

# INTERNSHIP SHOWCASE

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Friday, April 19 from 3:00 p.m.—5:00 p.m.

# WELCOME TO THE 2024 INTERNSHIP SHOWCASE

We are excited to celebrate our students' accomplishments with you. Internships and work experiences are academically recognized, experiential learning that integrates knowledge and theory learned in the classroom with practical application and skills development in a professional setting. Reflecting, sharing, and presenting what they have learned plays an important role in student career development process.

## **INTERNSHIPS AND WORK EXPERIENCES PROVIDES OPPORTUNITIES:**

For students to gain valuable experience and demonstrate learning as they make professional connections and validate their choice of career field and work environment.

For employers to guide, assess, and develop workforce talent.

For educators to demonstrate the social relevance and practical application of their disciplines and learning outcomes.

For IUPUI to forge sustainable, mutually beneficial relationships with the community.

# **8.4%**

of students (with known career outcomes) completed at least one student employment experience during their time at IUPUI

# **65.6%**

of students (with known career outcomes) completed at least one internship, practicum, co-op, student teaching, or clinical placement

# **93.5%**

of students agreed that their internship(s) complemented their degree and helped prepare them for their future careers

IUPUI First Destination 2021-2022 Data

### **LIFE-HEALTH SCIENCES INTERNSHIP PROGRAM** (PAGE 5)

The Life-Health Sciences Internship Program is designed to provide students with an opportunity to apply their academic coursework in a paid internship experience on or near the IUPUI campus. Students are connected to professional internships with faculty and staff in health and science fields. This program is open to sophomores and juniors of all majors and provides supportive services through the application process and the internship experience.

### **SOPHOMORE INTERNSHIP PROGRAM** (PAGE 31)

The Sophomore Internship Program provides undergraduate sophomores with an opportunity to apply their academic coursework in a paid, off-campus internship experience. Students are placed in professional settings with local Indianapolis partners. This program targets students from historically underrepresented populations of all majors and provides support services through the application process and the internship experience.

### **ON-CAMPUS INTERNSHIP PROGRAM** (PAGE 36)

The On-Campus Internship Program is a campus-wide initiative to aid departments in developing opportunities for students to gain valuable internship experience in areas directly related to their academic programs. This program aims to connect IUPUI undergraduate freshman, sophomores, and juniors with internships on-campus with faculty and staff in a variety of campus areas/programs.

# ***Life-Health Sciences Internship Program***

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## SIMBIAT ABDUL

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### **INTERN MAJOR**

Biology

### **SUPERVISOR NAME**

Dr. Padma Portonovo, Dr. Alain Waffo, Aristide Dzelamonyuy, Dr. Nadia Al-Atoom, Dr. Augustin Ntemafack, Dr. Fang Fang, Patrick McGuire, Hui Ding, Jie Huang, Dr. Kathryn D. Fischer, Timothy Meyer

### **SUPERVISOR DEPARTMENT**

Indiana University School of Medicine, Center for Medical Genomics, Center for Chemical Genomics, and Behavioral Phenotyping Core Department of Medicine

### **Bench to Bedside Internship**

During my internship, I collaborated with scientists and entrepreneurs at IU, exploring life sciences and innovation from "Bench to Bedside." The internship exposed me to research and medical advancements at Indiana University School of Medicine, where I had hands-on experiences in various core facilities.

I gained insights into high-throughput genomics services in the Medical Genomics facility, including next-generation sequencing, single-cell analytics, and spatial transcriptomics. This exposure enhanced my understanding of the latest techniques in medical genomics and their applications.

At the Chemical Genomics Facility, led by Dr. Waffo, I explored the use of RNA phage display technology for biomedical purposes. The lab utilizes the Q-beta (Q $\beta$ ) virus phage platform to map and display functional domains of SARS-COV. This research is important for understanding viral pathogenesis and enhancing diagnostics and therapeutics for infectious diseases.

Additionally, my involvement in the Behavioral Phenotyping Core provided exposure to the study of animal behaviors, contributing to a broader understanding of research methodologies.

My comprehensive internship at IUSM has broadened my understanding of medicine and innovation, enabling me to contribute to meaningful research. It provided a deep dive into diverse life sciences within a collaborative environment that shaped my interest in advancing healthcare through discovery.

## MAIZIE ADE

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### **INTERN MAJOR**

Health Services Management

### **SUPERVISOR NAME**

Dr. Amber Comer & Stephanie Bartlett

### **SUPERVISOR DEPARTMENT**

IU School of Health and Human Sciences: Department of Health Sciences

### **Patient and Clinical Characteristics of Patients with Parkinson's Disease who Report a Substantial Loss of Joy and Meaning in Life**

During this internship, research activities focus on Parkinson's disease. Parkinson's disease is a progressive disorder of the central nervous system that affects movement. Additionally, patients with Parkinson's suffer from non-motor symptoms, question their spirituality, lose joy and meaning in life, and burden care partners. One local Parkinson's Clinic surveys patients to assess their unmet non-motor symptoms, struggles with spirituality, and loss of joy and meaning. This showcase highlights patients with Parkinson's disease who grapple with the loss of joy and meaning in their lives. The research aims to determine the demographic and clinical characteristics associated with losing joy and meaning in life. It uses the survey responses, demographics, and clinical characteristics to answer this question.

## AWWAL ADEDOKUN

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**INTERN MAJOR**

Exercise Science

**SUPERVISOR NAME**

Dr. Nicole Fowler, Christina  
Baucco, Sneha Manoharan,  
Addison Harrington.

**SUPERVISOR DEPARTMENT**

IU Center for Aging Research  
Regenstrief Institute

**Brain Safe**

Brain Safe is a research study approved by IU Health that is focused on providing educational materials about medication safety. Participants will have 3 meetings by phone over the course of the study, an initial Baseline, a 6 month midterm, and a concluding 12 month follow up. Over the course of the study, participants will complete assessments and use a phone app to help track medication . Through careful tracking, we can help care providers and patients make better decisions about their medication choices . Participants of this study are able to fully participate in this study from the comfort of their homes via phone app and phone calls. Due to the fact that participants will not be engaging researchers in person, many methods are employed to reach out to participants when a follow up is needed. These include mail, email, and phone calls. In this presentation, we will explore 3 different formats of participant communication that were employed in this study and the results yielded by these methods.

## ANGEL ADEMODI

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Wang

**SUPERVISOR DEPARTMENT**

IU School of Medicine

**MRI techniques**

Diseases like Multiple sclerosis and Alzhlmers are common neurological disorders that affect the nerve system in adults. Ahimzers is typically caused by abnormal build up of proteins in and around the brain cells. Meanwhile, multiple sclerosis is caused by the malfunction of the immune system. Different technology systems have been created to detect the early onset of neurological diseases. Research groups have developed advanced MRI (Magnetic resonance imaging) & quantitative susceptibility mapping (QSM) techniques which ultimately improves forms of medical imaging and enables people in related fields to analyze neurological diseases with more precise technology.

# KHALED ALYSAVY

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**INTERN MAJOR**

Biology & Neuroscience

**SUPERVISOR NAME**

Dr. Monica Hubal Ph.D.

**SUPERVISOR DEPARTMENT**

School of Health and Human Sciences

**Dr. Hubal Muscle Biology Lab**

The rowing study aims to delve into the potential benefits of interval training compared to conventional rowing, particularly concerning its impact on overall muscle fatigue. By scrutinizing this aspect, the study seeks to uncover insights that could prove invaluable, especially for individuals with lower muscle fitness levels. Understanding whether interval training induces less muscle fatigue than traditional rowing holds significant promise for enhancing training methodologies and optimizing fitness routines.

This investigation holds promise for several reasons. First and foremost, it addresses a critical gap in current understanding regarding the comparative effects of different training modalities on muscle fatigue. By elucidating whether interval training offers a potential advantage in mitigating overall muscle fatigue, the study could pave the way for more tailored and effective exercise prescriptions, particularly for those with lower baseline muscle fitness.

Furthermore, the implications extend beyond athletic performance to encompass broader health considerations. Individuals with lower muscle fitness levels, whether due to age, injury, or other factors, often face unique challenges in maintaining an active lifestyle. If interval training indeed proves to be less fatiguing, it could serve as a valuable tool for promoting physical activity and improving overall health outcomes in populations with varying levels of muscle fitness.

# RITTA AYOGU

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Tharp Jeffery, Dawodu Olabode, Tapia Alejandro, Evans Taylor, Specht Caitlin, Terry Olivia.

**SUPERVISOR DEPARTMENT**

Biochemistry and Molecular biology. IU school of medicine

**Finding cyclic peptides that inhibit HR2, with the use of bacterial surface display.**

Retroviruses are a family of RNA viruses that have an enzyme capable of making a DNA copy of the viral RNA, and then infecting it into a host's cell's DNA. This virus includes Coronavirus, HIV, Ebola, etc... COVID-19, for example, can enter a host's cell by changing its shape to fit the cell, by binding to the HR2. The main purpose of inhibiting HR2 is to prevent retroviruses from infecting the host using HR2.



# WINI BARNETT

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**INTERN MAJOR**

Biology and Neuroscience

**SUPERVISOR NAME**

Andrew Visco, LCSW, CCRP  
& Bethany Leonhardt, PsyD,  
HSPP

**SUPERVISOR DEPARTMENT**

Indiana University Psychotic  
Disorders Program;  
Prevention and Recovery  
Center for Early Psychosis  
(PARC) at Sandra Eskenazi  
Mental Health Center

**Effect of Metacognitive Reflection and Insight Therapy on Subjective Recovery in Patients Diagnosed with Psychosis**

The Prevention and Recovery Center for Early Psychosis (PARC) at Eskenazi Hospital works with patients experiencing early psychosis in hopes to identify causes of the disorder, determine best possible treatments, and gain insight into preventing psychosis from an early age. Dr. Bethany Leonhardt and the PARC team of researchers are involved in an ongoing study aiming to identify the effect of Metacognitive Reflection and Insight Therapy with individuals diagnosed with Early Psychosis (MERIT-EP). MERIT-EP is a therapy approach that allows patients to gain a complex, in-depth understanding of themselves, their diagnosis, and their experiences in order to achieve an individualized definition of recovery. MERIT has previously been used in studies on long-term psychosis patients but has not yet been studied in younger individuals coming to terms with their diagnosis and navigating young adulthood. The MERIT method approach is unique in that it encourages achieving subjective recovery, specific to the individual, rather than its standardized definition. Ultimately, studying this method aims to shift treatment techniques on patients with all levels of psychosis towards a more personalized approach and promote positive long-term outcomes.

# DANIJELA BASTAIC

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**INTERN MAJOR**

Forensic Biology and Biology

**SUPERVISOR NAME**

Dr. George Sandusky, Megan  
Szymanski, and Vivian  
Valadares

**SUPERVISOR DEPARTMENT**

Pathology Lab at IU School of  
Medicine, Indianapolis

**Analysis of P53 in Sarcoma Patients**

In my role at the Sandusky pathology lab, I assist researchers by converting physical slides into digital format, making them accessible on computers. Using specialized software, I analyze specific characteristics like positivity percentages. I also support professors by digitizing slides for teaching.

I did an independent research project. My focus was on analyzing the impact of chemotherapy using a specific biomarker called p53. This involved examining how clinical treatment affected P53 presence in tumor cells and its impact on patient clinical outcomes.

Overall, my experience at the digital pathology lab has been about supporting research and education initiatives while conducting my own investigation into cancer treatment effects. It's been a valuable opportunity to contribute to scientific understanding and enhance my skills in data analysis and interpretation.

# YASHASWINI BATTINA

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**INTERN MAJOR**

Neuroscience, Psychology,  
and French

**SUPERVISOR NAME**

Dr. Amelia Linnemann, Mr.  
Matthew Austin, Ms. Leslie  
Wagner, Dr. Olha Melnyk

**SUPERVISOR DEPARTMENT**

Department of Biochemistry  
and Molecular Biology;  
Indiana University School of  
Medicine

**Characterizing the Mechanism by Which Defective  $\beta$ -cell Autophagy Contributes to Diabetes**

Type 1 diabetes (T1D) is an autoimmune disease caused by the destruction of insulin-secreting pancreatic  $\beta$ -cells leading to dysregulation of blood glucose levels. Both genetic and environmental factors contribute to T1D pathogenesis, but the triggering events for disease onset are still unknown. The Linnemann lab has shown that autophagy, a process to regulate cell survival and maintenance, is defective in islets during human T1D. Therefore, the lab is now focused on understanding how defective autophagy may contribute to the development of T1D. To understand the various influences of these pathways, the lab selectively knocked out the critical autophagy enzyme, ATG7, in the  $\beta$ -cells of mice (ATG7 $\Delta\beta$ -cell mice). Initial characterization of these mice revealed that all ATG7 $\Delta\beta$ -cell mice spontaneously developed diabetes. Initial data gathered in the lab suggests involvement of endoplasmic reticulum (ER) stress response and ER associated degradation pathways. Therefore, to determine whether any of the 3 branches of the ER stress response are preferentially upregulated, we performed immunofluorescence staining on pancreas tissue from ATG7 $\Delta\beta$ -cell mice to evaluate these pathways. We also evaluated isolated islets under basal and stress conditions to help determine the mechanism of ATG7 $\Delta\beta$ -cell islet loss using incucyte live cell imaging.

# EMELY BIBIAN

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**INTERN MAJOR**

Forensic science

**SUPERVISOR NAME**

Dr. Jessica Maiers

**SUPERVISOR DEPARTMENT**

Division of Gastroenterology  
and Hepatology, Department  
of Medicine, Indiana University  
School of Medicine

**Understanding the role of PERK and translational control in liver fibrosis**

Stiffening of the liver, better known as liver fibrosis, is caused by the formation of large amounts of scar tissue. This scar tissue is formed as a result of liver injury, which can be caused by metabolic disorders, obesity, alcohol use, drug use, or viral infection. Hepatic stellate cells (HSCs) will become activated due to this injury and drive fibrogenesis in order to heal the wounded liver. In the case of liver fibrosis, the injury is chronic, and HSCs are persistently activated, leading to the buildup of scar tissue and eventually cirrhosis. Because of the limited understanding of the mechanisms driving this, there are no FDA approved treatment options that will limit or reverse fibrosis. Fibrogenesis is driven by an increased transcription and translation of extracellular matrix proteins by HSCs. This increased translational demand places a stress on HSCs, which activates the unfolded protein response (UPR). One branch of the UPR that regulates translation is PERK signaling, and we have found that PERK signaling increases with HSC activation. We are engineering a PERK KO cell line using CRISPR-Cas9 technology in order to determine if PERK signaling is crucial to HSC activation and fibrogenesis.

