#] and Sharma N: Faculty Opinions Recommendation of [Zhdanova PV et al., J Mol Biol 2021 434(2):167334]. In Faculty Opinions, 04 Jan 2022; 10.3410/f.741083202.793590711. **[#]Faculty opinions member.**

Prakash A[#] and Sharma N: Faculty Opinions Recommendation of [Yeo J et al.,Biochemistry 2021 60(19):1485-1497]. In Faculty Opinions, 15 Sep 2021; 10.3410/f.740036413.793588227. **[#]Faculty opinions member.**

Prakash A[#]: Faculty Opinions Recommendation of [Eckenroth BE et al., Structure 2021 29(1):29-42.e4]. In Faculty Opinions, 28 May 2021; 10.3410/f.738566267.793585573. **[#]Faculty opinions member.**

Prakash A[#] and Sharma N: Faculty Opinions Recommendation of [Xu W et al., Proc Natl Acad Sci USA 2019 116(36):17792-17799]. In Faculty Opinions, 20 Mar 2020; 10.3410/f.736430034.793572398. **[#]Faculty opinions member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Anzalone AV et al., Nature 2019 576(7785):149-157]. In F1000Prime, 26 Nov 2019; 10.3410/f.736778482.793567599. **[#]F1000 faculty member.**
Prakash A[#]: F1000Prime Recommendation of [Qian W et al., Proc Natl Acad Sci USA 2019 116(37):18435-18444]. In F1000Prime, 15 Nov 2019; 10.3410/f.736503542.793567145. **[#]F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Savoia M et al., FASEB J 2019 33(3):4107-4123]. In F1000Prime, 26 Jun 2019; 10.3410/f.734615296.793561628. **[#]F1000 faculty member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Al-Mugotir M et al., Anal Biochem 2019 569:46-52]. In F1000Prime, 19 Mar 2019; 10.3410/f.735024304.793557595. **[#]F1000 faculty member.**

Prakash A[#]: F1000Prime Recommendation of [Visnes T et al., Science 2018 362(6416):834-839]. In F1000Prime, 27 Dec 2018; 10.3410/f.734437980.793554516. **[#]F1000 faculty member.**
Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Wu CL et al., Free Radic Biol Med 2017 112:12-23]. In F1000Prime, 27 Dec 2018; 10.3410/f.727796161.793554560**. [#]F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [King GA et al., Nucleic Acids Res 2018 46(7):3633-3642]. In F1000Prime, 05 Sep 2018; 10.3410/f.733527132.793550191. **[#]F1000 faculty member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Sherrer SM et al., Proc Natl Acad Sci USA 2018 115(28):7314-7319]. In F1000Prime, 15 Aug 2018; 10.3410/f.733512485.793549290**. [#]F1000 faculty member.**

Prakash A[#]: F1000Prime Recommendation of [Endutkin AV et al., DNA Repair (Amst) 2018 69:24-33]. In F1000Prime, 10 Aug 2018; 10.3410/f.733677630.793549128. **[#]F1000 faculty member.**

Prakash A[#]: F1000Prime Recommendation of [Köger N et al., Genes Chromosomes Cancer 2018 57(7):350-358]. In F1000Prime, 08 Jun 2018; 10.3410/f.732834439.793546615**. [#]F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Limpose KL et al., Nucleic Acids Res 2018 46(9):4515-4532]. In F1000Prime, 20 Apr 2018; 10.3410/f.732819873.793544831**. [#]F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Mishra A et al., Mol Cell Biol 2018 38(3)]. In F1000Prime, 27 Dec 2017; 10.3410/f.732142212.793540877. **[#]F1000 faculty member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Hansen SB et al., Acta Crystallogr D Struct Biol 2017 73(Pt 10):804-813]. In F1000Prime, 21 Dec 2017; 10.3410/f.731969332.793540609. [#]**F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Hillen HS et al., Cell 2017 171(5):1072-1081.e10]. In F1000Prime, 11 Dec 2017; 10.3410/f.732121293.793539902. [#]**F1000 faculty member.**
Prakash A[#] and Sharma N: F1000Prime Recommendation of [Hong SY et al., PLoS ONE 2016 11(12):e0168752]. In F1000Prime, 10 Nov 2017; 10.3410/f.727151481.793538617. [#]**F1000 faculty member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Houlleberghs H et al., PLoS Genet 2017 13(5):e1006765]. In F1000Prime, 19 Jul 2017; 10.3410/f.727639180.793534313**.** [#]**F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Wisnovsky S et al., Nat Chem Biol 2016 12(7):567-573]. In F1000Prime, 04 Jul 2017; 10.3410/f.726388167.793533720**.** [#]**F1000 faculty member.**

Prakash A[#]: F1000Prime Recommendation of [Sykora P et al., Mol Cell Biol 2017 37(16)]. In F1000Prime, 28 Jun 2017; 10.3410/f.727675498.793533615. [#]**F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Khan I et al., J Biol Chem 2016 291(27):14324-14339]. In F1000Prime, 07 Apr 2017; 10.3410/f.726381149.793530221. [#]**F1000 faculty member.**

Prakash A[#] and D'Arcy B: F1000Prime Recommendation of [Silva FC et al., Am J Surg Pathol 2017]. In F1000Prime, 03 Apr 2017; 10.3410/f.727366446.793530044. [#]**F1000 faculty member.**

Prakash A[#] and Saki M: F1000Prime Recommendation of [Shinmura K et al., Oxid Med Cell Longev 2016 2016:1546392]. In F1000Prime, 19 Jan 2017; 10.3410/f.726269455.793527331. [#]**F1000 faculty member.**

