Our Story...

building a research culture,

To gain knowledge and improve lives

Research Education Program to Increase Diversity in Health Researchers

2018
Our Story of building

Over the past six years....

The REPID program trained **93 MSU students from minority, disadvantaged and under-represented** backgrounds in biomedical and health-related research.

The REPID program built a sense of community and brought over 30 faculty members from various colleges to mentor and train our students in research for tomorrow’s biomedical workforce.

The REPID Program was **praised for its performance by the NIH Review Group**, and recommended for its continuation and funding for another five years.

Currently 24 of these students are in undergraduate programs at MSU, 15 in medical schools at MSU and across the US, 11 in graduate programs across the US and the world, and 9 are in health professions across the US.

**Several REPID scholars won awards/scholarships**, and presented their research study at national/regional scientific conferences. All scholars presented their research work at local MSU Mid-SURE symposium.

The REPID program built on the momentum of the University’s mission to **provide opportunities in biomedical/health-related research for students from diverse backgrounds**.

The REPID program earned a national **Honorable Award Recognition** for the 2015 AAMC Building Bridges and Spanning Boundaries Award: Innovations in Research and Research Education.

**Special THANKS to NIH-NHLBI** (National Hearth, Lung and Blood Institute), the MSU Office of the provost, Provost June Pierce Youatt, the Office of Research and Graduate Studies, VP Stephen Hsu, and the Department of Medicine-CHM.
a diverse biomedical research workforce lighting the health & wellness path

“How far that little candle throws his beams! So shines a good deed in a weary world.”
- William Shakespeare, The Merchant of Venice

Back in 1982, in noble defiance of horrible things, author Anne Herbert wrote, “Practice random acts of kindness and senseless acts of beauty.” With all the greed and terror grabbing the headlines today, I can’t help but love the bold simplicity of her statement.

We don’t hear as much about good deeds and kindness in the news but they are powerful and long lasting. As Charles de Lint wrote; “Every time you do a good deed you shine the light a little farther into the dark. And the thing is, when you’re gone that light is going to keep shining on, pushing the shadows back.”

And so it gives me great joy to share the many ways and the many places where the light of our mentors has been shared this year. The light can be seen as far away as the nation of Malawi and as close as laboratories on campus. REPID scholars are learning and shining brightly. This is powerful, this is beautiful, and this will last a long time.

Elahé Crockett, Ph.D., M.Sc.
REPID Program Director

“Don’t you know yet? It is your light that lights the world.”
—Rumi

REPID PROGRAM DIRECTOR
Elahé Crockett, Ph.D., M.S.

DEPARTMENT OF MEDICINE
COLLEGE OF HUMAN MEDICINE
MICHIGAN STATE UNIVERSITY
Overview

The REPID Program, through support from The National Institutes of Health, and The National Heart, Lung and Blood Institute (NHI-NHLBI), provides a short term research training and enrichment experience for Michigan State University undergraduate/graduate/medical health professional students from underrepresented, minority, and disadvantaged (URMD) backgrounds. The goal is to inspire these students to pursue health related research careers focused on cardiovascular, pulmonary and hematologic disciplines.

The REPID Program is designed to increase the number and diversity of researchers in health-related research by providing an inspiring and supportive environment for accomplishment and advancement. Our inspiration is to challenge the existing problem of diversity and health disparities in biomedical/clinical research and clinical practice, and to foster career development for motivated individuals from URMD backgrounds at Michigan State University.

Addressing the challenges of healthcare delivery in general and health equity in particular will require full participation from a diverse group of people. It is our collective responsibility to engage the minds, skills and talents of all our students. REPID contributes in spades to this endeavor. The students have been a great addition to the laboratories of our faculty. Their energy and enthusiasm have been invigorating.

REPID is a wonderful opportunity. Use it to learn about what ignites your passions and what saps your energy. Don't allow self-doubt or concerns about the future distract you and keep you from doing your best. Immerse yourself and be engaged. Be relentless in your curiosity and pursuit of excellence. Above all relax and enjoy the experience.

“It is our collective responsibility to engage the minds, skills and talents of all our students. REPID contributes in spades to this endeavor.”