# KARIS BLACKLOCK

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**INTERN MAJOR**

Environmental Science

**SUPERVISOR NAME**

Dr. Matt Allen, Dr. Corinne Metzger

**SUPERVISOR DEPARTMENT**

Department of Anatomy, Cell Biology, and Physiology, Indiana University School of Medicine

**Dietary Fiber Intake Protects Bone in Chronic Kidney Disease**

It is estimated that 14% of the adult US population has chronic kidney disease (CKD). This is approximately 1 in 7 adults. Bone loss is a common side effect of CKD which leads to increased risk of bone fractures. Treatments in CKD are challenging due to decreased kidney function, making safe, effective therapies very needed. In the Allen lab, our goal is to explore different factors that can possibly prevent bone loss in those with CKD. This study specifically explored the impact of different dietary fibers on bone health in rats with CKD. We found that all the different fiber types we studied (inulin, pectin, psyllium) protected against bone loss in CKD and mitigated the declines in bone strength. Overall, this study shows that dietary changes may help protect bone and prevent fracture in CKD.

# ALYSSA BLASZYNSKI

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Brian Dixon, Ashley Wiensch, Lauren Buelow

**SUPERVISOR DEPARTMENT**

Regenstrief Institute

**Findings from a Scoping Review: Healthcare disparities within long-COVID 19 patients in the United States**

This LHSI internship has allowed me to work within the Center for Biomedical Informatics at the Regenstrief Institute. At this center they are working alongside the CDC, Indiana University, the VA, and Marion County Public Health department in research on long COVID-19. During this internship I completed a scoping review that focused on healthcare disparities and long-COVID 19. Healthcare disparities are defined as factors that impact an individual's access to healthcare, the presence of disease in different populations, or health outcomes. This research is important as 1 in 13 adults who have survived COVID-19 suffer from long term symptoms and the severity differs among different populations.

# PHILLIP BOCK

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**INTERN MAJOR**

Biomedical Engineering

**SUPERVISOR NAME**

Dr. Chandler L. Walker,  
Christen Mumaw

**SUPERVISOR DEPARTMENT**

Department of Biomedical  
Sciences and Comprehensive  
Care, Indiana University  
School of Dentistry

**The Role of CTMP in Skeletal Muscle Atrophy**

My internship has focused on analyzing denervation-induced skeletal muscle atrophy in nerve injury and amyotrophic lateral sclerosis (ALS) models. In the nerve injury model, the sciatic nerve in the right hind limb was surgically cut to document how sudden nerve damage leads to disconnection of the neuromuscular junction (NMJ) and subsequent skeletal muscle atrophy in mice. The denervation is useful both for comparing how it can mimic progressive skeletal muscle atrophy that occurs in ALS and how a sudden severance of the sciatic nerve can lead to unique characteristics in atrophy progression. Despite multiple causes of denervation skeletal muscle atrophy, the carboxyl-terminal modulator protein (CTMP) is a common contributor. The Walker lab has identified that upregulation of CTMP promotes skeletal muscle atrophy progression in these models, and the involvement of this protein has been a focus of my project.

# KATHERINE BRADY

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**INTERN MAJOR**

Biology (BA)

**SUPERVISOR NAME**

Dr. Kirk A. Staschke, Dr.  
Ronald C. Wek, Ricardo A.  
Cordova, Noah R. Sommers

**SUPERVISOR DEPARTMENT**

Department of Biochemistry  
and Molecular Biology, IU  
School of Medicine

**Differential response of GCN2 eIF2 kinase to specific amino acid limitations in prostate cancer**

In our lab we focus on understanding how stress response pathways help prostate cancer (PCa) cells adapt and survive amino acid (AA) limitations. Our lab discovered that the kinase GCN2 is critical for the maintenance of AAs in PCa cells by turning on genes involved in AA synthesis and transport. Blocking GCN2 function in PCa cells results in AA starvation leading to decreased growth of these cancer cells. These results support that GCN2 may be a potential therapeutic target for treating this deadly disease. However, before GCN2 inhibitors can be taken to the clinic, we need to have a better understanding on how inhibition of GCN2 affects different cellular processes.

My goal was to study how deletion or inhibition of GCN2 in cultured PCa impacts ribosome biogenesis and translation, both cellular processes are dependent on AAs. Using Click-IT-based reactions and immunofluorescence for detection, we found that the amino acid limitations caused by loss of GCN2 function decreased ribosome biogenesis and translation in PCa cells, and this could be reversed by AA supplementation. Furthermore, culturing PCa cells in media depleted of AAs also reduced ribosome biogenesis and translation, suggesting that AA limitations is a major factor leading to the reduction in these cellular processes following GCN2 inhibition.

# DAVID BYEON

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**INTERN MAJOR**

Neuroscience

**SUPERVISOR NAME**

Dr. April Newton, Mr. Alex Buchanan

**SUPERVISOR DEPARTMENT**

Interprofessional Practice Development

**Empowering Underprivileged Mothers: A Holistic Approach through Interprofessional Practice to Address Social Determinants of Health**

During my internship under the guidance of Dr. April Newton and Alex Buchanan, I had the invaluable opportunity to participate in two clinics: the Buprenorphine Clinic and the CoPac Clinic. These experiences offered me profound insights into the power of team-based clinical care, showing the efficacy of an interprofessional approach in addressing complex health issues.

Inspired by what I learned at the clinics, I pursued on a personal passion project. Recognizing the power of team-based care in addressing complex health challenges, I initiated the project "Madres en Plenitud: Apoyando a Madres a Vencer Barreras de Salud." In this project, I am creating an accessible resource guide made specifically for mothers of Hispanic backgrounds. Using insights gained from my mentorship under Dr. April Newton and Mr. Alex Buchanan, this guide aims to streamline access to vital resources and support networks for these mothers. Through this project, I aim to address the diverse and intricate social determinants of health faced by underprivileged mothers, through an interprofessional approach.

# DAVID BYEON

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**INTERN MAJOR**

Neuroscience

**SUPERVISOR NAME**

Dr. April Newton, Mr. Alex Buchanan

**SUPERVISOR DEPARTMENT**

Interprofessional Practice Development

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# DIYA CHAUDHRI

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Tamara Hannon & Mr. Brett McKinney

**SUPERVISOR DEPARTMENT**

Pediatric Endocrinology/  
Diabetology - Riley Children's Hospital

**Comparing and contrasting the foundational clinical characteristics of children with type II diabetes, revealing distinctions between those whose mothers experienced gestational diabetes and those whose mothers did not**

Gestational diabetes is a type of diabetes that occurs in pregnant women. This is a short-term condition where the woman's body is not able to produce enough insulin to combat the amount of glucose being produced. This can be quite harmful to both the mother and the baby. Babies that are born to mothers with gestational diabetes tend to have more complications as they mature. During my initial semester of research, I collaborated with Dr. Tamara Hannon's Pediatric Type II Diabetes Registry, extracting specific data from electronic medical records (EMRs) to contribute to the ongoing analysis of patient trends over several years. Subsequently, during my second semester, I focused on our patient cohort from Riley Children's Hospital within the pediatric endocrinology department. Within this group, distinctions emerged between patients whose mothers had gestational diabetes during childbirth and those who did not. I systematically categorized and compared these two patient groups, examining various clinical features such as A1C levels, BMI, hypertension, medication given at discharge, and more.

# WILL CLARK

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**INTERN MAJOR**

Chemistry

**SUPERVISOR NAME**

Dr. Jill Fodstad

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Psychiatry

**Scoping Review of Treatment of Conduct Problems in Down Syndrome**

For this project, we are focused on researching the various treatments of behavioral problems for individuals with Down syndrome (DS) by analyzing previous literature. A select group of articles have been screened and data has been extracted from the articles that are relevant for our scoping review, which is a form of evidence synthesis that involves several steps. The general procedure for making a scoping review is to answer a research question, screen references, extract data from the references, and evaluate conclusions and implications based on the data that was collected. The articles that were extracted for this scoping review involve case studies that have human participants with Down syndrome go through interventions that target the individual's problem behaviors. These behaviors include, but are not limited to, aggression, noncompliance, tantrums, and property destruction. This topic was selected due to the lack of literature in the field relating to treatment of conduct problems related to DS, which emphasizes the importance of finding and analyzing data related to the topic and presenting it in a scoping review format.

# ZACH CLICK

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**INTERN MAJOR**

Nursing

**SUPERVISOR NAME**

Dr. Zeynep Salih

**SUPERVISOR DEPARTMENT**

Medicine; Riley Hospital for  
Children; Pediatrics

**Process of Creating a Study About International Medical Graduates**

We conduct comprehensive literature reviews and surveys to understand the involvement of international medical graduates in the pediatric bioethics field. Not much research has been done on this topic, so we hope to learn more about international medical graduates' lack of membership and involvement in pediatric ethics committees.

# AMY DE LEON LOPEZ

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**INTERN MAJOR**

Healthcare Service  
management

**SUPERVISOR NAME**

Dr. Monica Hubal and Mitchell  
Smith

**SUPERVISOR DEPARTMENT**

School of Health and Human  
Science Department of  
Kinesiology

**Resistance Training as Physiological and Psychological**

This internship project aims to improve the health of individuals at risk of developing diabetes by introducing them to a strength training program. The focus is on promoting physical well-being through targeted strength exercises, with the ultimate goal of preventing or managing diabetes. The research seeks to demonstrate the positive impact of strength training on overall health, specifically addressing the needs of those who are pre-diabetic. By encouraging and implementing a structural strength training program, the project aims to contribute to healthier lifestyles and reduce the risk factors associated with diabetes development.

# GRACE DURHAM

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**INTERN MAJOR**

Forensic and Investigative  
Science, Biology

**SUPERVISOR NAME**

Dr. Ann Kimble-Hill

**SUPERVISOR DEPARTMENT**

Department of Biochemistry  
and Molecular Biology at  
Indiana University School of  
Medicine

**Refining Structure of the Amot Coiled Coil Homology Domain to Understand Function in Epithelial Cell Cancers**

1 in 8 women in the United States will develop breast cancer in her lifetime. Epithelial cell cancers result from the overexpression of Angiomotins (Amot). Amots are a family of adaptor proteins that control the location of proteins responsible for cell proliferation, migration, and maintenance of normal cell structure. This trafficking function is related to the ability of Amot's coiled coil homology (ACCH) domain to associate with and remodel cellular membranes. We are interested in deciphering the structure of the ACCH domain to better understand this regulatory function. Our lab's previous research proposed a theoretical structure of the ACCH. This project focuses on refining this structure, using modeling tools like RoseTTAFold, trRosetta, and GoogleCoLab, against globular envelope dimensions determined experimentally with small-angle X-ray scattering (SAXS). Approximately 80 models were generated and compared to current SAXS data. We also investigated mutations of the ACCH to better understand how single-amino acid changes affect structure and therefore functionality. Specific focus was on Arg-153 mutations and how structural differences cause previously documented reductions in association with cellular membranes. Refined structures are key to understanding how all documented Amot mutations lead to cancer initiation and metastasis to find effective cancer therapeutics.

# HANNAH FOX

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**INTERN MAJOR**

Biology B.S.

**SUPERVISOR NAME**

Dr. Amy Williams

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine; Department of  
Psychiatry

**Pediatric Pain Psychology**

The supervisor of the site, Dr. Williams, is a clinical psychologist specializing in pediatrics. Her research focuses on how psychological factors affect pain and how to better manage and treat pain, both chronic and acute, in the pediatric population. She is involved in a multitude of projects that interns have the opportunity to assist with. An ongoing project is a study titled Injustice and Resilience in Youth with Sickle Cell Disease, and interns have the opportunity help with recruitment through the Sickle Cell Clinic at Riley Hospital for Children. Dr. Williams and her colleagues have also conducted research on evidence-based interventions for complex behavioral health disorders in community mental health centers. The manuscript over this research is still being written, so interns have the opportunity to help prepare that. Another project Dr. Williams is working on is a study regarding disordered eating in pain patients, and recruitment has just begun. Lastly, Dr. Williams is just beginning to develop a clinical database with data collected from the Pediatric Headache Clinic at Riley Hospital for Children, and interns have the opportunity to help with this project.



# ARIANA GARCIA

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**INTERN MAJOR**

Health & Human Science

**SUPERVISOR NAME**

Sarah Honaker, Maureen McQuillan

**SUPERVISOR DEPARTMENT**

School of Medicine

**Sleep and Health at Home**

I work in The Healthy Sleep for Kids Lab, primarily on the SHH (Sleep and Health and Home) project to study sleeping, feeding, and obesity risk during infancy in African American and Latinx families. This project is a collaboration with Purdue University College of Health and Human Sciences. As part of my role in this project, I attend multidisciplinary team meetings and help conduct interviews with underrepresented, minority families to learn about their children's feeding and sleeping schedules. By conducting interviews, we can gain a better understanding of how the child's sleep and feeding schedules may contribute to the development of sleep problems, and later, obesity risk. I have worked with Spanish-translated material and Spanish-speaking families to ensure inclusion of a broad sample of voices. This study aims to raise awareness among minority families about how sleep and eating habits can significantly impact children's everyday lives. In my PowerPoint presentation, I will share how the opportunity to help conduct this study has allowed me to not only learn more about infant sleep and feeding and contribute to this research, but also develop my communication skills. My confidence and interview abilities have increased since joining the lab in Fall 2023.