Prakash A[#] and Sharma N: F1000Prime Recommendation of [Woods RD et al., Nucleic Acids Res 2016 44(2):801-810]. In F1000Prime, 19 Jan 2017; 10.3410/f.726019303.793518762. [#]**F1000 faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Kilpivaara O and Aaltonen LA, Science 2013 339(6127):1559-1562]. In F1000Prime, 11 Mar 2014; 10.3410/f.718299450.793491814. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Coutard B et al., Protein Expr Purif 2012 82(2):352-359]. In F1000Prime, 15 Apr 2013; 10.3410/f.717997692.793474203. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Adhikary S et al., DNA Repair (Amst) 2013 12(3):196-204]. In F1000Prime, 23 Jan 2013; 10.3410/f.717970677.793469222. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Chojnowski G and Bochtler M, Acta Crystallogr D Biol Crystallogr 2010 66(Pt 6):643-653]. In F1000Prime, 12 Oct 2012; 10.3410/f.717958102.793462402. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Joosten RP et al., Bioinformatics 2011 27(24):3392-3398]. In F1000Prime, 23 Jan 2012; 10.3410/f.13436978.14811146. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Saridakis E et al., Proc Natl Acad Sci USA 2011 108(27):11081-11086]. In F1000Prime, 31 Aug 2011; 10.3410/f.12933956.14235054. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Dauter Z and Jaskolski M, J Appl Crystallogr 2010 43:1150-1171]. In F1000Prime, 17 May 2011; 10.3410/f.10476958.11315058. [#]**F1000 associate faculty member.**

Doublié S and **Prakash A**[#]: F1000Prime Recommendation of [Kelley KD et al., Biochemistry 2010 49(26):5405-5407]. In F1000Prime, 01 Feb 2011; 10.3410/f.3611957.8351058. ***This evaluation was in the Structural Biology Faculty most viewed Top 10 list***. [#]**F1000 associate faculty member.**

Other Service

1. Journal Peer Review

NAR Cancer	2022 – present
Methods	2022 – present
Gene Reports	2019 – present
Molecules	2019 – present
Acta D	2019 – present
International Journal of Molecular Sciences	2019 – present
Molecular Biology Reports	2018 – present
FASEB Journal	2018 – present
Journal of International Medical Research	2018 – present
Genes	2017 – present
Plos one	2017 – present
Environmental and Molecular Mutagenesis	2017 – present
Anti-cancer Agents in Medicinal Chemistry	2017 – present
Cell Reports	2016 – present
Nature Communications	2016 – present
Meta Gene	2016 – present
Mitochondrial DNA	2015 – present
Nucleic Acids Research	2015 – present
DNA Repair	2013 – present
Structure	2011 – present

2. Poster/ Scientific Talks Judge

USA College of Medicine, Medical Student Research Day	July 2023

- 2nd Southern Genome Maintenance Conference, Florida International University, Miami, FL (Poster/ Talks Judge)	Jun 2022
- USA College of Medicine, Medical Student Research Day (Poster Judge)	Dec 2020
- Environmental mutagenesis and genomics society (EMGS; Talks/ poster Judge)	Sep 2019
- UAB-SERCAT Structural Biology symposium, University of Alabama Birmingham, poster judge	Mar 2019
- 1st Southern Genome Maintenance Conference, Mobile AL (Poster/Talks Judge)	Oct 2018
- Environmental mutagenesis and genomics society (EMGS; Talks Judge)	Sep 2018
- USA College of Medicine, Medical Student Research Day (Poster Judge)	July 2018
- South Alabama College of Medicine Research Forum (Poster Judge)	Nov 2017
- NanoBioSummit, Atmore, AL (Session Chair and Poster Judge)	Nov 2017
- MCI, Summer Undergraduate Research Program, Science Talks	Aug 2017
- USA, College of Medicine Research Day	July 2017
- Sealy Center for Structural Biology Symposium	Apr 2016

3. Organizer: Post-doctoral Trainee and Faculty Lunch and Learn Seminar Series (June 1, 2016 – present)

Faculty development seminar series: How to effectively manage and train personnel by the Human Resources Department of the University of South Alabama.	2018
Post-doc/ Trainee Lunch & Learn Seminar Series: Work-life balance: Julie Cwikla, University of Southern Mississippi.	Oct 2017
Post-doc Appreciation Week Celebration, sponsored by the Mitchell Cancer Institute.	Sep 2017
Alternative careers for PhDs: The lab is not your only option presented by Andy Byrd, David Hinton, and Reggie Taylor from the Office of Commercialization and Industry Collaborations.	Mar 2017
Post-doc Appreciation Week: Dinner supported by the director and faculty of the Mitchell Cancer Institute.	Sep 2016
Career paths in science: inside and outside the academic track presented by Dr. Kimberley Littlefield, Assistant Vice President for Research Development and Learning University of South Alabama Office of Research and Economic Development.	Jun 2016

4. Community Service and Outreach

- The Cancering Show – A podcast about cancering. I shared information about the ongoing current cancer research in my lab with the hope that it would reach cancer patients, caregivers, and other researchers.	Aug 2019
- Serving as part of the Biomedical Health Science program at St. Luke's Episcopal School, Mobile, AL (January 2017 - 2019). I teach 9th graders about DNA structure and X-ray Crystallography. (3 - 4 lectures per year).	2017 - 2020
- Providing opportunities for high-school students to shadow me/ post-doctoral research fellows in the laboratory. Thus far, the students I have had are Zeke Benshirim (Burlington High School, Vermont), Kate Symons (St. Luke's, Mobile, AL), and Skylar LeFeaux (Mobile, AL).	2015 - present

