

Arya Patel

Education

Case Western Reserve University PPSP Student: BS/MD

AUGUST 2022- present

Cumulative GPA: 3.958

Episcopal School of Baton Rouge

AUGUST 2010-MAY 2022

Valedictorian, Cumulative GPA: 4.73

Scientific Publications/ Presentations

- **Nutrition, Obesity and Seborrheic Dermatitis: A Systematic Review**
 - E. Woolhiser, N. Keime, Isaac Weber, Arya Patel, Madeline Adelman, R. Dellavalle
- **Geospatial Impacts of Melanoma Stage at Diagnosis: A Systematic Review (poster)**
 - Dakota Hitchcock¹, Angela Loczi-Storm², Rebecca Bolen³, Arya Patel⁴, Robert Dellavalle MD PhD MSPH⁵, Cory Dunnick MD⁶
 - Accepted to AMA summit and “AMA Research Challenge” symposium
 - Colorado Medical Society Annual Meeting in Breckenridge, CO: 2nd place in research excellence
- **Comparison of Acute and Late toxicities with Daily vs. Every-Other-Day Five Fraction Partial Breast Radiation Therapy (preprint)**
 - Practice radiation oncology
- **Does Intraoperative Radiation Therapy Provide Comparable Local Control to Partial Breast Irradiation in Patients Suitable for Omission of RT? (preprint)**
 - RedJournal
- **CANSUR Symposium Oral Presentation**
 - August 2023
 - Patel, A; Franklin, J; Das I.; Wald D. Investigating TIGIT Blockade potential to enhance Car-T cell function on Solid Tumors
- **SEA-PHAGES National Symposium Poster Presentation**
 - March 2023
 - Deorukhar A.; Patel, A.; etc. Characterization and Annotation of novel Azotobacter bacteriophages

- **SOURCE Undergraduate Research Symposium Poster Presentation**
 - August 2023
 - Patel, A; Franklin, J; Das I.; Wald D; Role of TIGIT Inhibitor in Car-T Efficacy in Solid Tumor Models
- **BIOL 224L Symposium Oral Presentation:**
 - May 2023
 - Patel, A; Sun, T; Cunliffe O.; John J; Ward R. Characterization of Immunity Responses of Novel Temperate *Azotobacteriophages*
- **Louisiana Science Fair Poster Presentation (High School)**
 - Patel A., Rangaswamy R. The Effect of *Klebsiella Pneumoniae* Endotoxins on Lung Derived Mesenchymal Stem Cell Bioenergetic Processes
 - **1st place in Biomedical Sciences**
- **Louisiana State Science and Humanities Symposium: Poster Presenter**
 - Patel A., Rangaswamy R. Immunotherapeutic potential of Lung Mesenchymal Stem Cells against endotoxic response characteristic of *Klebsiella Pneumoniae*
 - **1st place poster presentation**

Other Publications

RedTreeHouse Content Contributor: Oncology

MAY 2023-present

- Write articles on “Pro Picks” centered around oncology topics to help guide parents whose children are cancer patients
 - Recently published article: “Attending School as a Child with Cancer”

Research Experience

UH Hospitals Research Group- Student Researcher

PI: Dr. Bryan Carroll

August 2023-present

- Currently working alongside residents on systematic review on postsurgical tools and validated outcome measures for perioral surgery
- Experience with data analysis using SAS
- University of Colorado Research Group: Conducting systematic review on the relative accuracy of AI algorithms on detecting melanoma
 - Conducting data analysis on the usage of phototherapy for dermatology inflammatory and autoimmune disorders in VA hospitals

CANSUR Summer Scholar: Case Comprehensive Cancer Center and Case Western Reserve School of Medicine

June 2023- Present (12 hr/week)

- Selected as a Summer CANSUR scholar, funded by NCI
 - Conducted summer independent project on enhancing effect of TIGIT inhibitor on CAR-T cell therapy for solid tumors
- Assisted research at Wald lab, focusing on the identification and development of novel therapeutic strategies for cancer with a particular focus on Acute myeloid leukemia (AML)
 - Assisted project on therapeutics enhancing specificity of CAR T cells to minimize off-target toxicity

Cleveland Clinic- *Student Researcher (Paid). Mentor: Dr. Maciejewski, MD, PhD.*

NOVEMBER 2022-FEBRUARY 2023

- Conducted independent project on the effect on DNMT3A mutation and inhibition on the treatment of MDS
 - Techniques: cell culture, testing cell culture viability using manual and automatic cell counter, growth medium creation, aseptic technique, micropipette, mass spectrometry
- Computational/dry lab for Clinical epigenetics
 - Association of two genes (U2AF1 and EZH2) in MDS and AML patients
 - Annotated mutations using Varsome, Cosmic, UCSC, and ClinVar databases
 - Created lollipop diagrams using cBioPortal for Cancer Genomics