# SERENA GERGIS

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Emilee Delbridge

**SUPERVISOR DEPARTMENT**

IU School of Medicine, Family Medicine Residency

**Resident/Physician Wellness**

In my internship, I am actively engaged in supporting resident wellness, with a primary focus on mental health. The overarching goal is to establish a healthy work-life balance for medical residents, addressing the challenges they face in their demanding profession. To combat burnout, we are developing a comprehensive Canvas website that offers a variety of resources tailored to their needs. This initiative is particularly pertinent today, as more than 50% of medical residents report experiencing burnout. In addition to my practical contributions, I am also conducting a literature review to ensure our strategies align with the latest research and best practices in the field.

# JAYMA GIRDLER

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**INTERN MAJOR**

Neuroscience and Psychology

**SUPERVISOR NAME**

Dr. Eva Kurtz-Nelson and  
Angela Paxton

**SUPERVISOR DEPARTMENT**

Riley Hospital for Children;  
Division of Developmental  
Medicine

**Developmental Medicine Database**

At this internship, the main task was to enter data from psychological testing protocols into the Developmental Medicine database in REDCap. Researchers can use the database to further study neurodevelopment disorders. This database stores information from the patients seen at the clinic daily. Researchers and clinicians can access and analyze this data for research and quality improvement purposes. One example of analysis is based on using a specific testing tool to analyze specific symptoms that follow the diagnosis of a neurodevelopment disorder. It allows for the data to be more accessible when it comes to analysis and summarizing for research and quality improvement purposes.

# VIANNEY GONZALEZ-GONZALEZ

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**INTERN MAJOR**

Biology BS

**SUPERVISOR NAME**

Dr. Amber Comer, Ms.  
Stephanie Bartlett, Mrs. Lynn  
D'Cruz, Mrs. Asia Madayag

**SUPERVISOR DEPARTMENT**

School of Health and Human  
Sciences, Department of  
Health Sciences

**Differences in self-reported symptoms including: nonmotor symptoms, emotional and spiritual struggles as well as reported care partner burden for patients with Parkinson's.**

The End-Of-Life lab strives to assist health care providers, patients with terminal disease and their families in ethical, informed medical decision making. Research projects geared to understanding terminal stages of disease burdens and patient and family's needs helps to provide focused medical care. Parkinson's disease is a progressive neurological condition resulting in motor, nonmotor and emotional symptoms and can affect both the patient and their care partners quality of life. This project is retrospective research deign using patient self-reported surveys from Parkinson's clinics at IU health Methodist to assess differences in symptoms burden based on gender. Patient demographics were obtained and used to classify patients into respective gender cohorts. Symptoms were gauged on a four-point-Likert scale of "not at all" to "A great deal". These symptoms varied from nonmotor-symptoms to spiritual and psychosocial symptoms as well as care partners reported burdens.

# MORGANNA GORDON

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr Ann Kimble-Hill

**SUPERVISOR DEPARTMENT**

Department of Biochemistry  
and Molecular Biology,  
IU School of Medicine,  
Indianapolis, IN

**Understanding the Role of Phosphatidylinositol-Driven Lipid Phases in Triple Negative Breast Cancer Aggressiveness**

In the United States, 1 in every 8 women is diagnosed with breast cancer according to the Centers for Disease Control and Prevention (CDC). Approximately 17% of these diagnoses are triple-negative breast cancer (TNBC), the most lethal and aggressive breast cancer subtype as it lacks overexpression of the normal chemotherapy targets, hormone receptors, and Human Epidermal Receptor 2 (HER2). This is important because due to the absence of these protein receptors, it is difficult to find a targeted treatment, one of the main causes of poorer survival rates in TNBC patients. There are many ways in which to approach studying triple negative breast cancer as it is associated with many factors. My project focused on understanding how varying the lipid composition of TNBC cell membranes can lead to more aggressive cancer and metastasis. One of the main methods used to study the lipid composition for my research is small angle x-ray scattering. By studying these data, it is hoped that this will increase our understanding of targeted ways to treat and/or prevent metastatic breast cancer and help save the lives of countless women affected by this disease.v

# NAHLEE GORDON

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**INTERN MAJOR**

Public Health

**SUPERVISOR NAME**

Dr.George Sandusky, Megan  
Szymanski, Vivian Valadares

**SUPERVISOR DEPARTMENT**

Pathology Lab at IU School of  
Medicine

**Evaluation of FYB1 Antibody in Colon Cancer TMA using Immunohistochemistry**

In the digital pathology lab, I scan and use an automated whole slide scanner by scanning slides and moving them on a database for analysis. Our main goal is to use new artificial intelligence packages to predicate patient disease free survival (DFS) and survival. Overall, being part of the lab has shown me how digital pathology tools that have limited artificial intelligence (AI) capabilities in research and education can make a significant difference.

My research on colon cancer helped me become more equipped to understand the process of colon cancer.

# SETAREH HAMIDI

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**INTERN MAJOR**

Neuroscience

**SUPERVISOR NAME**

Dr. Amy E. Williams

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Psychiatry

**Pediatric Chronic Headache Survey Development for Research and Clinical Use**

Our goal is to improve the quality of care for pediatric patients suffering from chronic pain due to a variety of causes. It is our hope that by studying the various factors that influence pediatric pain patients' experience of their condition and the care that they receive, we may be able to identify areas where the quality of the care that we provide can be improved. The focus of my project is the development of a comprehensive survey which will be used in a clinical setting and possibly in future research to evaluate the various factors that influence pediatric chronic headaches.

# BASANT HANNA

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Ms. Mantcheva

**SUPERVISOR DEPARTMENT**

School of Medicine

**Undiagnosed Rare Disease Clinic (URDC)**

The Undiagnosed Rare Disease Clinic (URDC) is a project that works with patients who may have an undiagnosed rare disease that's likely caused by a genetic mutation. The clinic is pediatrics focused but accepts patients of all ages, and assesses their medical conditions via clinical and research strategies. The purpose of the project is to help effected patients and families of effected patients uncover a diagnosis, learn how to adapt with it, and direct them to a care plan if applicable.

# PRECIOUS HARVEY

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**INTERN MAJOR**

Psychology

**SUPERVISOR NAME**

Dr. Mary Ott, Carolyn Meagher, Neil Davis

**SUPERVISOR DEPARTMENT**

IU school of Medicine  
Pediatrics Department

**Youths Input on Sexual/Reproductive Health - Interactive Platform**

For my project I have chosen to create an interactive platform highlighting sex education that will utilize concerns and interest of Indiana Youth. Data will be pulled and analyzed from the INPACT, and INCAST research projects to inform the platform. Viewers will be able to watch demo videos on reproductive health, see the main concerns of youth, listen to discussions around sexual health topics, and even post questions they may have or want to learn more about on a community board.

# DENISSE HENRIQUEZ DUBON

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**INTERN MAJOR**

Informatics, Media Arts and Science

**SUPERVISOR NAME**

Dr. Mueller, Ms. Cochrane

**SUPERVISOR DEPARTMENT**

Riley Hospital for Children

**Mobile Applications to Support Caregiving of Children with Cancer: Public Availability After Creation**

In this research we gather 24 various healthcare apps across the world to see if they are still available to be downloaded and used. During the research we gathered 24 articles about the healthcare apps and created an excel sheet where we put in our data. Next we searched the internet, app store, and google store to see if it was still available or not. After we gather the information, we put all that information into an excel sheet. We are currently writing a research paper about our findings and hope that others will figure out a way to keep healthcare apps still available.

# DRAKE HESTER

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**INTERN MAJOR**

Social Work

**SUPERVISOR NAME**

Dr. Seethal Jacob, Ms. Jillian Bouck

**SUPERVISOR DEPARTMENT**

Riley Children's Hospital,  
Department of Pediatrics,  
Division of Pediatric  
Hematology/Oncology

**Comprehensive Pediatric Sickle Cell Program**

Working with the only comprehensive Sickle Cell clinic in the state of Indiana has been a rewarding experience. My work focused on data collection, where I would be given forms visiting clients had filled out and digitally copy them into our many databases that we use to receiving further funding to benefit the many children and families who experience Sickle Cell Disease.

# ZAINAB IDREES

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**INTERN MAJOR**

Psychology

**SUPERVISOR NAME**

Dr. Deanna Reinoso

**SUPERVISOR DEPARTMENT**

Social Determinants of Health,  
Eskenazi Health

**Assessing Pediatric Diaper Need in Eskenazi Health Centers**

The Social Determinants of Health team at Eskenazi Health aims to diminish disparities in factors such as food insecurity, diaper need, transportation, etc. Pediatric diaper need is a nationally underfunded resource for parents. Through a partnership with Indiana Diaper Bank, Eskenazi Health aims to become a healthcare system offering pediatric diaper resources to the community. Over the course of my internship, I have surveyed parents at Eskenazi Health Center Pecar on their children's diaper needs, as well as their experiences on receiving diapers through community resources. This research also helps in determining the impact coping mechanisms of parents who have diaper need. Over 200 surveys in English, Spanish, and Haitian Creole at several Eskenazi Health clinics have been conducted.

# GRACE JOHNSON

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**INTERN MAJOR**

Psychology school of science and a minor in sociology

**SUPERVISOR NAME**

Lisa Kutschera, Dr Deanna Reinoso

**SUPERVISOR DEPARTMENT**

Pediatric department at IU school of medicine

**Kids HealthCast**

Kids HealthCast is a pediatric focused podcast recorded by pediatric residents at the IU School of Medicine. This podcast is made for parents and the public to educate on how to support children's development, mental and physical needs, and even addresses various concerns and questions people may have regarding pediatric health. With this podcast, we hope to keep parents updated, aware, and educated on ways they can keep their children safe and raise them in a fulfilling environment that will help them to thrive. The podcast consists of parenting tips, current news that is relevant to children's health, informative main topics, and answers to several questions parents may have! My fellow intern, Cynthia, and I record the residents, edit the podcasts, create social media posts, and instruct the residents when recording. A new episode is available monthly on Spotify, apple music, and their website.

# SANJALI KHERDE

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**INTERN MAJOR**

Biology and Neuroscience (Pre-Medicine)

**SUPERVISOR NAME**

Dr. Rupa Radhakrishnan and Dr. Ramana Vishnubhotla

**SUPERVISOR DEPARTMENT**

IU School of Medicine, Department of Radiology and Imaging Sciences, and Riley Children's Hospital

**"Reconstruction of Fetal Brain MRIs in Pregnant Women Using Opioids"**

The escalating prevalence of opioid use among pregnant women has raised concerns regarding the neurodevelopmental outcomes in their infants. The overall goal is to evaluate fetal brain volume differences on magnetic resonance imaging (MRI) between pregnant women using opioids and healthy controls, with the goal of early detection of opioid-associated developmental changes.

Gathering high-resolution whole brain volumes for fetuses in-vivo on fetal MRI is challenging due to fetal movement. In this study, 2-dimensional (2D) MR images of the fetal brain were acquired using a Half-Fourier Single-shot Turbo spin-Echo (HASTE) sequence in the axial, coronal, and sagittal planes. These images were acquired in 3 -5 mm thick slices. My role in this project was to help convert the thick slice MRI into high-resolution isotropic images.

We had 52 participating pregnant women – 25 with opioid use and 27 controls. I manually segmented the fetal brain MRI using ITK-SNAP software. The brain masks that I generated were then combined with the original fetal brain HASTE MRI to generate high-resolution 3D images using an automated 3D reconstruction pipeline. These postprocessed images were checked for accuracy and then oriented to the correct plane. Future steps include analysis of segmented fetal brain volumes.

# JOHANNA KOOTHUR

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**INTERN MAJOR**

B.S. Biology

**SUPERVISOR NAME**

Dr. Marc Mendonca & Mrs.  
Helen Sinex

**SUPERVISOR DEPARTMENT**

IU School of Medicine -  
Radiation Oncology

**Effect of Radiation Doses on Glioblastoma U87 cells**

I am working with Dr. Marc Mendonca and his team to investigate how different doses of radiation affect U87 Glioblastoma (GBM) cells with genetic alterations in MDM-2 and MDM-X genes. We hope to eventually find a breakthrough in cancer research by targeting pathways regulated by these genes, which can be utilized to improve the response of GBM tumors to radiation.

# ALEXIS LECO

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**INTERN MAJOR**

Health Science BS, Pre-Med  
Track

**SUPERVISOR NAME**

Dr. Andrew S. Deane

**SUPERVISOR DEPARTMENT**

Department of Anatomy, Cell  
Biology, & Physiology- Indiana  
University School of Medicine

**Comparative and Functional Morphology Outreach Curricular Development & Description and Analysis of new Pliocene Cercopithecoid Fossils from Laetoli, Tanzania**

The purpose of research on the comparative function of the ape and monkey fossil records in paleo biology is to examine the evolutionary paths of these primates, revealing interesting insights into their shared and distinct characteristics throughout history. Learn about our innovative projects! We're applying 3D scanning to craft a K-5 online module, 'Growing Up Monkey', exploring Baboon cranial facial development. We're also completing data sets and analysis specific to comparative function morphology of the skull and mandible of primates. Research on the skull and mandible contribute valuable information to paleoanthropology by shedding light on evolutionary relationships, reconstructing behaviors, identifying adaptations, and advancing our understanding of human evolution!



## GIA LIWANAG

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**INTERN MAJOR**

Exercise science

**SUPERVISOR NAME**

Dr. Melissa Kacena

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Orthopedic  
Surgery

**The process of genotyping in orthopedic surgery research lab**

Kacena Lab has multiple ongoing research projects focusing on fracture healing in different disease states (Diabetes mellitus and Alzheimer's disease) and aging. In Kacena Lab, students and interns are given the opportunity for to learn various techniques such as x ray imaging, microCT analysis, genotyping mouse strains, and mouse handling skills including but not limited to learning to prepare mice for surgery, label things properly for tissue collection, and injecting treatments in mice as a part of ongoing studies. The lab skills learnt throughout the internship term are applicable to many lab settings for other research and science labs used in a classroom especially mouse handling and genotyping. These skills and techniques not only help the interns with scientific knowledge and understanding but also allows us to grow in confidence for careers in medicine and science in the future. Interns also get to work closely with research faculty, lab manager, lab techs, and other students. This helps us interns in making informed career choices. The endless opportunities and consistent support of the research team paves the pathway for success and gives us the tools to move forward.