5. Professional Development

- Faculty Development Workshop: How to write USMLE style questions; Presented by Dr. Abu-Bakr Al-Mehdi	July 2019
- Translational Training Symposium and Grant Writing Sponsored by the CCTS; Intercontinental Hotel, New Orleans, LA. Feb 20 – 21, 2019.	Spring 2019
- Responsible Conduct of Research Training Series sponsored by the University of South Alabama Office of Research Compliance and Assurance	Spring 2018
- Junior Faculty Lunch – Faculty collaboration with the Center for Strategic Health Innovations	June 2017
- Image manipulation: Can you detect it? – Drs. Mary Townsley and Julio Turrens	Mar 2017
- Mandatory MCI seminar on data fabrication and falsification - Drs. Jim Kroll and - Scott Moore, Investigator from the HHS office of the Inspector general	Sep 2016
- University of South Alabama, Office of Research and Economic Development "*Twelve keys to successful grant writing*" – Dr. Robert Lowman	Apr 2016

6. Volunteer for Mitchell Cancer Center Events

American Cancer Society, Chili Cook-Off	Mar 2022, 23, 24 & 25
Cancer Survivor's Day Celebration, Mitchell Cancer Institute	June 8, 2019
9th Annual GO Run benefiting Gynecological Cancer Research	Sep 2016/17
Annual Breast Cancer Carnival presented by the Epsilon Upsilon Chapter of Alpha Kappa Alpha Sorority	Oct 2016

7. Overview of X-ray Facility and Laboratory Tours

- Spring 2023 - 25 Several tour groups:
- Satsuma Highschool
- Robertsdale Highschool
- Little Flower Middle School
- Summer Scrubs, MCI, July 16 – 18, 2019
- Oncology Open House, MCI, August 23rd, 2018 & 2024
- Summer Scrubs, MCI, July 17 – 19, 2018
- Robertsdale HS tours, MCI, March 12th, 2017
- Big Brothers/ Big Sisters of South Alabama filed trip, MCI, May 4th, 2017
- Middle school science project – Growing crystals in a laboratory setting, MCI, Nov 11th, 2016
- Two South Burlington high-school students (one junior and one senior), UVM, Aug 4th, 2015
- Potential graduate student applicants of the Cellular and Mol Bio Program, UVM, Oct 20th, 2014
- Fifteen honors chemistry students from Kearney NE, UNMC, Nov 6th, 2008
- Thirty 7th graders and twenty-three 8th graders from Country Side Church, UNMC, Dec 6th, 2006

8. Host for events

- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. John Wise Jr. March 2025.
- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. Brandt Eichman. November 2024.

- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. Joann Sweasy. November 2023.
- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. Bret Freudenthal. December 2019.
- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. Sheila David. October 2019.
- Distinguished Scientist Seminar Series, University of South Alabama College of Medicine. Speaker: Dr. Gloria Borgstahl. March 2018.
- Eppley Institute Short Course on Ubiquitin and Cancer, Student Host 2007

PRESENTATIONS

Invited Seminars

Commencement Hooding Ceremony, Frederick P. Whiddon College of Medicine, University of South Alabama. May 8th, 2025. Invited speech.

American Society for Biochemistry and Molecular Biology (ASBMB), University of South Alabama chapter. March 25th, 2025. Invited by Anita Nguyen and Ananya Chari. Title: Structure-function studies of DNA repair complexes.

Society of Toxicology, Annual Meeting, Orlando, FL. March 16 – 20th, 2025. Invited by Dr. John Wise Sr. Title: Lynch Syndrome Limbo – Inhibition of DNA Mismatch Repair by Toxic Metals.

INTPART Symposium. December 9th – 12th, 2024. USA-Norway VitaCross Research Training. Invited by: Dr. Marie Migaud. Title: Nanobodies and their uses in Science.

Metabolism Interest Group, COM, USA. Nov 21st, 2024. Invited by Dr. Lucia Plant. Title: Why would a structural biologist care about Metabolism?

MCI, Community Advisory Council Quarterly Meeting. Aug 19th, 2024. Invited by Susan Crutchfield. What is structural biology and how can it be beneficial to cancer research?

ISTERH Annual Meeting, Murcia Spain, Oct 6 – 10th, 2024. Invited Seminar: Inhibition of DNA Repair complexes by Cadmium.

EMGS – Sam Wilson, award special platform. Palm Springs, 2024 Sept 7 – 11th. Gene-environment synergisms and their role in cancer progression.

April 2024. Clemson University. Invited seminar by Dr. Jennifer Mason. Title: A structural approach to understanding the function of DNA Repair complexes.

November 17th, 2023. Kansas City University. Virtual Title: A structural approach to understanding the function of DNA Repair complexes.

ONES-RIVER in-person Symposium. July 26-28th, 2023. NIEHS, Raleigh-Durham, NC. Invited by Jennifer Collins, NIEHS. Title: NEIL1 – A tale of a disordered tail.

May 7 – 8th, 2023. University of Arkansas for Medical Sciences (UAMS) Cancer Center. Invited by Dr. Isabelle Miouse (in person). Title: A structural approach to understanding the function of DNA Repair complexes.

Mar 15th, 2023. University of Illinois, Chicago (UIC). Invited Seminar by Dr. Neelu Puri (virtual). Title: A structural approach to understanding the function of DNA Repair complexes.

Feb 5 – 10, 2023. Gordon Research Conference (in person). Mammalian DNA Repair. Invited Talk selected from abstracts. “ATPase Dead? What this means for PMS2 variants during Mismatch Repair”.

Jan 25th, 2023. Creighton University (in person). Invited Seminar by Host: Jun Xia, Ph.D. Title: “Structural insights into DNA repair complexes”.

Jan 6th, 2023. USA-Norway Biomedical Research Training Symposium (in person). Title: "NEIL1 – A tale of a disordered tail".