- Francesca C. Dwamena, MD, MS, FAACH
  Chair, Department of Medicine

REPID receives national recognition and an “A” for its Performance by NIH

The REPID program received a perfect score of “A” for its first 5-years of performance by the NIH Scientific Review Group and secured another five years of funding. A huge THANKS to the REPID program staff, mentors, and the advisory board members for their continuous support and efforts. We would like to thank NIH/NHLBI, Michigan State University Provost Office, the VP for Research and Graduate Study Office, and the Department of Medicine for their support of this research education program.

“REPID is an example of excellence in action”

-Dr. Karen Klomparens, PhD
  Associate Provost for Graduate Education and Dean of the Graduate School. REPID Advisory Board Member
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MANAGING EDITOR: Elahé Crockett, Ph.D.
CONTENT & DESIGN: Elahé Crockett, Ph.D., and Nancy Kelly, MSFL, MT(REPID Program Assistant)

ON THE COVER:
Right: Rebecca Cena doing research in Dr. Mark Kadrofske's laboratory.
Left: Malcolm Davis doing research in Dr. Bruce Uhal's laboratory.
Bottom: "Snap" the dog, "I Wag 4 Science", for appreciation of animals contribution to science.

Michigan State University - REPID Program
Networking, World-wide

REPID's Touch Reaches Out to Malawi!

Joe Grech, 2017 REPID Scholar
Major: Pre-Medical, Physiology

From the small village of Roscommon Michigan (population 1,042), to the large city of Blantyre, Malawi (population 661,444), Joseph Grech traveled in and out of a day and into a broader horizon. Dr. Karl Seydel accepted Joe into his lab to research different strains of the malaria virus to find which were most prevalent and infectious in Malawi. Joe's athleticism at first led him toward a career in sports medicine, however his time in Dr Seydel's laboratory has helped Joe decide to focus on infectious diseases instead.

“Research is not always easy; it involves patience and constant intellectual engagement. Because of this, the obstacles I faced while performing scientific research were challenges I grew to love and enjoy rather than despise.” ~Joe Grech

Joseph Grech, 2017 REPID Scholar, hiking in Malawi
Kyle Archer, 2016 REPID Scholar

Major: Psychology

How fitting that Kyle Archer was the first REPID scholar to travel to Malawi; Kyle has worked with incoming International students as an International aide since coming to MSU. He plans to go to medical school. “As the first REPID scholar abroad I cannot stress how much this experience has changed my perceptions and outlook on life. Culturally I understand the social causes that develop a culture and was able to reflect on my own values and see what shaped my experiences and got me to the position I’m at today. Personally, I reflected a lot on my experiences growing up, which, influenced my personality and traveling alone and living in a foreign country causes you to change your personality in order to transition into the new culture. Educationally my knowledge base in terms of scientific vocabulary, techniques and research all evolved and will continue to grow through my future career in the health-sciences field...I had the amazing and life changing experience to be one of the very few selected REPID scholars and the only one to travel abroad and conduct my research along the world scholar in tropical medicine Dr. Karl Seydel!” Working with Dr. Seydel confirmed Karl’s decision to advance his education in biomedical/medical discipline. Dr. Seydel’s Malaria research project is supported by NIH-NHLBI.
Miracle babies: Premie Becomes Spartan & Researcher...

Imagine being the smallest baby in a set of triplets all weighing less than three pounds. Born at 29 weeks, Malcolm Davis and his sisters, Brianna and Alanna, defied the odds with high Apgar scores, breathing on their own and no developmental delays; all three were home from the hospital within three weeks of delivery. The doctors at Sparrow Hospital in Lansing called them miracle babies. Now Malcolm is ready to defy the odds again and become a research physician. “During my early exposures to medicine I recall observing a discrepancy regarding diversity within the field, seeing that many physicians did not look like me. Following this, I made a promise to be a part in changing that. Today the number of black men in medicine is decreasing at an alarming rate and my goal is to implement programs and serve as a role model and support system for black men and all minorities in pursuing careers in medicine. I will not only hope, I will not only dream, but also I will do. I will utilize the talents and skills that I strengthened this past summer to do what my soul aspires to accomplish.” REPID paired Malcolm with Dr. Bruce Uhal where he studied pulmonary function, specifically looking at the reduction of hyperoxia-induced A549 lung epithelial cell caspase-9 activation and apoptosis with the mas agonist Ave-0991. Exemplifying leadership, Malcolm will be an RA for the 2017-18 academic year as well as continuing his work at Dr. Uhal’s lab. And Malcolm’s sisters, Brianna and Alanna? Brianna is at Spelman studying Health Sciences and Alanna is here at MSU majoring in psychology. Now imagine you are his parents with three kids in college at the same time!