## AYAH MAHARIQ

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**INTERN MAJOR**

Biology BA, Neuroscience BS

**SUPERVISOR NAME**

Al Hassanein MD, MMSc, Luci  
Hulsman BS, Ganesh Mohan  
PhD, Shahnur Ahmed MD,  
Miguel Jorge BA, Mithun Sinha  
PhD

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine, Department of  
Surgery, Division of Plastic  
Surgery

**Experimental Evaluation of Dermal Lymphatics in Lymphedema Prevention**

Breast cancer is common and affects 1 in 8 women. One third of patients who undergo axillary lymph node removal as part of the treatment of breast cancer experience lymphedema. It is estimated that lymphedema affects 5 million Americans. Lymphedema is characterized by progressive arm swelling that hinders quality of life, reduces mobility, and increases risk for infections. There is no cure for lymphedema and current treatments are variably effective. Therefore, the goal of this laboratory is to study novel prevention and management strategies for lymphedema. The current study is to evaluate the effect of dermal lymphatic preservation in the development of lymphedema.

# HARRY MANN

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**INTERN MAJOR**

Chemistry (Biochemistry Concentration)

**SUPERVISOR NAME**

Dr. Jason Doles

**SUPERVISOR DEPARTMENT**

Department of Anatomy, Cell Biology, and Physiology at IU School of Medicine

**Impact of chronic stress on cancer cachexia**

Pancreatic cancer has been researched more rigorously in the past 25 years than ever before. Cancer cachexia is a syndrome that affects many organs and is diagnosed when a cancer patient has lost 5% more of their body weight over 6 months. Pancreatic cancer is very common and is known to have high rates of cachexia, which can significantly compromise a patient's quality of life and increase mortality rates. This year I began in Dr. Doles' lab where they research cancer cachexia. Specifically, Dr. Doles' lab researches different interventions that can be taken to offset the muscle degradation that occurs during cancer, in addition to researching about the effects of chronic stress on cancer cachexia. My personal job has been to identify and quantify the changes in the sizes of muscle in in vitro and in vivo experiments through the use of immunofluorescent staining. I primarily work with frozen muscle that has been preserved from various models and experiments.

# ELEXA MAXWELL

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**INTERN MAJOR**

Health Science

**SUPERVISOR NAME**

Ms. Andrea Janota, Ms. Caroline Kryder-Reid, Ms. Kaley Liang, Mr. Alex Buchanan

**SUPERVISOR DEPARTMENT**

IUI ECHO Center at Richard M. Fairbanks School of Public Health

**IN CAREs ECHO**

I will create a PowerPoint presentation over my sole tasks for the Indiana Communities Advancing Recovery Efforts (IN CAREs) ECHO program. During this presentation I will explain the purpose of IN CAREs and what the program entails. I will also describe the type of audience for the program. Additionally, I would like to display a mock case document and describe how participants can also use this format to showcase their successes in their respective county. While interning at the IUI ECHO Center, I learned various interchangeable skills when assisting with the other programs. The skills such as case outreach, compiling cases, assessing attendance, and editing recorded meetings were also utilized for the IN CAREs ECHO program. I would like to highlight that all ECHO sessions involve extensive planning and scheduling to be executed. This outline for an ECHO is imperative for the program management specialist, didactic speaker(s), audience, and overall flow for a successful session. Lastly, I intend to explain the "All learn, all teach" model which is at the core of each ECHO session.

## MADISON MAY

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Joan Cook-Mills

**SUPERVISOR DEPARTMENT**

Indiana University School of  
Medicine, Herman B Wells  
Center for Pediatric Research

**Analysis of Food Allergy Development in Early Life**

The early development of food allergies and eczema has been becoming more prevalent over the decades. Children with eczema are more susceptible to develop food allergies but its mechanisms of development are still not well-understood. The project that I was involved with was researching specific mechanisms for the initiation of food allergy to find potential targets for therapy. This project consisted of using young mice with skin barrier defects found in eczema (FT +/-, Flaky Tail mice with heterozygous mutations in Flg and TMEM genes) and exposing them to food allergen (peanut extract), environmental allergen (*Alternaria Alternata*) along with detergent (4% SDS) via the skin to develop food allergy. I was able to help with the skin-sensitization, and another responsibility I had in this food allergy project was genotyping, which is a way to verify a gene's specific alleles through analyzing DNA sequences. Genotyping is necessary for this project because we needed to generate FT +/- pups as well as other mice with other desired deletions of genes (e.g. IL33, ApoE, Krt14Cre, Col1A2Cre) that are shown to be important in food allergy development through skin sensitization. These mice with deletions will be used to test whether IL33 or ApoE in skin keratinocytes or skin fibroblasts are important for food allergy.

## KENNEDY MCCORMACK

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**INTERN MAJOR**

Health Services Management

**SUPERVISOR NAME**

Dr. Crum

**SUPERVISOR DEPARTMENT**

Psychiatry Department,  
Indiana University School of  
Medicine

**Exploring Intergenerational Trauma at the LifeRAFT Lab**

The LifeRAFT (Lifespan Resilience After Family Trauma) Lab studies how early life stress and family dynamics impact youth behavior outcomes and substance use. Our lab recruits parents who have experienced a traumatic event who have children 10-14 years old. The parent and child complete questionnaires, and the child undergoes neuroimaging while completing tasks. The goal of this study is to explore how stress impacts risk for substance use and to eventually use this information to create new treatments for adolescents and their families.

## LARA MCGLOTHLIN

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### **INTERN MAJOR**

Biology

### **SUPERVISOR NAME**

Dr. Tamara Hannon and Mr. Brett McKinney

### **SUPERVISOR DEPARTMENT**

Pediatric Endocrinology/  
Diabetology – Riley Hospital  
for Children

### **Retrospective chart review of pediatric patients with established T1D or T2D who have had DKA or HHS pre-, during and post COVID**

Diabetic ketoacidosis (DKA) is a condition characterized by high blood glucose levels and metabolic decompensation. DKA serves as a potentially fatal complication of diabetes, and it has significant short-term and long-term health consequences. Within the patient population followed by our Endocrinology Program, 7-10% of patients with Type 1 Diabetes (T1D) on public insurance are admitted to the hospital/emergency department annually for severe hyperglycemia or DKA. Therefore, my research project utilizes retrospective chart review of pediatric patients in DKA or HHS to address the factors that influence DKA development. Based upon this retrospective chart review, we hope to identify additional support that can be offered to at-risk youth and families, in order to improve blood glucose management and reduce the risk of hospitalization.

## OLIVIA (OLIVE) MCINTOSH

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### **INTERN MAJOR**

Psychology

### **SUPERVISOR NAME**

Dr. Mohannad Abu Sultanah,  
Dr. Leslie Hulvershorn,  
Mrs. Ashley Vektor (Dr. Mike  
Smoker, Dr. Trey Dellucci, Dr.  
Paola Matthey Mora, Ms. Olivia  
Murray, Mr. Michael Peck)

### **SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Psychiatry

### **Neural Response to Risky Decision Making in Youth at High Risk for Substance Use Disorders and HIV**

At the Hulvershorn Lab, our mission is to understand the mysteries of the brain mechanisms and environmental factors that drive youth to make risky decisions. We aim to identify the most impactful physiological and environmental factors that affect how the adolescent brain interacts with different choices and the impact of these choices on youth health in the future to foresee the likelihood of developing diseases that will negatively affect the quality of life (like substance use disorder). We investigate the underlying brain mechanisms driving these behaviors through functional MRI scans and risky decision-making tasks. We then follow up with participants longitudinally following a prospective cohort research model to track their changes as they grow older into adulthood. This work is very important because it directly influences the well-being of high-risk youth with a family history of substance use disorder, offering insights that will help develop more specific interventions and preventive strategies as we move into the era of personalized medicine, ultimately leading to healthier life trajectories for adolescents.

# MELINA MERCADO

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**INTERN MAJOR**

Health and Human Sciences

**SUPERVISOR NAME**

Dr. Melissa Kacena

**SUPERVISOR DEPARTMENT**

Orthopaedic Surgery

**Kacena Lab**

Kacena lab focuses on multiple aspects of bone healing in aging and Alzheimer's disease to see how new treatments improve pain and fracture healing. Animal models capturing different disease states are used for translational research. Kacena lab uses different mouse models to study fracture healing and pain outcomes. Genotyping is the technique used to ascertain if the mice have the desired genetic mutations in them. I have contributed by genotyping different strains of mice by extracting DNA from the tissue and performing PCR analysis to determine if the correct mutation is present. I also helped with x-ray imaging for fractured mice and whole blood analysis. The LHSI program helped me to further my knowledge in translational research and challenge myself to learn additional skills in a laboratory setting.

# ANNA MILLER

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Joshua R. Huot, MS, PhD

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Anatomy and  
Cell Biology

**Musculoskeletal Effects of Liver Metastasis**

My internship has focused on cachexia, a progressive wasting disease prevalent in cancer patients. Along with body weight loss, patients with cachexia display musculoskeletal wasting, weakness, and fatigue, thus impairing their quality of life. The main project of my internship has focused on the exacerbation of cachexia due to the presence of liver metastases. While it is known that liver metastases amplifies cachexia, the mechanisms remain poorly understood. Building on recent work from my lab, we investigated whether liver metastases exacerbated musculoskeletal wasting in a mouse model of lung cancer. This project affords the lab an opportunity to examine the impact of cancer cells on the liver and the resultant secretory changes induced by liver metastases. In addition to assessing changes in body weight, muscle mass, and muscle function, we also determined molecular changes in skeletal muscle. Various techniques analyzed molecular differences at the gene and protein level including RT-qPCR and western blotting. Additionally, skeletal muscle staining and imaging assesses the fiber size changes. As the project progresses, the aim is identifying proteins secreted from the liver and/or tumor that cause exacerbation of cachexia. This undertaking holds significant importance for identifying potential future targets secreted by the liver and tumor.

# CHANAKARN (NET) MONGKONPRUTHANGKOON

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## **INTERN MAJOR**

Chemistry - Biochemistry  
Concentration

## **SUPERVISOR NAME**

Dr. Scott Aoki, Carmen  
Herrera Sandoval, Chris  
Borchers, Murphy Angelo

## **SUPERVISOR DEPARTMENT**

Department of Biochemistry  
and Molecular Biology, IU  
School of Medicine

## **Utilization of CRISPR/Cas-9 on *C. elegans* to understand RNA-protein complex formation and function**

The Aoki lab utilizes CRISPR/Cas-9 technology to edit the genetic code of the roundworm, *C. elegans*, to study the function of RNA-protein complexes. In humans, reproductive cells contain germ granules, which are also referred to as RNA-protein complexes. These germ granules contain various RNAs and proteins involved in germ line identity, maintenance, and fertility. In *C. elegans*, P granules are synonymous with the germ granules in humans. The P granules' formation depends on the PGL family of proteins. However, the molecular function of PGL proteins remains unclear. Here, we use CRISPR/Cas-9 to alter the PGL protein regions to examine their individual roles in granule formation and function. Exploring the role and interactions of the components within P granules enhances our overall understanding of RNA-protein complexes.

# SABRINA OMER

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## **INTERN MAJOR**

Health Sciences

## **SUPERVISOR NAME**

Dr. Nate De Jong, PhD, CCRP,  
MPH & Dr. Linda DiMeglio, MD,  
MPH

## **SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Pediatrics,  
Division of Endocrinology and  
Diabetology at Riley Hospital  
for Children

## **Boosting Patient Participation in Type 1 Diabetes Management: A Hopeful Approach**

Type 1 Diabetes (T1D) is an autoimmune disease characterized by the destruction of pancreatic beta cells, causing diminished insulin production. T1D affects 8.4 million individuals, with 1.5 million under the age of 20. T1D research is crucial because it aims to unravel the disease's underlying mechanisms, paving the way for improved treatment options and ultimately a cure. Research advancements can enhance the quality of life for persons living with T1D by developing robust management strategies (i.e., glucose sensors and insulin delivery systems). Research can identify T1D development risk factors to delay disease progression in children at high risk. My research focuses on participant recruitment for TrialNet, a research consortium dedicated to preventing or delaying T1D progression. TrialNet screenings detect T1D stages, averting life-threatening hospitalizations. However, recruitment has declined since the COVID-19 outbreak. After analyzing the departmental database, we've identified recruitment barriers: apprehension about experimental drug usage, lack of inclusivity, rumors of misconduct, protocol burden, preference for online alternatives, and geographical limitations. Addressing these limitations involves recognizing the barriers, engaging participant partners, tailoring recruitment approaches, simplifying eligibility, offering reimbursements, enhancing communication, fostering trust, streamlining procedures, and continuously adapting strategies. Our research team strives to overcome obstacles hindering patient recruitment in T1D Research.

## REYAN OUMAMMAR

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**INTERN MAJOR**

Biology and Neuroscience

**SUPERVISOR NAME**

Dr. Catherine Sears

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine Pulmonology  
Department

**Impact of XPC on pollution-induced damage and pulmonary epithelial cell fate**

I have been working under the supervision of Dr. Catherine Sears; her laboratory focuses on the impact of DNA damage and repair on the development of lung cancer and other lung diseases. Through this internship I have studied how the DNA repair protein Xeroderma Pigmentosum Group C (XPC) impacts the response of lung epithelial cells to PM2.5 (particulate matter 2.5), a dangerous component of air pollution. We used "normal" human bronchial epithelial cells (Beas-2B) and lung cancer cell lines wild-type for XPC (WT) or modified by lentiviral knock-down of XPC (KD). When exposed to increasing concentrations of PM2.5, we found differences in cell microscopic appearance in XPC KD compared to WT Beas-2B cells. By Crystal Violet assay, I found that XPC KD Beas-2B cells had lower survival with increasing PM2.5 concentrations compared to XPC WT. Additionally, I found that XPC KD Beas-2B cells had significantly higher levels of DNA damage by alkaline Comet assay compared to WT cells. I am confirming these findings using a clonogenic survival assay and in XPC KD and WT cancer cell lines. My research aims to determine cellular responses to air pollution, informing strategies to relieve health impacts and understand pollution-related respiratory disease pathophysiology.