Aug 27th, 2022. ICEM; Ottawa, ON, Canada, EMGS Satellite Meeting: Samuel H. Wilson Memorial Meeting – DNA Damage & Repair. Inspiring basic and applied research on the crucial importance of genome maintenance mechanisms; Title: "NEIL1 – A tale of a disordered tail".

June 25-26th 2022. 2nd Southern Genome Maintenance Conference, Florida International University, Miami, FL. Invited talk selected from abstracts: “ATPase Dead? What this means for PMS2 variants during Mismatch Repair”.

May 26th, 2022. Invited talk and seminar for the Society of Toxicology New Investigator Webinar: Funding 101: Multiple Perspectives on the NIH Grant Process session. Title: “The Highs and Lows in the Life of an Academic”.

March 14th, 2022. Tulane University School of Medicine, New Orleans, LA. Title: “A structural approach to understanding the function of DNA repair complexes”.

Nov 15th, 2021. Thomas Jefferson University/ Sidney Kimmel Cancer Center, Philadelphia, PA. Title: “A structural approach to understanding the function of DNA repair complexes”.

Nov 12th, 2021. University of Louisville, Louisville KY. Virtual Meeting “Career Pathways to Academia”. Round table discussion for students, post-docs and trainees. Invitation from Idoia Meaza Isusi (PhD Candidate; Wise Laboratory, U. of Louisville).

September 23rd, 2021. EMGS Spotlight Session. Focus: Mentor-mentee relationships. My role: Co-presenter and Moderator. Other presenters: Drs. Susan Wallace, Sylvie Doublié, and Andrea Lee., part of the EMGS Annual Virtual Meeting.

September 23rd, 2021. Invited talk. EMGS Symposium: Genetic Determinants of Disease Risk from Environmental DNA Damage. Title: “Variants of Uncertain Significance in Lynch Syndrome Patients. part of the EMGS Annual Virtual Meeting”.

Invited talk and seminar for the Society of Toxicology Webinar: Funding 101: Multiple Perspectives on the NIH Grant Process session. Title: “The *Academic* Dream: One Scientist’s Perspective”. May 13th, 2021.

Keynote address: Gordon Research Seminar (GRS) DNA Damage, Mutation, and Cancer. Feb 29th – March 1st, 2020. Ventura, CA. Title: Structural and Biochemical Studies to Assess Protein Interactions and re(Classify) VUSs.

Panelist: How to Navigate the Transition to Independence. Gordon Research Seminar (GRS) DNA Damage, Mutation, and Cancer. Feb 29th – March 1st, 2020. Ventura, CA.

University of Vermont; December 11th, 2019. “A structural approach to understanding the function of DNA repair complexes”. Burlington, VT.

EMGS Special Symposium to honor Nobel Laureate Dr. Paul Modrich; Sep 18th, 2019. "Structural and Biochemical Studies to (re)Classify Variants of Uncertain Significance". Washington DC, 2019. Talk selected from submitted abstracts.

Home-grown stars seminar series, University of South Alabama, College of Medicine. April, 2019. “A gap in knowledge – from Bench to Bedside”.

American Chemical Society, Annual Meeting March 30th - April 4th, 2019. "Structural and Biochemical Studies to (re)Classify Variants of Uncertain Significance".

University of Alabama Birmingham (UAB-SERCAT) Structural Biology Symposium March 14th - 15th, 2019. "Structural and Biochemical Studies to (re)Classify Variants of Uncertain Significance".

DNA Repair Interest Group Videoconference. Tuesday Feb 19th, 2019. “Structural and Biochemical Studies to Assess Protein Interactions and (re)Classify VUSs”.

University of Texas at Austin, Austin, Texas. December 17th, 2018. “Structural and Biochemical Studies to (re)Classify Variants of Uncertain Significance".

Environmental Mutagenesis and Genomics Society (EMGS) Annual Meeting, San Antonio, TX. Sep 20th, 2018. Young Scientist Award lecture. “Probing Variants of Uncertain Significance and Protein Interactions using Structural Tools”.

The University of South Alabama, College of Medicine Research Forum, Mobile, AL. November 17th, 2017. “Structural Perspectives on DNA Repair Proteins”.

Platform Session, DNA Repair at the Environmental Mutagenesis and Genomics Society (EMGS) Annual Meeting, Raleigh, NC, September 12th, 2017. “The C-terminus of NEIL1 mediates interactions with protein partners”.

The University of South Alabama, Scientist on Tap series: “Genetics made Crystal Clear”. March 29th, 2017.

The University of South Alabama, Department of Biochemistry Seminar Series: “Identifying a Role for Variants of Uncertain Significance in the PMS2 gene”. Feb 15th, 2017.

The University of Southern Mississippi, Department of Chemistry and Biochemistry Seminar Series: “Uncovering the many roles for the NEIL1 DNA Glycosylase”. Oct 14th, 2016.

DNA Repair and Mutagenesis (DRAM), Massachusetts Institute of Technology, Boston, MA: "Single Nucleotide Polymorphisms of the Human NEIL1 DNA Glycosylase: Structure, Function, and Effects of Genome Stability". Jan 15th, 2015.

Eppley Institute Seminar Series, The University of Nebraska Medical Center, Omaha, NE: "The Human NEIL1 DNA Glycosylase: Polymorphisms and Role in Mitochondrial Genome Maintenance". Dec 14th, 2014.