Left, Malcolm (In The Middle) with his sisters, Alanna & Brianna
Right, Malcolm wielding a pipette in Dr. Uhal’s lab

Tatiyana Harris, 2017 REPID Scholar
Major: Physiology

When you hear “over-achiever” what do you think of? Tatiyana Harris hopes to do a dual MD-PhD program but in addition to her love of science, she is very accomplished in the arts. She plays baritone, trombone, guitar and piano and has done a lot of performance art and now after her summer research experience in Dr. Gina Leinnenger’s lab, she can add running electrophoresis gels and isolation brain RNA to her repertoire. Her advisor and mentor, Kendra Pyle Kanaboshi, Chair of College of Natural Science Council on Diversity & Community encouraged her to apply for the REPID Program. “Dr. Leinninger and I made it one of our goals or agreements to teach me to do “great science”. Tatiyana learned that “no data is bad data” only data that isn’t fully understood at the time. “Participating in the REPID program, particularly the hands-on research has been essential to me defining my future career path. The program offered me a way to experience what it really means to be a researcher and belong to the biomedical research community.” Tatiyana will be returning to Dr. Leinnenger’s lab in the fall to volunteer as a lab researcher and continue the progress they’ve made. She hopes to successfully obtain some grant funds through Natural Sciences Undergraduate Research Grant to support the work. Tatiyana is studying the role of Orexin neurons within the lateral hypothalamic area in regulation of body weight, alertness, reward and anxiety.
Larissa Georgeon, 2016 REPID Scholar
Major: Human Medicine

Larissa is currently in the College of Human Medicine at MSU and has already earned her MPH. Her goal is to be a public health physician. During the summer of 2016, she had the honor of working with Drs. Philip Gorelick, and Muhammad Farooq, at the Hauenstein Neuroscience Center at Mercy Health Saint Mary’s Hospital in Grand Rapids, Michigan.

“I was able to learn more about clinical research and the process involved. These first hand encounters of writing a research protocol, submitting an application to the Institutional Review Board (IRB), collaborating with other physicians, making decisions when we didn’t have enough patient cases, and finding a statistician to work with, are all valuable learning experiences that I will take with me. The mentorship I received from Dr. Gorelick provided support as well as encouragement for my future career goals.”

“Ms. Larissa Georgeon was a model REPID scholar!
Students like Larissa make teaching and mentoring a great pleasure...” - Philip Gorelick, M.D.

Emmanuella Joseph, 2015 REPID scholar, also received her research training under Dr. Gorelick mentorship. She has continued her study and is currently working on a quality improvement study regarding the efficacy and safety of intravenously administered tissue plasminogen activator (tPA) in patients with mild ischemic stroke. Emmanuella says, “When I think of my career in medicine I’m enthusiastic about my contributions as a physician but also as a researcher. Incorporating both skill sets will allow me to provide a global assessment to the care of my patients. I would like to thank Dr. Elahé Crockett for having the tenacity to implement a program that has changed how I pursue my medical education and perhaps a career in the field of Vascular Neurology.”

”REPID Program provided me with an opportunity that changed my perspective... I now am considering a career in the field of Vascular Neurology.” - Emmanuella

Karam Gagi, 2017 REPID scholar, is an undergraduate major in Physiology. He recently gained admittance to the College of Human Medicine at MSU. His research mentors, Dr. Garlick and Dr. Farooq taught him the importance of looking back at health outcomes to determine what changes should be implemented in patient care in the future. Karam says, “REPID has been a great contributor to my success as an undergraduate student as well as setting the path for my success as a medical student and a practicing physician in the future. It taught me the importance of diversity in medicine, giving back to the community, as well as conducting biomedical research.”