## SRI PARVATHA

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**INTERN MAJOR**

Psychology and Neuroscience

**SUPERVISOR NAME**

Dr. Fodstad

**SUPERVISOR DEPARTMENT**

IU School of Medicine

**Scoping Rapid Review of Mental Health Treatments for Disruptive/Aggressive Behaviors**

This project involves investigating treatment options for behavioral challenges among individuals diagnosed with Down syndrome (DS) through a comprehensive review of existing literature. Within the scope of my internship, we concentrate on the examination of disruptive aggressive behaviors as part of the Down Syndrome Rapid Review. Utilizing the COVIDANCE platform, we systematically screen articles, conduct thorough full-text assessments, and extract information for analysis. The selected articles have various screening processes, and data extraction has been carried out. These data are being analyzed to address key research inquiries, review references, and assess the implications drawn from the findings. Notably, the extracted articles predominantly comprise case studies detailing interventions tailored to address specific behavioral issues, including aggression, noncompliance, tantrums, and property destruction among individuals with DS. The selection of this topic stems from the limited availability of literature addressing behavioral interventions in the DS population, highlighting the significance of sourcing and analyzing pertinent data to inform a comprehensive scoping review.

# SHREYA PATEL

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**INTERN MAJOR**

Nursing

**SUPERVISOR NAME**

MS.Harshpreet Dhami

**SUPERVISOR DEPARTMENT**

IU University Hospital

**Overview of The Audacity Study**

I intern at the IU Simon Cancer Center, At my internship site, we work as nurses to support procedures like blood draws, vital signs, infusions, and various medical procedures while guaranteeing patient safety to help researchers in their efforts to develop healthcare. The motivation behind this effort is the trust that such research would result in more efficient treatments and improvements to the healthcare system. Our main focus is on collecting and handling data for safe medical research. One interesting study going on onsite is the Audacity study. Which has more than 550 participants and is ongoing globally. The Audacity study primarily targets those who suffer from unhealthy excess body fat. The significance of our research is demonstrated by our patient's participation in certain studies, which reveal their last hope following failed attempts at traditional treatments.

# BRENNAN PATTERSON

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**INTERN MAJOR**

Psychology

**SUPERVISOR NAME**

Dr. Jennifer Vohs

**SUPERVISOR DEPARTMENT**

IUPDP

**The interception of Psychosis and Criminology**

My project will be a slideshow. I am studying whether psychosis symptoms lead to crime by measuring if criminal activity decreases post treatment.



# ANANYA PENDELA

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**INTERN MAJOR**

Biomedical Informatics and Neuroscience

**SUPERVISOR NAME**

Dr. Scott Coven

**SUPERVISOR DEPARTMENT**

Department of Pediatrics, Division of Pediatric Hematology/Oncology/Stem Cell Transplant at Riley Children's Hospital

**Understanding the Influence of Social Determinants on Telehealth**

Before the Covid-19 pandemic, the use of telehealth within medical practices was steadily growing, but not as widely adopted into mainstream healthcare as it is today. The pandemic accelerated the adoption of telehealth services, pushing both healthcare providers and patients to embrace virtual consultations and remote medical care at an unprecedented rate. With this increase in virtual consultations and remote care comes the question of its impact on social determinants within pediatric patients, more specifically, within the Division of Pediatric Hematology/Oncology/Stem Cell Transplant at Riley Children's Hospital at Riley Children's Hospital.

Pediatric patients receiving care in hematology and oncology department face significant challenges related to social determinants of health. However, telehealth has the potential to mitigate the impact of social determinants of health on pediatric patients and their families. However, in populations of varying social determinants, it is uncertain that everyone will be impacted in the same way due to telehealth. As such, it cannot completely guarantee that all populations will experience these wide range of benefits from the use of telehealth. This leads to the purpose of this project: to understand the effects of telehealth on social determinants of health among children with chronic mental illnesses.

# CATRINA PEREDA

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**INTERN MAJOR**

Neuroscience and Psychology

**SUPERVISOR NAME**

Dr. Jodi Lukkes

**SUPERVISOR DEPARTMENT**

Indiana University School of Medicine, Department of Psychiatry

**The impact of adolescent social isolation on increased risk for developing alcohol-use disorders**

Adverse experiences during childhood and adolescence, especially adolescent social isolation (ASI) or disrupted peer interactions, are a major risk factor in the development of alcohol use disorders (AUDs) later in life. During adolescence, individuals mature emotionally, learn proper social behaviors, and develop coping skills for stressful settings. Therefore, the presence of ASI is a significant factor to consider when researching the development of AUDs in animal models. Despite understanding that these experiences during vulnerable periods of development increase risk for AUDs, the neural mechanisms through which ASI increases the risk to develop compulsive drinking remain poorly understood. Currently, the Lukkes lab utilizes an ASI paradigm that socially isolates animals from early to mid-adolescence followed by re-socialization (ASIR). The Lukkes lab has seen that ASIR during a critical period of adolescence exacerbates alcohol drinking and leads to greater aversion-resistant drinking during adulthood in both male and female rats, relative to animals that have been group-housed. This project's significance lies in understanding the impact of disrupted social interactions during adolescence, particularly amid the COVID-19 pandemic. By unraveling the neural signatures of ASI and alcohol exposure history, this research informs preventive strategies and interventions for adolescents at risk of developing AUDs.

# LYDIA PETERSON

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Seethal Jacob and Jillian Boulock

**SUPERVISOR DEPARTMENT**

Riley Children's Hospital,  
Pediatrics Hematology

**Improving Access to and Quality of Care for Adolescent with Sickle Cell Disease**

Sickle Cell Disease (SCD) is a genetical red blood disorders due to defective hemoglobin. Although there is no cure for Sickle Cell Disease, patients living with SCD are treated through pain medication, blood transfusions, and other medications. Patients living with SCD deal with physical and emotional problems that medical providers look to aid for. In this internship, we examine measurements to improve quality of care for Adolescent patients with SCD. Through telehealth care and examining financial, educational, and physical aspects of patients, interns help improve access for patients.

# JANAY POWELL

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**INTERN MAJOR**

Radiography

**SUPERVISOR NAME**

Emily Nelson, Alison Hughes,  
Julia von Arx, Jill Henry, Dr.  
Kathi Ridley-Merriweather

**SUPERVISOR DEPARTMENT**

Komen Tissue Bank and  
Biospecimen Collection &  
Banking Core, IU School of  
Medicine, IU Melvin and Bren  
Simon Comprehensive Cancer  
Center

**Mammogram Project and Donor Events**

The goal of the Komen Tissue Bank and Biospecimen Collection and Banking Core is to help accelerate cancer research through the collection of biospecimen and clinical data. We are dedicated to facilitating science to identify new ways to prevent, diagnose, and treat cancer through collaboration with our community, patients, providers and scientists. As a result, we hope to advance cancer research and ultimately, find a cure.

## STEPHANIE POZUELOS

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**INTERN MAJOR**

Biomedical Informatics

**SUPERVISOR NAME**

Dr. Sabrina Absalon and  
James Blauwkamp

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Pharmacology  
and Toxicology

**Decoding Dynamin Protein Interactions Using CRISPR-Cas9 in Malaria Parasites**

Parasites of the genus Plasmodium are responsible for causing malaria, the deadliest mosquito-borne parasitic disease in the world. Due to increasing concerns of drug resistance in these parasites, new targets for anti-malarial compounds are in high demand. I am helping to investigate an uncharacterized protein in *P. falciparum* called PfAnchor that is essential for parasite replication. When PfAnchor is absent, parasites cannot emerge from red blood cells after cytokinesis, leading to non-invasive clusters of parasites. We found that PfAnchor interacts with PfDyn2, a protein crucial for organelle fission in related organisms. I wanted to characterize this interaction, so I used CRISPR-Cas9 gene-editing technology to introduce protein tags for PfDyn2 into PfAnchor tagged parasites. This process involved designing and building CRISPR-Cas9 plasmids with the PfDyn2 gene and associated tags, purifying plasmid DNA from bacterial cultures, and transfecting *P. falciparum* parasites with this plasmid. The transgenic parasites can then be collected for advanced ultrastructure expansion microscopy to visualize and compare PfDyn2 localization in the presence and absence of PfAnchor. This work will enhance our understanding of organelle fission and will lead to new targets for anti-malarial drugs.

## ELLA PURCELL

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**INTERN MAJOR**

Public Health - BSPH

**SUPERVISOR NAME**

Dr. Reinoso

**SUPERVISOR DEPARTMENT**

Eskenazi Health Clinics

**Assessing Pediatric Diaper Need in Eskenazi Health Centers**

In this internship, I work with Dr. Reinoso, her fellow pediatricians, and my internship partner to learn more about how diaper insecurity affects families with young children. We use surveys to understand the depth of their needs, and provide free diapers, while also working to connect the families to further services such as housing and food assistance. Our goal is to offer holistic support, addressing immediate concerns like diapers while also helping with broader needs. Another facet of our program is working to understand the impact of diaper insecurity on mental health and parenting confidence. Throughout our work in data collection and patient connection, we use our findings to continue earning funding for the program in order to be able to reach more patients in the future.

# GRACE RAY

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**INTERN MAJOR**

Biology BS and Neuroscience  
BS

**SUPERVISOR NAME**

Dr. Liana Apostolova, Ms.  
Kala Kirby, and Ms. Sarah  
Hutchens

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine, Department of  
Neurology

**Cognitive Testing and LEADS (Longitudinal Early-Onset Alzheimer's Disease)**

Approximately 5% of people with Alzheimer's Disease will present symptoms before the age of 65. The LEADS (Longitudinal Early-Onset Alzheimer's Disease Study) conducts critical research in participants with Early-Onset Alzheimer's Disease (EOAD), which is significantly understudied compared to Late-Onset Alzheimer's Disease (LOAD). This study has 20 sites across the United States that are essential in understanding critical differences between EOAD, LOAD, and Cognitively Normal participants. Neurodegeneration of the brain occurs differently in each situation, and studying the differences is essential to establishing proper therapies and treatments for Alzheimer's Disease. One main way to study this disease is through cognitive testing. There are many different forms of cognitive testing that target deficits in language, attention, memory, vision, understanding, and more. Through this internship, my overall understanding of neurodegenerative cognitive testing grew significantly. I also developed many transferable skills that I can incorporate into my future career endeavors.

# JASMINE RODRIGUEZ

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**INTERN MAJOR**

Neuroscience

**SUPERVISOR NAME**

Dr. Eva Kurtz-Nelson and Ms.  
Angela Paxton

**SUPERVISOR DEPARTMENT**

Riley's Children's Hospital,  
Department of Pediatrics

**Neurodevelopment of Autism**

I worked alongside Dr. Eva-Kurtz Nelson, Angela Paxton, and their team to assist with entering data into the RedCaps database concerning their patients with autism. This internship allowed me to learn a lot about autism, the research process, and data entry. I'll talk about what I've done, what autism is, and how data entry may be used to understand autism better. Data entry allows one to analyze any questions, such as what the diagnosis of autism is between a boy and a girl. Of course, there are certain limitations to examining data on this subject.

# CYNTHIA SAMAYOA

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Deanna Reinoso and Lisa Kutschera

**SUPERVISOR DEPARTMENT**

IU School of Medicine -  
General Pediatrics

**Kids Healthcast**

Kids Healthcast is a child health-focused podcast hosted by IU pediatric residents. Offering informative discussions on various health topics that interest parents. This year, the podcast has upgraded to new equipment, promising its audience a higher quality listening experience. To amplify their reach interns actively manage social media accounts. When episodes are up to date interns have the opportunity to join group sessions at the Community Pediatric rotations. Which allows interns to enrich their professional growth and community connections.

# GUILHERME SANTOS

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**INTERN MAJOR**

Biology B.S

**SUPERVISOR NAME**

Dr. Welc, Dr. Bean

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Anatomy, Cell  
Biology & Physiology

**Muscle Pathophysiology Internship**

During my internship, I delved into exploring the molecular mechanisms governing skeletal muscle regulation, focusing on the downregulation of  $\alpha$ Klotho in dystrophic muscles and aging. The project aimed to decipher the impact of genetically manipulating  $\alpha$ Klotho on skeletal muscles, particularly investigating changes in myonuclear concentration in muscle fibers of Klotho mutant mice during the postnatal period.

To execute this, I acquired proficiency in various methodologies. Starting with cryosectioning mice quadriceps muscles, the foundational step ensured precise and consistent sections using a cryostat. Subsequent phases involved immunofluorescence histology, leveraging specific markers for enhanced cellular structure understanding, and fluorescence microscopy for high-resolution images crucial for morphological analysis.

The final stage employed ImageJ for quantitative data extraction, enabling accurate fiber and nuclei counting. Overcoming challenges with fluorescence antibody labeling through proper controls highlighted the significance of attention to detail and effective communication in research.

My contributions extended to using the microscope for fluorescent image analysis and data analysis with ImageJ for nuclei/fiber studies. Collaborative efforts within a diverse team enriched perspectives, fostering creativity and effective problem-solving. These hands-on experiences, coupled with adaptability, form the foundation for future scientific excellence, underscoring the importance of meticulous research practices in academic and career pursuits.

# MAEG SAUERS

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## INTERN MAJOR

Biology

## SUPERVISOR NAME

Dr. April D. Newton, Mr.  
Alexander Buchanan

## SUPERVISOR DEPARTMENT

Interprofessional Practice and  
Education Center, IU (Indiana  
University) Health Primary  
Care Central Indianapolis -  
Family Medicine Residency

## What is Team Based Care?

This project is a slideshow detailing what team-based care is and the model the IU Health Primary Care Central Indianapolis - Family Medicine Residency employs in two collaborative care clinics: Buprenorphine Clinic and the Comprehensive Pain Assessment Clinic (CoPAC). The slideshow reviews clinic flow: huddles, patient care, comprehensive care plans, and the debrief. The clinic's learning environment and specific professions involved in clinic are also included.

The goal of this site is to research and optimize team-based care for patients with chronic pain and/or opioid use disorders by incorporating multiple professions into the care of the patient, and view their health from many different lenses, which allow for a thorough evaluation and a comprehensive care plan that benefits the patient.