Poster Presentations

International Conferences

1. Sharma N, Chakravarthy S, Doublié S, **Prakash A#**. Interaction of NEIL1 with replication proteins presents a potential switch between replication and repair. 4th DNA Repair/ Replication Structures and Cancer Conference. Nassau, Bahamas, February 2020. **Underlined: Presenter. #Corresponding author.**
2. Thompson MK, Sharma N, **Prakash A#**.
3. **Prakash A**, Moharana K, Averill MA, Wallace SS, and Doublié S. "Destabilization of PCNA Mediated by the interaction with the NEIL1 DNA Glycosylase". Gordon Research Conference: Mutagenesis, Girona, Spain, June 2016. **Underlined: Presenter.**
4. **Prakash A**, Galick HA, Carroll BL, Sweasy JB, Wallace SS, Doublié S. "Genome and Cancer SNPs of the Human NEIL1 DNA glycosylase: Activity, Structure, and the Effects on Genome Stability". Gordon Research Conference: Mutagenesis, Girona, Spain, June 2014. **Underlined: Presenter.**
5. **Prakash A**, Natarajan A, Marky L A, Ouellette MM, and Borgstahl GEO. "DNA binding domains of human Replication Protein A recognize G-quadruplex DNA". Maintenance of Genome Stability, Jolly Beach Resort, Antigua, March 2010. **Underlined: Presenter.**
6. **Prakash A**, Deng X, Oakley G, and Borgstahl GEO. "Human Replication Protein A, Rad52, ssDNA Complex: Stoichiometry and Regulation of Strand Transfer by Phosphorylation". ASM Meeting on DNA Repair and Mutagenesis, Whistler, BC, Canada. June 2009. **Underlined: Presenter.**

National Conferences/ Local conferences

1. Chokshi S, Lee J, Joshi T, Cummings M, Herrera E, Jones N, Pierce JY, Modesitt SC, **Prakash A**, Scalici J. Spatial genomic analysis of Lynch and Non-Lynch endometrial cancers reveals key differences in the tumor immune microenvironment. In-person Poster. Society of Gynecologic Oncology (SGO) Annual Meeting on Women's Cancer, March 2025.
2. Chokshi S, Lee J, Joshi T, Cummings M, Herrera E, Jones N, Pierce JY, Modesitt SC, **Prakash A**, Scalici J. Genomic analysis of environmental and drug targets associated with mismatch repair status in endometrial cancer. Virtual Poster. Society of Gynecologic Oncology (SGO) Annual Meeting on Women's Cancer, March 2025.
3. Pittman MN, Thompson MK, Eggers ME, **Prakash A#.** Structural Determination of the NEIL1-Twinkle complex. College of Medicine, University of South Alabama Graduate Student Research Forum. April 1st, 2025 (poster presentation).
4. Thompson MK, Eggers ME, **Prakash A#.** Structural and functional characterization of NEIL1 nanobodies. College of Medicine, University of South Alabama Graduate Student Research Forum. April 1st, 2025 (poster presentation).

5. Pittman M, Thompson MK, Eggers ME, **Prakash A#.** Structural and functional characterization of NEIL1 nanobodies. EMGS annual meeting, Palm Springs, Sept 7 – 11th, 2024 (poster presentation).
6. Valenzuela I, **Prakash A#.** Nanobodies and their use as crystallization partners. Friday July 26th, 2024. 51st Medical Student Research Day, University of South Alabama, Frederick P. Whiddon College of Medicine. (Research talk)
7. Cui WY, Thompson MK, Eggers MH, **Prakash A#.** Determining Optimal Chaperone Proteins to Assist Protein Folding and Solubility for NEIL1, NEIL2, Anti-NEIL1 nanobodies and PARG. Friday July 26th, 2024. 51st Medical Student Research Day, University of South Alabama, Frederick P. Whiddon College of Medicine & ACS Project SEED. (poster presentation)
8. Rasmussen M, Patterson M, **Prakash A#**. The effect of cadmium exposure on microsatellite instability and gene expression in HEK293 cells. Friday July 21st, 2023. 50th Medical Student Research Day, University of South Alabama, Frederick P. Whiddon College of Medicine. **Underlined: Presenter. #Corresponding author.**
9. Sharma N, Thompson MK, Arrington J, Terry DM, Chakravarthy S, Prevelige PE, and **Prakash A#**. Novel interaction interfaces mediate the interaction between the NEIL1 DNA glycosylases and Mitochondrial Transcription Factor A. Nov 6 – 9th, 2022. 7th US-EU Conference on Endogenous DNA Damage and Repair. Stony Brook, NY.
10. D'Arcy BM, Arrington JF, Weisman J, McClellan SB, Sood V, Yang Z, Deivanayagam C, Blount J, **Prakash A#**. PMS2 variant results in loss of ATPase Activity without compromising mismatch repair. **Underlined: Presenter. #Corresponding author. August 26 – Sept 2, 2022.** ICEM Meeting in Ottawa, CA.
11. Thompson MK, Sharma N, Arrington JF, Andrews JF, **Prakash A#**. Characterization of novel single-domain nanobodies against NEIL1. **Underlined: Presenter. #Corresponding author. August 26 – Sept 2, 2022.** ICEM Meeting in Ottawa, CA.
12. Sharma N, Thompson MK, Arrington J, Terry DM, Chakravarthy S, Prevelige PE, and **Prakash A#**. Novel interaction interfaces mediate the interaction between the NEIL1 DNA glycosylases and Mitochondrial Transcription Factor A. 2nd Southern Genome Maintenance Conference, Florida International University, Miami, FL. **Underlined: Presenter. #Corresponding author.** Marlo won an honorable mention for this poster.
13. D'Arcy BM, Arrington J, Weisman J, McClellan SB, Yang Z, Deivanayagam C, Blount J, and **Prakash A#**. PMS2 Variant Results in Loss of ATPase Activity without Compromising Mismatch Repair. 2nd Southern Genome Maintenance Conference, Florida International University, Miami, FL. **Underlined: Presenter. #Corresponding author.** I was selected to give a talk at the meeting.
14. Thompson KM, Sharma N, Arrington J, Andrews JF, **Prakash A#**. Characterization of Novel Single-Domain Nanobodies Against NEIL1. Wednesday March 9th, 2022. 28th Annual Spring Graduate Research Forum, University of South Alabama. **Underlined: Presenter. #Corresponding author.**
15. Thompson KM, Sharma N, Arrington J, Andrews JF, **Prakash A#**. Characterization of Novel Single-Domain Nanobodies Against NEIL1.EMGS Annual Meeting Virtual. September 2021. **Underlined: Presenter. #Corresponding author.**
16. Sharma N, Arrington J, Thompson KM, Chakravarthy S, Previlege P, **Prakash A#**. The NEIL1 DNA glycosylase interacts with mitochondrial transcription factor A in the presence of DNA via its N-terminal domain. EMGS Annual Meeting Virtual. September 2021. **Underlined: Presenter. #Corresponding author.**
17. Sharma N, Arrington J, Thompson KM, Chakravarthy S, **Prakash A#**. The NEIL1 DNA glycosylase interacts with mitochondrial transcription factor A in the presence of DNA via