“REPID has been a great contributor to my success...” – Karam
“I remember my first day walking into the lab, I was beyond intimidated and my expectations were all over the place. I actually remember arriving so early that the door was locked, so I sat there for 15 minutes until a woman came up and asked me if I needed anything. That woman (Ms. Michelle Volker) ended up being my research mentor’s assistant, and she gave me a tour of the building, and a key so I wouldn’t be locked out again.” That lab belonged to Dr. Mark Kadrofske, Neonatologist, MD, PhD, and Rebecca Cena hoped from her first interview with REPID Director Dr. Elahé Crockett that she would be paired with him. Besides working with the team in researching tight junctions in the epithelial cells of the intestines, Rebecca also did neonatal rounds with Dr. Jenny Bellodas, a Fellow in Dr. Kadrofske’s lab where she witnessed an emergency cesarean and other procedures. She will continue to work in the lab this fall as she begins her senior year majoring in Human Biology and minoring in Spanish. Her goal is to become a pediatrician and work primarily with the non-English-speaking Hispanic population, challenging the health disparities in biomedical research and clinical practice.

From Mason, MI
2017 Scholar Rebecca Cena is Beginning to Soar.

“I never dreamed about success. I worked for it.”
~Estee Lauder
Do not ask **Mercedes Serratos** to settle for just being the first college graduate in her family. Mercedes’ goal is to go to medical school and get her PhD. She worked in **Dr. Julia Busik**’s lab studying how diabetic retinopathy may be limited if the lipids in the blood could be reduced. This research helped Mercedes connect the dots from her grandmother and uncle losing their eyesight during their later years of Type 2 Diabetes. Mercedes credits REPID for changing the trajectory of her life. Prior to this REPID opportunity, she never believed she was capable of doing scientific research. After hearing Dr. Crockett speak at her Drew seminar Mercedes applied partly because she was eligible but primarily because Dr. Crockett made her feel as though this was something she could do. Now she is planning to make a career of scientific research. Mercedes felt that being paired with Dr. Busik was a perfect match and plans to continue in Dr. Busik’s lab this fall. She is also looking forward to presenting more research results at ARVO (The Association for Research in Vision and Ophthalmology) national conference and UURAF (University Undergraduate Research and Arts Forum).
Now at New York University pursuing a master’s degree through the Science, Health and Environmental Reporting Program (SHERP), Ashley Lyles was one of only six NYU students selected to participate in GlobalBeat, an international field-reporting course. She traveled to Cambodia on scholarship to report on global health issues. Her work from the trip appeared on PBS NewsHour and The New York Times Daily 360. Currently, she is the 2017 recipient of the Jason Kahn Fellowship in Medical Journalism for the Cardiovascular Research Foundation (CRF). As a fellow, she has authored about 20 articles on advances in cardiology for TCTMD, an online trade publication for cardiologists that is affiliated with CRF. She also wrote a number of news articles as well as a long form feature on illicit drug use and the heart. She had the opportunity to host the last two minutes of a podcast called Heart Sounds with Shelley Wood, which can be found on iTunes.

Ashley majored in Psychology and learned how to do epidemiological research during her 2014 REPID research with her mentor Dr. Ade Olomu. She graduated from Michigan State University in May 2016 with a degree in professional writing and a concentration in premedical studies.

Ashley says, “During REPID, I had the opportunity to work under the mentorship of the talented Dr. Ade Olomu. Working in the Office-Guidelines in Applied Practice (Office-GAP) opened my eyes to the ways in which communication barriers contribute to health disparities. Consequently, I felt a compelling desire to become a physician skilled in both medicine and communicating with lay audiences. With this idea in mind, I decided to pursue an MA in medical journalism. After finishing SHERP, I intend to attend medical school. In the words of Dan Fagin, NYU SHERP program director, “Science is too important to leave only to scientists, and journalism is too important to leave only to the scientifically illiterate.”

“I have fond memories of my time in REPID. It’s an experience that I’m so grateful to have had. Thank you again for the phenomenal opportunity.”

Want to be inspired? 2015 Scholar Maseray Kamara will add MD to her list of accomplishments in May of 2018 but she is already allowing her voice to be heard. Seeing the clinician’s ethical role in the Flint water crisis, she served as the editor to the October 2017 AMA Journal of Ethics, talked about the issue on the November 12 broadcast of Innovative Health Talk Radio along with spearheading a student response to the water crisis, and received the AMA Foundation’s Minority Scholar Award as well as Society of Thoracic Surgeon’s Looking to the Future Scholarship. She is on the CHM Admissions Committee and tutors first year med students in anatomy and biochemistry. Maseray spoke to the incoming 2018 REPID Scholars, encouraging them to go after their dreams and take advantage of all the REPID program offers just as she is doing. To hear her interview and read more use the following links:

http://www.innovativehealthradio.com/supertalk1570/11-12-17/ (starts at 28:40)
https://opmed.doximity.com/a-med-students-dilemma-is-this-specialty-true-love-or-just-a-fling-330b8d3b3e21
Left: Kaitlin Moorhead-Hill graduating from MSU Dietetics
Right: Kaitlin with her Dietetics internship diploma
Below: Kaitlin’s mentor Dr. Won Songs sharing wisdom at the faculty networking luncheon