# SANIA SHEIFUDDIN

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## INTERN MAJOR

Biological Sciences

## SUPERVISOR NAME

Dr. Ashay Bhatwadekar

## SUPERVISOR DEPARTMENT

IU School Of Medicine,  
Department of  
Ophthalmology

## Investigation of Amyloid Beta Uptake in Rat Muller Cell Culture

Amyloid beta peptide, often abbreviated as A $\beta$ , is a small protein fragment that plays a central role in the development of Alzheimer's disease, a neurodegenerative disorder. To delve into its impact in cell culture, I conducted an experiment using rat Müller cells. The assay involved treating cells with different concentrations of amyloid beta (0 nM, 5 nM, 50 nM, and 500 nM) for 24 hours. Then, a cell staining procedure was conducted with the help of DAPI, a fluorescent dye that binds to DNA, aiding in amyloid beta analysis within cells. Following the staining procedure, imaging was done with the help of a confocal microscope, and images were taken for the different concentrations. This experiment was then conducted three more times in order to ensure accuracy.

Finally while observing the images, it was found that there was an increase in the intake of amyloid beta in the cell with an increase in concentration accordingly. This type of assay helps researchers understand how cells interact with and internalize specific substances, providing insights into cellular mechanisms and potential implications for diseases like Alzheimer's, where amyloid beta accumulation is a characteristic feature.

## SIMRAN SHERGILL

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**INTERN MAJOR**

Biology and Neuroscience

**SUPERVISOR NAME**

Dr. Schlecht and Mr. Loflin

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Orthopaedic  
Surgery

**Pilot Study: Reducing Knee Inflammation Following an ACL Tear**

Knee inflammation following an anterior cruciate ligament (ACL) failure and/or reconstructive surgery is an ongoing issue. Knee inflammation can result in fibrosis and osteoarthritis, both of which contribute to pain and mobility issues. I have been working during my internship to evaluate a potential orthobiologic aimed at reducing the inflammatory response post-ACL injury. A human placental-derived extracellular matrix (ECM) allograft has previously been developed and is indicated by the manufacturer for reducing tissue inflammation and accelerated repair. To evaluate the efficacy of this product for reducing post-anterior cruciate ligament (ACL) injury inflammation, we used a novel murine in vivo ACL injury model. This model has previously been shown to induce significant synovitis, infrapatellar fat pad (IFP) fibrosis, and articular cartilage (AC) degradation within 2 weeks following an ACL injury. We hypothesized that intra-articular injections of the allograft would correspond with a decrease in synovitis, fibrosis, and articular cartilage degradation. Thus far all experiments have been completed. Currently I am working on the histological assessment of the inflammatory state of the knee joint 8-weeks after injury. This includes the pathologic scoring of the severity of synovitis, cartilaginous degradation, and fibrosis.

## MERCEDES SHORES

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**INTERN MAJOR**

Pre-Nursing

**SUPERVISOR NAME**

Dr. Brownsyne Tucker  
Edmonds, Mrs. Shelley  
Hoffman, Victoria Schultz,  
Naomi Castellon-Perez

**SUPERVISOR DEPARTMENT**

IU School of Medicine

**Internship Growth Timeline**

During this internship, I worked collaboratively with my team on a variety of projects. Each project presented their own challenges, but willingness and openness opened new doors to different opportunities. I worked on projects that aimed to improve care through the context of access, experience and outcomes. Then another that aimed to provide women, who face periviable delivery, with an effective tool to help better understand care options for both infant and mother. Throughout the projects, I was exposed to new software and acquainted myself with it. I utilized the software frequently and learned new skills that I can put in my belt for future career opportunities.

# MADISON SIRIVATH

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**INTERN MAJOR**

Biology Major, Art Minor,  
Chemistry Minor

**SUPERVISOR NAME**

Dr. Alam, Rita L. O'Riley, Dena  
Acton, Dr. Econs

**SUPERVISOR DEPARTMENT**

Endocrinology IU School of  
Medicine

**Effect of Disulfiram on Osteoclast**

Osteopetrosis is a rare disease characterized by abnormally dense bone and as a result, causes brittleness and fragility. Types of osteopetrosis can be classified based on severity, inheritance pattern, and age of diagnosis. Autosomal Dominant Osteopetrosis Type 2 (ADO2) is the noninfantile form of osteopetrosis manifesting various ranges of severity. Individuals typically suffer pain and fractures but may experience vision and hearing loss in severe cases. This disorder results from the impairment of osteoclast which is one of the two major types of bone cells involved in bone maintenance. Whereas osteoblasts build bone, osteoclasts break down bone. In patients with ADO2, osteoclasts are present, but they are not fully functional. This is mostly due to the mutations in chloride channel 7 (CLC-7), which greatly effects lysosomal trafficking and activity. Disulfiram is a drug that has been shown to enhance bone resorption with enhanced lysosomal secretion. To identify the effects of this drug on ADO2 osteoclasts, we treated cells with 2 doses of Disulfiram and measured osteoclast number, gene expression, and osteoclast function via, TRAP stain, RNA analysis, and Toluidine Blue stain, respectively. These experiments were conducted in hopes of finding a new therapy for patients with ADO2.

# TYLER SISK

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**INTERN MAJOR**

Forensic and Investigative  
Science – Forensic Chemistry

**SUPERVISOR NAME**

Dr. Nathan Alves

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine, Department of  
Emergency Medicine

**Blood Clot and Blood Loss**

His research focuses on venous thrombosis, otherwise known as blood clots, and how to develop better ways to treat it. My project will be discussing what I was learning while working in the lab and what projects I was involved in. I'll be discussing my initial jobs that I did when first starting to work in the lab, and then work up to the two major projects I was working on: the NanoSight particles and the Chandler Loop. Both were not just me, but I will be discussing the major focus on these projects and what I did in them.



## HOPE STRAW

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**INTERN MAJOR**

Applied Mathematics

**SUPERVISOR NAME**

Ms. Andrea Janota, Ms.  
Caroline Kryder-Reid, Ms.  
Kaley Liang, Ms. Jenna  
Watkins

**SUPERVISOR DEPARTMENT**

IUI ECHO Center at Richard  
M. Fairbanks School of Public  
Health

**CareQuest Student-Centered ECHO**

The IUI ECHO Center is working with IU Dentistry, Purdue Pharmacy, and a community partner, Cultivating a Belonging Culture, to help students learn about considerations of the populations they will serve when entering their professional fields. The first session covers LGBTQIA+ Inclusivity and the second covers Trauma Informed Care. The goal of this project is to determine the effectiveness of a live session compared to a recorded session. Students will watch recorded sessions and attend live sessions, and then fill out a survey to tell us which they thought was most effective for them.

My role in this project is to help figure out different ways to get students involved, collect and analyze the data, and finally help interpret results and write a report about what we find. In doing this, I will be learning how to set up a survey and ensure that the questions we are asking will be effective in what we are trying to determine, different methods and types of questions/ data that we can collect, how to effectively analyze and understand both qualitative and quantitative data, and then how to write up a report based on the findings.

## STEVEN SULLIVAN

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**INTERN MAJOR**

Biology BS

**SUPERVISOR NAME**

Al Hassanein MD, MMSc, Luci  
Hulsman BS, Ganesh Mohan  
PhD, Shahnur Ahmed MD,  
Miguel Jorge BA, Mithun Sinha  
PhD

**SUPERVISOR DEPARTMENT**

Indiana University School  
of Medicine, Department of  
Surgery, Division of Plastic  
Surgery

**Experimental Evaluation of Dermal Lymphatics in Lymphedema Prevention**

Breast cancer is common and affects 1 in 8 women. One third of patients who undergo axillary lymph node removal as part of the treatment of breast cancer experience lymphedema. It is estimated that lymphedema affects 5 million Americans. Lymphedema is characterized by progressive arm swelling that hinders quality of life, reduces mobility, and increases risk for infections. There is no cure for lymphedema and current treatments are variably effective. Therefore, the goal of this laboratory is to study novel prevention and management strategies for lymphedema. The current study is to evaluate the effect of dermal lymphatic preservation in the development of lymphedema.

# AVI TAYLOR

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**INTERN MAJOR**

Chemistry

**SUPERVISOR NAME**

Shandy Dearth

**SUPERVISOR DEPARTMENT**

Fairbanks School of Public Health

**Avi's Declassified College Survival Guide**

Using the IU Wellness Inventory, Avi created a survey to gauge where students needed the most support in their mental, physical, and social health. Avi shared this survey with 33 students at the University of Illinois Chicago campus and the IUPUI campus. This presentation was made using the respondents' answers and the research from Harvard Health, Gallup, the ADAA, etc. This presentation covers tips like eating nutritiously on campus and managing stress with the resources available to IU students. This process models, on a small scale, how public health programs are executed. Sources and links to IU resources provided in the QR code in the presentation.

# COURTNEY TAYLOR

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**INTERN MAJOR**

Radiation Therapy

**SUPERVISOR NAME**

Dr. Nicole Fowler, Ms. Christina Baucio

**SUPERVISOR DEPARTMENT**

IU Center for Aging Research at Regenstrief Institute

**My Internship Journey in Dr. Fowler's Lab**

The primary focus of this lab is understanding cognitive aging and the implication of dementia on older adults' lives and their caregivers. My work on the projects included tasks aimed at supporting the research team and ensuring seamless research participant involvement. A significant portion of my time was dedicated to the Brain Safe study scheduling calls for data collection, coordinating appointments, and ensuring that participants were able to engage with the research process seamlessly. For the DECADE study, I transcribed qualitative interview recordings into documents that can be used for analysis. This required careful attention to detail to accuracy to capture the verbatim insights and experiences shared by caregivers of people with dementia who were participants. Facilitating communication between participants and the research team was a key aspect of my role, demanding empathy and effective interpersonal skills. I strived to ensure that participants felt heard, valued, and supported throughout their involvement. This internship has been an eye-opening journey, providing invaluable insights into the daily challenges faced by individuals with dementia and those who support them.

# LESLY TORRES

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**INTERN MAJOR**

Psychology B.S and  
Neuroscience B.S

**SUPERVISOR NAME**

Dr. Zachary W. Adams and  
Amanda Claire Feagans

**SUPERVISOR DEPARTMENT**

IU School of Medicine,  
Department of Psychiatry

**Indiana Behavioral Health Access Program for Youth (BeHappy Program)**

The U.S. child mental health crisis indicates insufficient access to behavioral health care in a timely manner. The Indiana Behavioral Health Access Program for Youth (BeHappy Program) seeks to address the behavioral healthcare workforce shortage by connecting community-based primary care providers to board-certified child and adolescent psychiatrists. Primary care providers are offered resources to effectively practice evidence-based care to their patient's mental health needs, including assessment, diagnostic clarification, medication management, and treatment planning. The same-day telephone consultation responds efficiently, offering direct assessment and psychotherapy services virtually or in person, reducing the risk of worsening symptoms. In addition, Be Happy provides continuing education sessions about pediatric behavioral topics through ECHOs, giving primary care providers the confidence to independently address their patient's mental health needs in the future.

During my internship, I have assisted in coding quantitative and qualitative raw patient data which is helpful for analysis. The BeHappy clinic's dataset can be compared with statewide data to identify the demographics they serve. It can also assess the program's progress and provide feedback to the involved grants supporting the project.

# ABIGAIL TURNER

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**INTERN MAJOR**

Major in Medical Laboratory  
Sciences, Minor in Biology

**SUPERVISOR NAME**

Dr. Amelia Linnemann, Mrs.  
Leslie Wagner

**SUPERVISOR DEPARTMENT**

Linnemann Lab, Herman B.  
Wells Center for Pediatric  
Research, Center for Diabetes  
and Metabolic Diseases,  
Indiana University School of  
Medicine

**Impact of cytokines on mitochondrial reactive oxygen species in human pancreatic beta cells**

The Linnemann lab studies the relationship between oxidative stress and pancreatic beta cell function and survival. This is relevant to Type 1 Diabetes, an autoimmune disease that is associated with the specific destruction of insulin producing beta cells, because the immune system produces cytokines such as IFN- $\alpha$  and IFN- $\gamma$  that have been shown to impair beta cell function through the induction of oxidative stress. To study this impact, we have stained a human beta cell line (EndoC- $\beta$ H1) with dyes to measure mitochondrial reactive oxygen species production and mitochondrial function. After collecting baseline images with a confocal microscope, we determined if the cytokines IFN- $\alpha$  and IFN- $\gamma$  cause changes in mitochondrial function and alter mitochondrial reactive oxygen species production. Image analysis was done using the National Institute of Health's Fiji image analysis software. The results of this experiment will establish a potential disease mechanism of IFN- $\alpha$  and IFN- $\gamma$  in the development of Type 1 Diabetes by determining where mitochondrial oxidative stress originates, leading to the loss of pancreatic beta cell function.

## KATE WAGNER

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### **INTERN MAJOR**

BS in Biology, BS in Forensic and Investigative Sciences - Biology Concentration, Minor in Medical Humanities and Health Studies

### **SUPERVISOR NAME**

Dr. Terry Loghmani, Dr. Rachael Powell, Lexi Whiting

### **SUPERVISOR DEPARTMENT**

Department of Physical Therapy in the School of Health and Human Sciences

### **Quantifiable Soft Tissue Manipulation (QSTM) Stroke Pattern Analysis**

The goal of our research is to improve quantifiable soft tissue manipulation (QSTM) techniques in physical therapy and to create clear criteria to help train future physical therapists. This work will aid those with injuries or muscle strains that could benefit from soft tissue manipulation and will also help future PT students. Currently, we are analyzing stroke pattern graphs that depict the different forces applied to the patients when our devices are being used. Something cool that we have discovered from looking at these graphs is that the region of the body plays a big role in how the graphs depict the forces. We have also been looking at the way in which each clinician conducts the QSTM strokes, as small differences in things like handhold can cause big changes on the stroke pattern graphs. This could greatly impact how future physical therapists are trained in soft tissue manipulation.