its N-terminal domain. EMGS Annual Meeting Virtual. September 2020. **Underlined: Presenter. #Corresponding author.**

18. D'Arcy B, Arrington JF, Weisman J, Blount JR, and **Prakash A#**. Scrutinizing variants of uncertain significance in the *PMS2* gene. EMGS Annual Meeting Virtual. September 2020. **Underlined: Presenter. #Corresponding author.**
19. D'Arcy B, Swingle MR, Papke CM, Abney KA, Bouska ES, **Prakash A#**, and Honkanen RE. The antitumor drug LB-100 is a catalytic inhibitor of protein phosphatase 2A (PPP2CA) and 5 (PPP5C) coordinating with the active site catalytic metals in PPP5C. University of Alabama Birmingham-SERCAT Structural Biology Symposium, Edge of Chaos, Birmingham, AL; March 2019. **Underlined: Presenter**. *Travel award and poster award.
20. Sharma N, Chakravarthy S, Longley M, Copeland WC, and **Prakash A#**. The C-terminal tail of NEIL1 interacts with mitochondrial single-stranded DNA binding protein. University of Alabama Birmingham-SERCAT Structural Biology Symposium, Edge of Chaos, Birmingham, AL; March 2019. **Underlined: Presenter.** *Travel award.
21. D'Arcy B, Blount JR, and **Prakash A#**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. UAB Comprehensive Cancer Center 20th Annual research retreat, November, 2018, Birmingham, AL. **Underlined: Presenter. #Corresponding author.**
22. D'Arcy B, Swingle MR, Papke CM, Abney KA, Bouska ES, **Prakash A#**, and Honkanen RE. The antitumor drug LB-100 is a catalytic inhibitor of protein phosphatase 2A (PPP2CA) and 5 (PPP5C) coordinating with the active site catalytic metals in PPP5C. College of medicine Research Forum, November, 2018, Mobile, AL. **Underlined: Presenter. #Corresponding author.**
23. D'Arcy B, Blount JR, and **Prakash A#**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. College of medicine Research Forum, November, 2018, Mobile, AL. *invited talk selected from abstracts. **Underlined: Presenter. #Corresponding author. ***Second place award for talk.
24. D'Arcy B, Blount JR, and **Prakash A#**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. 1st Southern Genome Maintenance Conference, October, 2018, Mobile, AL. *invited talk selected from abstracts. **Underlined: Presenter. #Corresponding author.**
25. Sharma N, Chakravarthy S, Longley M, Copeland WC, and **Prakash A#**. The C-terminal tail of NEIL1 interacts with mitochondrial single-stranded DNA binding protein. 1st Southern Genome Maintenance Conference, October, 2018, Mobile, AL. *invited talk selected from abstracts. **Underlined: Presenter. #Corresponding author.**
26. D'Arcy B, Blount JR, and **Prakash A#**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. Gordon Research Seminar and Conference (GRS/ GRC) DNA Damage Mutation and Cancer. Ventura, CA, March 25th – 30th, 2018. **Underlined: Presenter. #Corresponding author.**
27. Sharma N, Chakravarthy S, Longley M, Copeland WC, and **Prakash A#**. The C-terminal tail of NEIL1 interacts with mitochondrial single-stranded DNA binding protein. Gordon Research Seminar and Conference (GRS/ GRC) DNA Damage Mutation and Cancer. Ventura, CA, March 25th – 30th, 2018. **Underlined: Presenter. #Corresponding author.**
28. Sharma N, Chakravarthy S, Longley M, Copeland WC, and **Prakash A#**. The C-terminal tail of NEIL1 interacts with mitochondrial single-stranded DNA binding protein. Environmental Mutagenesis and Genomics Society (EMGS). Raleigh, NC, September 9th – 14th, 2017. **Underlined: Presenter. #Corresponding author.**
29. **Prakash A#**, Moharana K, Averill MA, Wallace SS, and Doublié S. "Destabilization of PCNA Mediated by the interaction with the NEIL1 DNA Glycosylase". Comprehensive

Cancer Center Annual Symposium, University of Alabama, Birmingham, October 16th, 2016.