2016 REPID Scholar Kaitlin Moorhead-Hill completed her dietetic internship, two research projects, presented her research at a State Dietetics Conference, passed her RD exam, was awarded the Memphis Academy of Nutrition and Dietetics Scholarship and started her Masters in Human Nutrition back at Michigan State University -- all since completing the REPID program in September 2016!

“I was fortunate enough to be a part of the 2016 REPID program. Upon completion of REPID, I moved to Memphis to complete my dietetic internship at Memphis VA Medical Center. During the 10-month internship, we completed two research projects, including presenting a poster at a state professional meeting. I was so happy that I had the REPID experience and felt comfortable and confident in sharing my research with nutrition professionals. During this experience, I was also fortunate enough to be awarded the Memphis Academy of Nutrition and Dietetics scholarship. Since completing the dietetic internship, I took the registration exam and am now a registered dietitian! I have moved back to East Lansing and will be starting to pursue my MS in Human Nutrition under the guidance of Dr. Won Song (my REPID mentor). I am confident that REPID has prepared me well for the rigors of graduate school and beginning my research.”

WAY TO GO, KAITLIN!

“If opportunity doesn’t knock, build a door.” - Milton Berle
“Intelligence plus character, that is the goal of education.”  
-Martin Luther King

Daniel Tran and Evonte Terrell Stand by Their Research poster

Nabila Farabi explains her research on asthma among children of migrants

Right: Over 400 students from different institutions across the country participated in the 2017 Mid-SURE symposium

2017 REPID Cohort at the Mid-SURE symposium
At the end of the summer research experience, all REPID Scholars presented their research data and findings at the 2017 Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE). This event provided an opportunity for the scholars to share their research with their peers, faculty, and external audiences. Mid-SURE symposium is an MSU Undergraduate Research Initiative program that functions to increase opportunities for students to engage in research scholarship and creative activity.

Malcolm Davis’ father (left) came to support him, chatting with the REPID mentors Dr. Bruce Uhal (right) and Dr. Kadrofske (middle)

Dr. Crockett and the 2017 REPID Scholars enjoy lunch and laughs before Mid-SURE begins

Rebecca Cena shares a moment of her success with Grand-father and mother

Tatiyana Harris presents her research poster at the 2017 Mid-SURE Conference
Mid-SURE 2016-2017;

Research work presented by each REPID Scholar at the Conference

2016

THE EFFECT OF 5-HYDROXYTRYPTAMINE (Serotonin) ON TIGHT JUNCTION FORMATION AND BARRIER PERMEABILITY IN CACO-2 CELL MONOLAYERS
Marian Catalan
Mentor(s): Elahé Crockett (Medicine), Mark Kadrofske (Human Medicine), Lizbeth Lockwood (Human Medicine)

CHANGES IN GENE EXPRESSION ALONG THE INTESTINAL TRACT IN DIABETIC IL-10 KNOCKOUT MICE
Saima Chishti (Michigan State University)
Mentor(s): Elahe Crockett (Medicine), N. Parameswaran (Physiology), Michael Steury (Physiology)

CONSTRUCTION OF RETROVIRAL EXPRESSION SYSTEM FOR THE STUDY OF PREX2 IN MELANOMA
William M. Davie, (Michigan State University)
Mentor(s): Sean A. Misek (Physiology), Elahe Crockett (Medicine), and Kathleen A. Gallo (Physiology)

HIGH PREVALENCE OF ASTHMA AND ITS DETERMINANTS AMONG CHILDREN ENROLLED IN MICHIGAN MIGRANT AND SEASONAL HEAD START PROGRAMS
Nabila Farabi (Michigan State University)
Mentor(s): SuJin Song (Food Science), Won O. Song (Food Science), Elahe T. Crockett (Medicine)