## MAKAYLA WAUGH

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### **INTERN MAJOR**

Epidemiology (Pre-Med)

### **SUPERVISOR NAME**

Dr. Leslie Enane, MD, MSc

### **SUPERVISOR DEPARTMENT**

The Ryan White Center for Pediatric Infectious Disease and Global Health, Indiana School of Medicine, Riley Hospital for Children

### **Addressing Gaps in Pediatric HIV Care in Indiana**

Riley Hospital for Children is the main provider of pediatric HIV care to children and adolescents living with HIV in Indiana. My focus in this internship has been to investigate implementation challenges in HIV testing and care for children and adolescents in this setting. This has included collaborating in a retrospective cohort study of children and adolescents with HIV, evaluating trends in HIV diagnoses before and after 2020, and identifying missed opportunities for prevention or earlier testing and treatment. In related work, I am also supporting efforts to increase adolescent HIV testing in the ED setting, and I have developed a set of educational resources for children, adolescents, and families affected by HIV and their providers. This work has included an emphasis on social determinants of health, and addressing quality improvement and clinical challenges that impact pediatric HIV testing and care. As a result of this work, the team at the Ryan White Center for Pediatric Infectious Disease and Global Health hopes to better address needs in this setting to improve adolescent HIV testing and prevention, and address challenges across the prevention and treatment cascades for perinatal and pediatric HIV.

## LORENA WILLIAMS

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**INTERN MAJOR**

Health Sciences with a certificate in Child Abuse and Neglect

**SUPERVISOR NAME**

Dr. Comer, DMSr. Bartlett, and Mrs. D'Cruz

**SUPERVISOR DEPARTMENT**

Dr. Comer; School of Health and Human Sciences, Department of Health Sciences

**Parkinson's Disease: Exploring Advance Care Directives**

The LHSI research centered on assessing palliative care needs in patients with Parkinson disease. Parkinson's disease is a progressive neurological disorder that impacts both motor and non-motor symptoms, creating a symptom burden that affects quality of life. Since Parkinson's is a progressive disorder, advanced care planning is essential. Advance care planning is a discussion used to prepare for the future and aid physicians in aligning patient preferences and medical interventions to improve their quality of life. Indiana offers several forms to support patients' plans: Health Care Representative (HCR), Power of Attorney (POA), Living Will, and Physician Orders for Scope of Treatment (POST). There is a paucity of advanced care planning in hospital medical records available for admitting physicians to refer to when developing a plan of care. The research project aimed to determine the frequency and patient characteristics associated with patient reports of having advanced care planning and those available in the electronic medical records (EMR). The findings of this research will assist neurologists' knowledge about the patient and clinical characteristics to improve the timing and prevalence of advanced care planning in the future.

## RILYN WONNELL

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**INTERN MAJOR**

Biology

**SUPERVISOR NAME**

Dr. Michelle Miller and Marissa Ward

**SUPERVISOR DEPARTMENT**

IU School of Medicine, Department of Psychology

**The Perinatal Traumatic Stress Lab**

Dr. Michelle Miller's Perinatal Traumatic Stress Lab studies different therapeutic interventions to reduce traumatic stress symptoms in pregnant and postpartum populations. Improved perinatal maternal health may reduce perinatal health complications and improve infant health outcomes. The Perinatal Traumatic Stress Lab works to improve maternal health outcomes and prioritized reaching women in rural communities as well as women who may be experiencing discrimination and poverty. One intervention is Perinatal Narrative Exposure Therapy (NET), which provides opportunities for pregnant and postpartum women who have experienced extremely stressful or traumatic events to engage in exposure-based therapy so we can study if NET reduces PTS, depressive, and dissociation symptoms. NET is a treatment commonly used for different trauma disorders that aims to help participants learn new ways to cope with their traumatic experiences. Our research provides new means for perinatal women to receive support during their pregnant and postpartum period.

# ***Sophomore Internship Program***

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# TWUMASI AMOAH

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**INTERN MAJOR**

Cybersecurity

**SUPERVISOR NAME**

Hailey Haynes

**ORGANIZATION**

Listen To Our Future

**Collecting school data**

I manage multiple projects involving data collection for various schools, including attendance, absences, totals, and averages. I carefully input this information into Google Sheets, guaranteeing accuracy, and then provide the compiled data to the company for their in-depth analysis.

# AUTUMN BAKER

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**INTERN MAJOR**

Finance

**SUPERVISOR NAME**

Nicole Graham

**ORGANIZATION**

JW Marriott

**My Internship at the JW Marriott**

As an intern at the JW Marriott my duties included a myriad of things from reviewing bill packets to semester long projects here I will tell you a little more about each task I have been assigned.

Every single day when I come in the first thing I do is check my email for things I need to print, if I need to print out the bill packets for that day then I do so and I review the bill packets for the hotel and ensure that the charges that are on the bills for any events we have held at the hotel have been added to the bill and calculated correctly.

I also periodically go through expedia charges and allocate them to payments which is a very delicate task and often takes a long time because I am essentially matching names to different line numbers and payments.

I have been assigned a semester-long project where I am going through different files that we have and making sure that the files are also updated in a shared excel file we have for direct bill approved groups. If they are not in the excel file then I must make accounts for these groups and add them into the excel file.

# NICK BUSTAMANTE

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**INTERN MAJOR**

HR Management, Business Management, International Studies, & Spanish (minor)

**SUPERVISOR NAME**

Cristy Reed

**ORGANIZATION**

JW Marriott

**Elevating Hospitality: My Story as a Sales and Marketing Coordinator**

Come along as I share my journey as a Sales and Marketing Coordinator at the JW Marriott, Downtown Indianapolis, part of the White Lodging family. From building relationships with clients to helping them find the perfect fit for their needs, my role is all about making sure guests have an amazing experience. Dive into my day-to-day, where I'm constantly working to support our sales team and make sure everything runs smoothly. Join me in celebrating the little moments that make our guests' stays extraordinary, and see how I play a part in bringing our hotel's vision of exceptional service and hospitality to life.

# CAM CHAVEZ

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**INTERN MAJOR**

Forensic Biology and Anthropology

**SUPERVISOR NAME**

Jennifer Hammons

**ORGANIZATION**

Carmel Clay Parks & Recreation

**Extended Student Enrichment and Summer Camp Series Internship**

As an intern for the ESE/SCS programs of Carmel Clay Parks & Recreation, I was able to facilitate a positive, safe environment for K-5 students through learning-based activities, homework assistance, and engaging with the students. Through this internship, I've been able to develop my skills in leadership, problem-solving, and communication. The ability to communicate effectively with various perspectives and concerns has been the most rewarding aspect throughout this experience, in addition to the transferable training I've received in FirstAid/CPR/AED. I had many opportunities to develop and execute my own ideas for enrichment and fun for the students, where I received feedback from supervisors and the students on how to improve. The ESE and SCS programs provided a foundation for me to develop pre-existing skills and apply them to a unique, stimulating environment.



# ANH DINH

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**INTERN MAJOR**

Computer Science & Mathematics (minor)

**SUPERVISOR NAME**

Amy Henry

**ORGANIZATION**

Amy Henry State Farm Insurance Agent

**Marketing Internship**

In this internship at State Farm, I've learn valuable marketing skills, which can be useful in many career fields. Through conducting sales calls, texts, emails, I've gained confidence in marketing, speaking, and steering conversations to achieve certain objectives. The internship also provided me with a better understanding of insurance, delving into aspects like quoting, insurance reviews, and the various legal aspects of insurance. I also learned how to use Salesforce, a valuable tool used by many companies. My aim for this internship was to gain experience in a professional office setting, becoming a more versatile individual with not only technical skills from my computer science degree but also strong communication and marketing skills. Through my time spent here at State Farm, I believe I've made strides in achieving these objectives and will be forever grateful for the Sophomore Internship Program and my site supervisor in providing me with this opportunity!

# GRACIE DUNN

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**INTERN MAJOR**

Social Work & Psychology (minor)

**SUPERVISOR NAME**

Scott Hartman

**ORGANIZATION**

Ascend Indiana

**Client Success Internship**

This internship with Ascend Indiana has been a great learning experience for me and has helped me grow a variety of skills in many ways! I accomplished the goals I set at the beginning of the internship and have made some personal victories along the way, like connecting with my colleagues for resources on my future endeavors. This experience has certainly helped my professional career in the sense that I more clearly know what qualities I want out of a job now, as well as having some experience in a workplace under my belt. If you are interested in learning more about how Ascend Indiana helped me overall become more efficient while working, effectively manage my time alongside others, and problem-solve with confidence, then feel free to take a look at my project!

# GURNEET KAUR

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**INTERN MAJOR**

Health Services Management

**SUPERVISOR NAME**

Meechelle Riley

**ORGANIZATION**

Citizens Energy Group

**Supply Chain Diversity**

During my internship at Citizens Energy Group, I focused on supplier diversity and data management tasks. My responsibilities included verifying vendor records for minority, women, and veteran-owned businesses, conducting assessments of prospective diverse suppliers, and assisting in event coordination. Through hands-on experience, I enhanced my skills in data management, process improvement, and communication. This internship provided me with valuable insights into the operations of a utility company and the importance of supplier diversity in promoting inclusive business practices.

# TANNY KHUN

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**INTERN MAJOR**

Marketing

**SUPERVISOR NAME**

Tyler Bailey

**ORGANIZATION**

JW Marriott

**Event Concierge Internship**

During the spring semester, I undertook an internship at JW Marriott as an event concierge, where my responsibilities included ensuring seamless on-site logistics and delivering outstanding guest experiences. While this role wasn't initially part of my envisioned career path, I am incredibly grateful for the valuable skills I acquired, such as networking, communication, and client relationship management. The experience of working within the well-organized structure of JW Marriott and the supportive learning environment provided by the Sophomore Internship Program has significantly contributed to my professional growth and will undoubtedly benefit my future career in marketing.

# FAVOUR OGUNDIPE

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**INTERN MAJOR**

Biology Pre-dental

**SUPERVISOR NAME**

Dr. Allyson Brown

**ORGANIZATION**

Sea Scope Inc.

**Assistant Program Co-ordinator Internship**

My internship has proven to be an incredibly advantageous experience as I pursue my degree and career goals. During my internship at Sea Scope Inc., I had the opportunity to work closely with a team of experienced professionals in the business department. I had a broad spectrum of tasks spanning from project work to delivering instructive presentations. As a secretary, one of my primary responsibilities involved scheduling appointments, coordinating meetings, and providing support in drafting and revising correspondence. My experience at Sea Scope Inc. has empowered me as a significant contributor. I gained insights into the workings of non-profit organizations by learning how donations were made to sustain programs and allocating funds across departments, ensuring equitable success for all involved. I bring value to this company as a dependable resource that fellow team members can count on, coupled with my eagerness to acquire new skills. Throughout my internship, I developed strong organizational and communication skills while maintaining a high level of confidentiality and professionalism.

# ISRAEL OLANIYI OLADEJI

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**INTERN MAJOR**

Computer Science

**SUPERVISOR NAME**

August Tharp

**ORGANIZATION**

Networks Connect

**Mastering the Art of Recruitment: My Internship Journey at Networks Connect**

Join me, Israel Oladeji, in a revealing journey into the world of recruitment at Networks Connect. As a Recruitment Intern, my experience has been a rich tapestry of learning and contributing to the core processes of talent acquisition. Key responsibilities included assisting with the critical stages of onboarding, crafting and managing job postings, and performing a range of essential administrative tasks. These experiences offered me deep insights into the nuances of effective recruitment strategies and the importance of a streamlined onboarding process. Additionally, I played a pivotal role in database management, ensuring accurate and organized candidate information, which is crucial for efficient recruitment operations. A significant part of my role also involved scheduling interviews, where I honed my skills in coordination and communication, often acting as the first point of contact for potential candidates. This internship has not only enhanced my understanding of the recruitment lifecycle but has also equipped me with valuable skills in organization, attention to detail, and interpersonal communication.

# LIZBETH SILVA-SANTIAGO

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**INTERN MAJOR**

Pre-Forensic and Investigation

**SUPERVISOR NAME**

Aaron Yoder

**ORGANIZATION**

Ascend Indiana

**Client Development Intern**

Ascend Indiana has an amazing environment that encourages everyone to do their best work and make a difference. Our focus here in Ascend Indiana is to revolutionize talent recruitment and workforce development in Indiana. Through innovative partnerships with businesses, schools, and community organizations. We connect with skilled professional with rewarding career opportunities, driving economic growth and prosperity across the state of Indiana. My duties as an intern here is that I post roles to put in our network for students to apply for positions with potential employers. I have enjoyed working at Ascend as I have felt like I am making a difference in my community which I enjoy doing as well as being able to put the skills I have to use as well as develop some new ones. The opportunities at Ascend aren't aligned with my career goals, but I still enjoy working there and the training they have given me.

# MANJOT SINGH

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**INTERN MAJOR**

Computer Science & Business  
(minor)

**SUPERVISOR NAME**

Tenille Bullock

**ORGANIZATION**

Listen To Our Future

**AYS Attendance, AYS Beginning of the Year Scores, AYS End of the Year Scores.**

In the projects AYS Beginning of the Year Scores and AYS End of the Year Scores, I kept track of students grades and attendance. Using that I made analysis whether students improved or need more improvement before and after tutoring.

## PARMINDAR SINGH

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**INTERN MAJOR**

Computer Science

**SUPERVISOR NAME**

Dr. Allyson Brown

**ORGANIZATION**

Sea Scope Inc.

**Sea Scope Data Management**

I had the pleasure to intern at Sea Scope Inc. where they strive to increase diversity in science and aquatics for the purpose of increasing conservation efforts of our ocean planet. I assisted Sea Scope Inc. as their data management intern by handling data to create spreadsheets reflecting bank statements, budgeting/financing, & non-profit grants. I also assisted Ms. Kendra Woodgett with compiling different invoices for Sea Scope's Elevation grant. We both worked on verifying different transactions that are specifically related to the grant and creating reports and spreadsheets to ensure everything was accounted for. I managed financial transactions for restricted grant funds and funds that were from other sources along with creating financial reports for the company's fiscal year and Elevation grant year. Both of these reports were reflected on two different reporting schedules. I also kept in contact with my two supervisors, Dr. Allyson Brown and Ms. Renita Brown with my expected tasks and had regular meetings with them both and Ms. Woodgett. This ensured I was on the same page and I could ask any questions to better my data management skills. This internship opened a new career path and helped me get familiar with data management.