30. Kay J, Saki M, Sharma N, **Prakash A#**. A two pronged approach to obtaining constructs of NEIL2 for downstream crystallization applications. College of Medicine Summer Medical Student Research Program; 2016 July 28; Mobile, AL. **Underlined: Presenter. #Corresponding author.**
31. **Prakash A**, Carroll BL, Sweasy JB, Wallace SS, Doublié S. "Genome and Cancer Single Nucleotide Polymorphisms of the Human NEIL1 DNA Glycosylase: Activity, Structure, and the Effects of Editing". External Advisory Board Meeting, October 2013. **Underlined: Presenter**
32. **Prakash A**, Eckenroth BE, Imamura K, Averill AM, Wallace SS, Doublié S. "Structural Investigation of a Viral Ortholog of the Human NEIL2/3 DNA Glycosylases of the Base Excision Repair Pathway". Gordon Research Conference: Mammalian DNA Repair, February 2013, Ventura, CA. **Underlined: Presenter.**
33. **Prakash A**, Eckenroth BE, Imamura K, Averill AM, Wallace SS, Doublié S. "Structural Investigation of Human NEIL1 and a Viral Ortholog of NEIL2/3". Vermont Cancer Center Symposium, November 2011, Burlington, VT. **Underlined: Presenter.**
34. **Prakash A**, Deng X, Oakley G, and Borgstahl GEO. "Human Replication Protein A, Rad52, ssDNA Complex: Stoichiometry and Regulation of Strand Transfer by Phosphorylation". UNMC Structural Biology Workshop. July 2009. **Underlined: Presenter.**
35. **Prakash A**, Deng X, Oakley G, and Borgstahl GEO. "Human Replication Protein A, Rad52, ssDNA Complex: Stoichiometry and Regulation of Strand Transfer by Phosphorylation". Nebraska Epscor, Lincoln, NE. October 2008. **Underlined: Presenter.**
36. **Prakash A**, Deng X, Oakley G, and Borgstahl GEO. "Human Replication Protein A, Rad52, ssDNA Complex: Stoichiometry and Regulation of Strand Transfer by Phosphorylation". Keystone Symposium, Santa Fe, NM. February 2008. **Underlined: Presenter.**
37. **Prakash A**, Deng X, Dhar K, Kolar CH, Oakley G, and Borgstahl GEO. "The Stoichiometry and Affinity of ssDNA Coated human RPA Complexes with Rad52 and the Effects of RPA Hyperphosphorylation". 51st Annual Biophysical Society Meeting, Baltimore, MD. March 2007. **Underlined: Presenter.**
38. **Prakash A**, Bronich T. "Star Polymer Unicellular Micelles as a Novel Approach to Drug Delivery." Summer Undergraduate Student Research Presentations, UNMC, August 2004. **Underlined: Presenter.**

Oral Presentations

1. D'Arcy B, Blount JR, and **Prakash A**. Scrutinizing PMS2 variants of uncertain significance. First Southern Structural Biology Symposium, November, 2019, Mobile, AL.
2. Sharma N, Arrington J, and **Prakash A**. Mystery Crystal: An Ongoing Story of a Polymerase Interacting Protein. First Southern Structural Biology Symposium, November, 2019, Mobile, AL.
3. D'Arcy B, Blount JR, and **Prakash A**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. College of Medicine Research Forum, November, 2018, Mobile, AL.
4. D'Arcy B, Blount JR, and **Prakash A**. Biochemical and structural characterization of two variants of uncertain significance in the *PMS2* gene. 1st Southern Genome Maintenance Conference, October, 2018, Mobile, AL. *invited talk selected from abstracts.

5. Sharma N, Chakravarthy S, Longley M, Copeland WC, and **Prakash A**. The C-terminal tail of NEIL1 interacts with mitochondrial single-stranded DNA binding protein. 1st Southern Genome Maintenance Conference, October, 2018, Mobile, AL. *invited talk selected from abstracts.
6. **Prakash A**, Data in Progress, "At the Crossroads between Structural Biology and DNA Repair". MCI, March 14th, 2017.
7. **Prakash A**, Eckenroth BE, Carroll BL, Imamura K, Averill AM, Sweasy JB, Wallace SS, Doublié S. "Biochemical investigation of Human NEIL1 and its polymorphic variants and structural investigation of a viral ortholog of NEIL2/3". Presented annually at the Program Project Grant monthly meeting, December 2011, February 2013, University of Vermont, Burlington, VT.
8. **Prakash A**, Borgstahl GEO. "DNA Binding Specificity of RPA and Stoichiometry of RPA-DNA Complexes". Presented annually at the Eppley Institute for Research in Cancer, UNMC, Graduate Student Seminar, May 2009, April 2008, August 2007, December 2006.
9. **Prakash A**, Deng X, Oakley G, and Borgstahl GEO. "Sequence specificity of the primary DNA binding domains of Replication Protein A". Midwest Student Biomedical Research Forum, February 2007 and 2008, Omaha, Nebraska.
10. **Prakash A**. Majmudar G. "Effect of PVP on Moisturization and Tightening of Skin". Summer Undergraduate Research, Mary Kay Corp., Dallas, Texas, August 2002.

MENTORSHIP & MENTEE AWARDS

Current Graduate Students: Prakash Lab

- Megan Pittman (Ph.D. Student BMS Program)
  Awards under my mentorship:
  - EMGS Travel Award for the Annual Meeting (Palm Springs, 2024)
- Noha Al-saadi (M.S. Student Biology)

Current Active Post-Doctoral Research Fellows

- Marlo Thompson, Ph.D.

Current Active Technicians

- Mark Eggers, B.S., M.S.