PRIMARY CARE PROVIDER ADHERENCE TO VASCULAR NEUROLOGY RECOMMENDATIONS AND RISK FAVOR TARGETS FOR RECURRENT ISCHEMIC STROKE PREVENTION
Larissa Georgeon (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Muhammad Farooq MD (Hauenstein Neuroscience Center), Philip Gorelick MD MPH (Hauenstein Neuroscience Center)

REGULATION OF KUPFFER CELLS AND BONE MARROW MACROPHAGES BY HEPATIC STELLATE CELLS
Jordan Hood (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), B. Copple (Pharmacology), K. Roth (Pharm.), R Albee (Pharm.)

TGF-β1 DOWNREGULATES ACE-2 IN HUMAN LUNG FIBROBLASTS
Courtney Jackson (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Bruce Uhal (Physiology)

CHARACTERISTICS OF US FEDERAL NUTRITION EDUCATION PROGRAMS AND THEIR IMPACT
Kaitlyn Moorhead-Hill (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Won Song (Nutrition), SuJin Song (Nutrition)

IMPACT OF OFFICE-GAP PROGRAM ON PATIENT SATISFACTION AND CONFIDENCE IN DECISION MADE.
Daniel Nguyen-Tran (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Adesuwa Olomu (Medicine)

THE PROTECTIVE EFFECT OF ANG 1-7 IN MECONIUM INDUCED APOPTOSIS OF HUMAN ALVEOLAR EPITHELIAL CELLS (AEC)
Gabriela Peguero Kushner (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Bruce Uhal (Physiology)

DEVELOPMENT OF A NOVEL METHOD FOR ASSESSMENT OF MITOCHONDRIAL RESPIRATION IN DIABETIC RETINA
Anand Saripalli (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Julia Busik (Physiology)

THE ROLE OF TRANSLOCATOR PROTEIN (TSPO) AND THE ARYL HYDROCARBON RECEPTOR IN MODULATING MITOCHONDRIAL FUNCTION
Ayman W. Taher (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), John LaPres (Biochem & Molecular Bio), Michelle Steidmann (Biochem & Molec. Bio)

THE IMPACT OF OFFICE-GAP AND RACE ON SELF-EFFICACY IN CHRONIC DISEASE MANAGEMENT IN FEDERALLY QUALIFIED HEALTH CENTERS
THE IMPACT OF OFFICE-GAP AND RACE ON SELF-EFFICACY IN CHRONIC DISEASE MANAGEMENT IN FEDERALLY QUALIFIED HEALTH CENTERS
Evonte Terrell (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Ade Olomu (Medicine)

UPREGULATION OF LIVER X RECEPTOR IS A NOVEL THERAPEUTIC TARGET FOR DIABETIC RETINOPATHY PATHOLOGY
Kiana Wood (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Julia Busik (Physiology), Sandra Hammer (Physiology).

2017

THE USE OF A PANEL OF MOUSE STRAINS TO IDENTIFY LOCI ASSOCIATED WITH INDUCED GENE EXPRESSION IN UTERUS
Kalin Bayes (Michigan State University)
Mentor(s): Elahé Crockett (Medicine),

THE EFFECT OF 5-HYDROXYTRYPTAMINE (SEROTONIN) ON TIGHT-JUNCTION FORMATION AND BARRIER PERMEABILITY IN BBE CELL MONOLAYERS
Rebecca Cena (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Mark Kadrofske (Human Medicine)

DIFFERENCES IN STAFF VIEWS OF BARRIERS, FACILITATORS, AND TRAINING NEEDS TO IMPACT CHILDREN’S HEALTH AT MICHIGAN MIGRANT AND SEASONAL HEAD START CENTERS
Oluwatobi Dauda (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Won Song (Nutrition)

REDUCTION OF HYPOXIA-INDUCED A549 LUNG EPITHELIAL CELL CASPASE-9 ACTIVATION AND APOPTOSIS WITH THE MAS AGONIST AVE-0991
Malcolm Davis (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Bruce Uhal (Physiology)

BLOOD PRESSURE MONITORING DURING NEURO-INTERVENTIONAL PROCEDURES FOR ACUTE ISCHEMIC STROKE
Karam Gagi (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Muhammad Farooq MD (Hauenstein Neuroscience Center), Philip Gorelick MD MPH (Hauenstein Neuroscience Center)