## TARN SINGH

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**INTERN MAJOR**

Accounting and Finance

**SUPERVISOR NAME**

Kimberley Woolen

**ORGANIZATION**

Listen To Our Future

**Survey and Website Development**

I learned that just getting an Accounting and Finance degree wasn't enough for me to get into private equity. I started looking for internships and as a student in the Sophomore Internship Program, I had the opportunity to intern at Listen To Our Future. LTOF has provided me with real-life experience collecting and working with data. At LTOF I was given the task of collecting data and finding ways to display it on LTOF's website. I was also given the task of creating surveys in order to find ways to improve the company.

# EHSAW WAH

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**INTERN MAJOR**

Sustainability Practices and Policies, Climate Resilience minor

**SUPERVISOR NAME**

Maggie Barnes

**ORGANIZATION**

Camptown

**Outdoor Program Facilitator Internship**

As an Outdoor Program Facilitator, I had the amazing opportunity to teach nature lessons, facilitate outdoor games, go on field trips to local state parks, and develop meaningful relationships with kids and Camptown staff. A working environment with kids comes with many challenges. Working with kids means explaining everything clearly and concisely while trying to keep their attention. Any confusion usually leads to a group of uninterested kids. On top of that, when there are conflicting interests between kids, you have to find a middle ground quickly before more conflicts arise. But when everything goes well, it's quite rewarding. You see faces light up with excitement and joy. When this happens, you know that you did something right. My time with Camptown has shown me that there's nothing more rewarding than seeing kids in their happy place.

# ***On-Campus Internship Program***

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## MARIYANA MAGANA

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**TITLE**

Communication & Project Specialist

**Streamlining the On-boarding process for students in Fairbanks**

I am currently a Senior at IU Indianapolis with a major in Health Service Management. I chose Health Service Management because I have always only known health care. Many people in my family work in the health care system and I want to be that person that advocates for change within and outside.

**SUPERVISOR NAME**

Kristine Schuster

I am currently working on a student on-boarding project for my internship. This is my personal project in which I have complete control over the project. It's exciting to see my plans, thoughts, research, informational interviews and best practices develop into this completed project that may be implemented throughout our school for any student hired.

**SUPERVISOR DEPARTMENT**

Fairbanks Student Success Program

## JOHANA SALINAS

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**TITLE**

Social Media & Marketing Intern

**Can I post that?**

As a Social media and marketing intern for the Office of Student Employment, I am responsible for a multitude of tasks. I manage all their social media platforms, assist with the production, editing and posting of the Learning and Earning Podcast, and also provide headshot services for our students at IUPUI.

**SUPERVISOR NAME**

Karla McLaughlin

My project during this internship is to create a process that future social media and marketing interns can easily follow involving the Learning and Earning Podcast. I plan to leverage my technical skills that I have developed over the years and throughout my internship to create a podcast process that is user friendly and efficient.

**SUPERVISOR DEPARTMENT**

Office of Student Employment



## AYANNA WEBB

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**TITLE**

Career Services Intern

**SUPERVISOR NAME**

Samantha Brown & Karla  
McLaughlin

**SUPERVISOR DEPARTMENT**

Office of Student Employment

**Reflection on Career Services Intern position in the Office of Student Employment.**

At the Office of Student Employment, my role as one of the Career Services involves taking appointments and drop-ins for resume and cover letter writing and review, assisting in job search strategies and looking for part time on-campus positions via the Handshake job platform, planning tabling events at different locations around campus, assisting in giving presentations on various topics like OSE services and Handshake to other students, and being a peer mentor for the Hire Achievers program.

Along with these duties, my big project is researching and creating a PowerPoint Presentation on the uses of AI technology and how it can be implemented in our office and for student use in career services.

## ALEAH FREEMAN

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**TITLE**

Career Services Intern

**SUPERVISOR NAME**

Samantha Brown & Karla  
McLaughlin

**SUPERVISOR DEPARTMENT**

Office of Student Employment

**My Professional Portfolio**

My professional portfolio encapsulates my journey as an undergraduate student studying Philanthropic Studies at Indiana University of Indianapolis. With a commitment to becoming a resource for individuals and communities, my experiences include working part-time at Primrose Daycare and serving as a Career Service Intern at the Office of Student Employment on campus. With my passion for youth development and faith-based initiatives, my three years in childcare have fueled my compassion for young people. As a devoted Christian, I seek to align my values with my career, contributing to relational community engagement and helping those in need.

My portfolio showcases a comprehensive view of my educational background, professional experiences, skills, and aspirations in the philanthropic field, aiming for a future role within a faith-based nonprofit dedicated to youth development. The project that I am working on is creating the foundation for a Sophomore Career Bootcamp event for all IUPUI students. I have researched other campuses offering similar bootcamp events and have applied pieces of their events that might work well on this campus. I have had to develop a proposal, event timeline, budget and presentation for the event. My internship will culminate with the final presentation of my proposal.

# JACQUELINE CORDOBA RODRIGUEZ

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**TITLE**

Training and Development  
Intern

**A Reflection of My Experience as a Training and Development Intern**

At the Office of Student Employment, I've actively participated in various projects that contribute to the development of skills essential for my professional growth. In my role, I've done a variety of things such as reviewing job descriptions on Handshake, trainings, and preparing events. I've been a part of the preparation for the Part-Time Job Fair and the Professional Image Project.

**SUPERVISOR NAME**

Katie Hillock

**SUPERVISOR DEPARTMENT**

Office of Student Employment

My portfolio will focus mostly about my experience participating in the Jaguar Series Supervising Training, and the skills and knowledge I've gained.

# THANK YOU TO OUR 2024 PARTICIPANTS

## INTERNS

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Simbiat Abdul	Basant Hanna	Johana Salinas
Maizie Ade	Precious Harvey	Cynthia Samayoa
Awwal Adedokun	Denisse Henriquez Dubon	Guilherme Santos
Angel Ademodi	Drake Hester	Maeg Sauers
Khaled Alysavy	Zainab Idrees	Rachel Schweiger
Twumasi Amoah	Grace Johnson	Sania Sheifuddin
Sindhura Arepalli	Gurneet Kaur	Simran Shergill
Ritta Ayogu	Sanjali Kherde	Mercedes Shores
Autumn Baker	Tanny Khun	Lizbeth Silva-Santiago
Wini Barnett	Johanna Koothur	Manjot Singh
Danijela Bastaic	Alexis Leco	Parmindar Singh
Yashaswini Battina	Gia Liwanag	Tarn Singh
Nidhi Bhat	Mariyana Magana	Madison Sirivath
Emely Bibian	Ayah Mahariq	Tyler Sisk
Karis Blacklock	Harry Mann	Hope Straw
Alyssa Blaszyński	Elexa Maxwell	Steven Sullivan
Phillip Bock	Madison May	Avi Taylor
Katherine Brady	Kennedy McCormack	Courtney Taylor
Nick Bustamante	Lara McGlothlin	Lesly Torres
Jekhi Buchannan	Olivia (Olive) McIntosh	Abigail Turner
David Byeon	Melina Mercado	Kate Wagner
Diya Chaudhri	Anna Miller	Ehsaw Wah
Cam Chavez	Chanakarn (Net) Mongkonpruthangkoon	MaKayla Waugh
Will Clark	Favour Ogundipe	Ayanna Webb
Zach Click	Israel Olaniyi Oladeji	Lorena Williams
Jacqueline Cordoba Rodriguez	Sabrina Omer	Rilyn Wonnell
Amy De Leon Lopez	Reyan Oumammar	Heaven Xiong
Anh Dinh	Sri Parvatha	Tyler Zeffiro
Kylee Dicken	Shreya Patel	
Gracie Dunn	Kshitij Patil	
Grace Durham	Brennan Patterson	
Hannah Fox	Ananya Pendela	
Aleah Freeman	Catrina Pereda	
Ariana Garcia	Lydia Peterson	
Serena Gergis	Janay Powell	
Jayma Girdler	Stephanie Pozuelos	
Vianney Gonzalez-Gonzalez	Ella Purcell	
Morganna Gordon	Grace Ray	
Nahlee Gordon	Jasmine Rodriguez	
Setareh Hamidi	Atharva Sakharkar	

## SUPERVISORS

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Nathan Alves	Amanda Claire Feagans	Patrick McGuire	Olivia Terry
Murphy Angelo	Kathryn D. Fischer	Brett McKinney	Jeffery Tharp
Scott Aoki	Jill Fodstad	Karla McLaughlin	August Tharp
Liana Apostolova	Nicole Fowler	Maureen McQuillan	Brownsyne Tucker
Matthew Austin	Nicole Graham	Carolyn Meagher	Edmonds
Tyler Bailey	Jennifer Hammons	Olha Melnyk	Vivian Valadares
Maggie Barnes	Tamara Hannon	Marc Mendonca	Ashley Vctor
Stephanie Bartlett	Addison Harrington	Corinne Metzger	Andrew Visco
Christina Baucio	Scott Hartman	Timothy Meyer	Ramana Vishnubhotla
Linda Bean	Al Hassanein	Michelle Miller	Jennifer Vohs
Ashay Bhatwadekar	Hailey Haynes	Ganesh Mohan	Julia von Arx
James Blauwkamp	Jill Henry	Emily Mueller	Alain Waffo
Chris Borchers	Amy Henry	Christen Mumaw	Leslie Wagner
Jillian Bouck	Carmen Herrera Sandoval	Olivia Murrari	Chandler L. Walker
Samantha Brown	Katie Hillock	Emily Nelson	Nian Wang
Allyson Brown	Shelley Hoffman	April D. Newton	Marissa Ward
Alexander Buchanan	Sarah Honaker	Augustin Ntemafack	Jenna Watkins
Lauren Buelow	Jie Huang	Rita L. O'Riley	Ronald C. Wek
Tenille Bullock	Monica Hubal	Mary Ott	Steve Welc
Naomi Castellon-Perez	Alison Hughes	Angela Paxton	Lexi Whiting
Annelise Cochrane	Luci Hulsman	Michael Peck	Ashley Wiensch
Amber Comer	Leslie Hulvershorn	Padma Portonovo	Allie Wigginton
Joan Cook-Mills	Joshua R. Huot	Rachael Powell	Amy E. Williams
Ricardo A. Cordova	Sarah Hutchens	Rupa Radhakrishnan	Kimberley Woolen
Scott Coven	Seethal Jacob	Cristy Reed	Aaron Yoder
Kathleen Crum	Andrea Janota	Deanna Reinoso	
Lynn D'Cruz	Miguel Jorge	Kathi Ridley-Merriweather	
Neil Davis	Melissa Kacena	Meechelle Riley	
Olabode Dawodu	Ann Kimble-Hill	Zeynep Salih	
Nate De Jong	Kala Kirby	George Sandusky	
Andrew S. Deane	Caroline Kryder-Reid	Stephen Schlecht	
Shandy Dearth	Eva Kurtz-Nelson	Victoria Schultz	
Emilee Delbridge	Lisa Kutschera	Kristine Schuster	
Trey Dellucci	Kaley Liang	Catherine Sears	
Harshpreet Dhami	Amelia Linnemann	Helen Sinex	
Linda DiMeglio	Ben Loflin	Mithun Sinha	
Hui Ding	Terry Loghmani	Mitchell Smith	
Brian Dixon	Jodi Lukkes	Mike Smoker	
Jason Doles	Asia Madayag	Noah R. Sommers	
Aristide Dzelamonyuy	Jessica Maiers	Caitlin Specht	
Michael Econs	Sneha Manoharan	Kirk A. Staschke	
Leslie Enane	Lili Mantcheva	Megan Szymanski	
Taylor Evans	Paola Matthey Mora	Alejandro Tapia	
Fang Fang			

## **DIVISION OF UNDERGRADUATE EDUCATION MISSION**

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The Division of Undergraduate Education enhances academic success for IUPUI's diverse undergraduate population by coordinating and advancing vital initiatives and resources that amplify personal and collective achievement.

## **UNIVERSITY COLLEGE MISSION**

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University College is the academic unit at IUPUI that provides a common gateway to the academic programs available to entering students. University College coordinates existing university resources and develops new initiatives to promote academic excellence and enhance student persistence. It provides a setting where faculty, staff, and students share in the responsibility for making IUPUI a supportive and challenging environment for learning.

## **FUNDING SOURCES**

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Citizens Energy Group

New Skills Ready Network

Indiana Clinical and Translational Sciences Institute (CTSI)

Deans of Purdue School of Engineering and Technology, Indiana University School of Health and Human Sciences, Indiana University School of Informatics and Computing, Indiana University School of Liberal Arts, Indiana University School of Nursing, Indiana University Richard M. Fairbanks School of Public Health, Purdue School of Science, University College, Indiana University School of Social Work, Indiana University School of Education

University dollars supported by the office of the Vice Chancellor and Chief Academic Officer

## **PROGRAM STAFF**

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### **LIFE-HEALTH SCIENCE INTERNSHIP PROGRAM**

Brandi Gilbert, Director

Brook Riley, Program Coordinator

Ashley Remy, Senior Ambassador

Ariana Hendricks, Ambassador

Melanie Reyes, Ambassador

Valliei Chandrakumar, Ambassador

### **SOPHOMORE INTERNSHIP PROGRAM**

Brook Riley, Program Coordinator

### **OFFICE OF STUDENT EMPLOYMENT**

Karla McLaughlin, Assistant Director

Ayanna Webb, Peer Mentor

## QUESTIONS TO ASK OUR STUDENTS

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- What did you do in your internship or project? Tell me your elevator pitch.
- Why does this work matter? What is the big picture? What is the impact of this on IUPUI or people in Indiana/US/globally?
- What will happen next? What else will happen as a result of your contributions?
- What did you learn this year? What did you like best about the experience?
- In what ways did you grow as a professional? Did this confirm your career plans, or did they change?
- What are you doing after this semester? What experience is up next?
- Was there a hurdle you had to overcome to complete your internship or project? What did you do to overcome the hurdle?

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