Current Active Undergraduate Students

- Ashley Stone
- Ananya Chari
- Tristam Eilers (University of Mary Hardin-Baylor in Belton, Texas)

Current Active Medical School Students

- Danielle Flores, MD with honors (graduation year 2027)

Committee member for Ph.D., Masters, and Undergraduate Honors Students

- Tyese Pritchett, Primary Mentors: Drs. Tom Rich and Troy Stephens, USA. Role: Dissertation Committee Member
- Ashley Camp, Primary Mentor: Dr. Richard Honkanen, USA. Role: Dissertation Committee Member
- Grant Daly, Primary Mentor: Dr. Mark Gillespie, USA. Role: Dissertation Committee Member

Past Mentees

- Marlo Thompson (Ph.D. Student BMS Program)
  Awards under my mentorship:
  - University of South Alabama, Office of Research and Economic Development Trainee Activities Enhancement Program: Winner April 2022
  - EMGS Travel Award for the Annual Meeting (ICEM Ottawa), April 2022
  - Strada Travel Award, Winner, May 2022
  - Defense Date – November 4th, 2024! Successfully defended.
- Dr. Nidhi Sharma (transitioned from Post-doc to Research Assoc. II in May 2021)
  Awards under my mentorship:
  - Travel award, UAB-SERCAT Structural Biology Symposium, UAB, March 2019
  - Selected talk from abstracts for the 1st Southern Genome Maintenance Conference, Mobile, AL, October 2018
  - F1000 Prime, Travel Award Winner; January 2018
- Dr. Vandana Sood (former Post-doctoral research fellow; Current: University of North Carolina)
- Mark Eggers (M.S. student, Biology, Graduated Aug 2023); Current: Auburn University DO school.
  Awards under my mentorship:
  - Outstanding Graduate Student Award, Aug 2023
- Israel Valenzuela (M.S. student, Biology, Graduated Aug 2023); Current: University of South Alabama, Medical School.
  Awards under my mentorship:
  - Best Graduate Assistant Award, Aug 2023
- Tabassum Tamanna (Ph.D. Student BMS Program; Rotation Fall 2021)
- Jennifer Arrington, Technician Level I (2018 – 2021)
- Dr. Brandon D'Arcy (former Post-doctoral fellow; Current: Kimia Therapeutics, San Francisco)
  Awards under my mentorship:
  - University of South Alabama, Office of Research and Economic Development Trainee Activities Enhancement Program: Winner March 2019
  - Travel award, UAB-SERCAT Structural Biology Symposium, UAB, March 2019
  - Poster award 3rd place, UAB-SERCAT Structural Biology Symposium, UAB, March 2019
  - Mitchell Cancer Institute, Post-doctoral research fellowship, November 2018
  - Selected talk from abstracts for the 1st Southern Genome Maintenance Conference, Mobile, AL, October 2018
  - College of Medicine Research Forum, 2nd place best talk, October 2018
  - University of South Alabama, Office of Research and Economic Development Trainee Activities Enhancement Program: Winner February 2018
- Lana Vukadin (Ahn Lab transferred to UAB, Committee Member/ Chair Dissertation); Graduated Fall 2020.
- Chase Tirman (Department of Biology, Masters Student)
- Caleb Lange, Technician I (2019 – 2020)
- Monica Sai Pasala (Honors student, Biomedical Sciences, University of South Alabama)
  Awards under my mentorship:
  - Excellence in research award, Biomedical Sciences, University of South Alabama, May 2019.

    - National Collegiate Honors Council Conference Best Poster Award, Atlanta, GA, 2017
- Mackenzie Dava Terry (Undergraduate, Biochemistry, Springhill College)
- Justin Weisman (Undergraduate, University of Florida; Summer 2019)
- Dr. Mohammad Saki, Former Post-doc (April 2016 – October 2017)
- Cullyn Mayes (Undergraduate student, Major: Chemistry, Springhill College) – Summer 2017
- Charles Robert Diard (Medical Student , USA, M1) – Summer 2017
- Kate Symons (St. Luke's Episcopal High School, Mobile, AL) – Summer/ Fall 2016; Spring 2017
- Joshua Kay (2nd year Medical Student, University of South Alabama) – Summer 2016
- Zeke Benshirim (high-school student, University of Vermont; Zeke is currently pursuing an undergraduate degree at Harvard).
- Brittany Carroll (graduate student, University of Vermont)
- Vy B. Cao (technician, University of Vermont)
- Changjiang Yu (rotation graduate student, University of Vermont)
- Vivian Irizarry (undergraduate student summer program, University of Nebraska Medical Center)
- Christa Flitcroft (undergraduate student, University of Nebraska Medical Center)

Past Committee roles (Students):

- Chelsie Carpenter, Primary mentors: Drs. Honkanen and Swingle. Role: Dissertation Committee Member
- Rithy Meas, Primary Mentor: Dr. Joann Sweasy, U. of Arizona. K99/R00 recipient. Mentoring committee for transition.
- Reese Stephens, Primary mentors: Drs. Ron Balczon and Ji Young Lee. Role: Dissertation Committee Member
- Natalye Bordelon, Primary mentor: Dr. Robert W. Sobol. Role: Dissertation Committee Member
- Victoria Gabriela Quintana, Primary mentor: Dr. Joann Sweasy (University of Arizona). Role: Dissertation Committee Member
- Rasha Al-Rahahleh, Primary mentor: Dr. Robert W. Sobol. Role: Dissertation Committee Member
- Md Ibrahim, Primary mentor: Dr. Robert Sobol. Role: Dissertation Committee Member
- Griffin Wright, Primary mentor: Dr. Natalie Gassman. Role: Dissertation Committee Member
- Orlandric Miree, Primary mentor: Dr. Ajay Singh. Role: Comprehensive Exam Moderator
- Alexander Richard, Primary mentor: Dr. Erin Ahn. Role: Comprehensive Exam Moderator
- Lana Vukadin, Primary mentor: Dr. Erin Ahn. Role: Dissertation Committee Member/ Major Advisor. Year graduated 2020.
- Bailey Manning, Primary mentor: Dr. Robert W. Sobol. Honors Thesis 2020. Role: Committee Member. Year graduated 2020.
- Grace Willoughby, Primary mentor: Dr. Robert W. Sobol. Masters' thesis May 2018. Role: Committee Member. Year graduated 2018.
- Alexander Coley (Ph.D. Student BMS Program) and Dissertation Committee Member
- Sage Garriss (rotation student Spring 2019)
- Reece Stephens (rotation student Spring 2020) and Dissertation Committee Member