Case Western Reserve Department of Biology: BIOL 222L and BIOL 224L- *Student Researcher*

AUGUST 2022- present

- As a part of the Bio222L and Biol224L classes and the SEAPHAGES program:
 - Conducted bioinformatic dissection of 2 phage genomes using computational programs to identify genes, regulatory elements, and other genomic features of Azotobacter targeting phages
 - Software used: phagesdb, PECAAN, GENEMARKS, Phamerator.org
 - Conducted characterization of immunity responses of novel Azotobacter phages
 - Immunity cross tests, RT- PCR + Gel Electrophoresis to Identify Defense Mechanism mediated by Helix turn Helix Protein

Louisiana State University School of Veterinary Medicine (High School) -*Student Researcher*

MARCH 2021- MARCH 2022

- Assisted with research finding Host Defense against *Klebsiella pneumoniae* Pneumonia augmented by LMSCs: two findings include 1) LMSCs modulate neutrophil and macrophage functions and show bacterial killing and 2) LMSCs

minimize inflammation and improve survival in mice infected by *Klebsiella pneumoniae*

Clubs and Activities

Advocates in Cleveland Health: *Health Education Chair:*

AUGUST 2022- present

- Lead GB meetings
- Helped 50 students get registered for life bone marrow registry: coordinating with nonprofit
- Organized and hosted health education panel on preventive medicine, reached out to and held discussion with local public health and medical experts in preventive medicine

Partners in Health engage: *Workshop Lead*

AUGUST 2022- present

- Composed letter to Editor to Cleveland magazine about the increase in global health spending
- Lead advocacy workshop regarding medicare for all and Farmer Resolutions for Partners in Health engage

Undergraduate Research Society: *Secretary and Research-A-Thon coordinator*

AUGUST 2022- present

- Assist in coordinating and planning events with executive board via administrative tasks
- Designed agenda and coordinated Ohio's only research undergraduate competition

Undergraduate Research Journal: *Content and Copyediting committee*

AUGUST 2022- present

American Cancer Society: *Youth Action Leadership Network member and Graphic designer*

AUGUST 2022- present

- Part of working group on communicating research data to wider audiences supporting funding for ACS

Clinical Experience:

Salaam Clinic: Pop-Up Clinic Coordinator and volunteer

March 2023-present (4-6 hours/week)

- Conducted blood pressure and temperature checks, and took and presented patient medical history
- Established and participated in Pop-up clinic events for local Cleveland Shelters

for blood pressure and diabetes screenings

Comprehensive Pain Management- Paid Intern. Supervisor: Ms. Mary Surman,

June-August 2019; July-August 2022; December 2022; 24 hours/week; 24 hours/week; 40 hours/week;

- Welcomed and transferred patients to and from waiting room, recorded vital signs and parts of medical history, supported physician staff

Ochsner Hospital Volunteer:

June- July 2023: 12 hours/week

- Endoscopy, emergency, and oncology departments
- waiting room duties (greeting patients and families and signing them in and guiding them to correct locations), administered in-person general hospital experience surveys to patients and families and recorded in an electronic system built to improve patient care at the hospital, Helped patients with comfort needs (bringing pillows, juice, food, etc)

Shadowed gastroenterologist Dr. Shah (20 hours), internal medicine physician Dr. Gboloo (20 hours), and ophthalmologist Dr. Collins (10 hours)

Nonclinical Volunteer experience:

Learn to Be Tutor

AUGUST 2022-present (3-4 hours/week)

- Tutored underserved students in online platform LearntoBE in 6th-8th grade science
- Tutored in-school students in Honors Biology, Honors Chemistry, and AP Chemistry, reading, and math

Benjamin Rose Institute Wellness Caller and Nutrition Caller for Medically Tailored Meals program

AUGUST 2022-present (3-4 hours/week) (2 hr/week)

- Nutrition Caller for Medically-Tailored meals program for seniors with chronic diseases, including hypertension and/or diabetes
 - Conduct personalized nutrition education lessons for senior participants according to chronic disease
- Wellness Caller for few senior clients to ensure clients are safe and healthy; combats social isolation

Certifications:

CITI: Basic Practice and Good Clinical Practice Course

edX Verified Certificate for Data Science: R Basics

Relevant Academic Awards

Dean's High Honors for first year

Center for Civic Engagement and Learning Scholar