IDENTIFYING THE EFFECT OF IMPROVING DIABETES KNOWLEDGE AND SHARED DECISION MAKING EDUCATION ON PATIENT’S EXPERIENCE WITH TECHNOLOGY IN FEDERALLY QUALIFIED HEALTH CENTERS
Aja Green-Walker (Michigan State University)
Mentor(s): Elahé Crockett PhD (Medicine), Ade Olomu (Medicine)

THE ROLE OF DLK1 FROM OX-DLK1 NEURONS IN REGULATING PHYSIOLOGY
Tatiyana Harris (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Gina Leinnenger (Physiology)

HIGH MOBILITY GROUP B1 ENHANCES ACTIVATION OF MACROPHAGES BY PLASMIN
Justin Ingram (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Bryan Copple (Pharmacology)

INFLUENCE OF OFFICE-GAP AND CARESMARTS ON MEDICATION ADHERENCE AND OVERALL HEALTH OF DIABETICS
Batoul Sadek (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Ade Olomu (Medicine)

ACTIVATION OF LIVER X RECEPTORS AND THE POTENTIAL TO PREVENT THE PROGRESSION OF DIABETIC RETINOPATHY
Mercedes Sarratos (Michigan State University)
Mentor(s): Elahé Crockett (Medicine), Julia Busik (Physiology)
Networking Luncheons
with
Graduate Students

In June 2017, REPID Scholars were given the opportunity to speak with graduate students and faculty members. The Scholars were able to ask questions that will help them succeed in their future endeavors and get advice on topics of their choice.

2017 REPID Scholars are photographed taking in the advice and knowledge of Michigan State graduate students.
REPID Scholars were able to sit in front of a panel of Michigan State research faculty members and hear about their research and how they came to be where they are today.

It was an informal event, which allowed the REPID scholars to get advice and guidance in a relaxed environment.

Students from other universities across the US participated in the luncheon with MSU-faculty members. In this picture students in conversation with Dr. Elahe Crockett from Dept. of Medicine.

Oluwatobi (Tobi) Dauda (2nd from right) and Karam Gagi (left) listen to Mark Reimers from Neuroscience.

Kalin Bayes and Rebecca Cena listen and learn with Dr. “Del” Delfosse.
Watch us soar...

Laila Abdallah (2015), applied to Medical school.

Akua (Nana) Acheampong (2015) won the 2016 award for outstanding poster presentation in cell biology at ABRCMS, the first MSU student to win a presentation award at this meeting.

Rolando Barajas (2013), completed MPH in Epidemiology from San Diego State University 2017. Currently a research assistant for the Methodology and Data Core at the Flint Center for Health Equity Solutions, Division of Public Health-MSU College of Human Medicine. Preparing to apply for 2019 MD/PhD.

Danielle Calloway (2012), is working on her masters in Health and Risk Communication at MSU with Dr. Kami Silk researching attitudes, perceptions and behavior in women's health.

Marian Catalan (2016), accepted to MSU College of Osteopathic Medicine.

Melissa Chavez (2013), is the Research Coordinator for River Valley Orthopedic in Grand Rapids, MI, part of Mercy Health and applying to Physician Assistant programs.

Brittany Childs (2013), in final year of MPH at MSU and now applying to medical school.

Vinh Dang (2014), is starting his second year working at NIH-NHLBI as a postbac in the BRTPUG Program.

William Davie (2016), will present at Annual Biomedical Research Conference for Minority Students (ABRCMS) and UURAF.

Nabila Farabi (2016), presented her research data at experimental Biology Conference in Chicago as well as the MSU Graduate Academic Conference.

Anthony Ferrantelli (2012), is applying to PA schools in Michigan.

Dominique Garrison (2014), received Fellowship from Ohio State University and pursuing a PhD in Pharmaceutical Sciences with an emphasis in Pharmaceutics and Pharmaceutical Chemistry. Recipient of 2015 MARC U*Star Award.

Jessica Hernandez (2012), works at Henry Ford Hospital in Detroit in the microbiology lab and planning to get MPH.

Yingli He (2013), previously worked as a medical interpreter through Voices for Health in Grand Rapids, MI, and has now been admitted to the University of Michigan PharmD program class of 2020.

Miguel Joaquin (2012), is in CHM class of 2020 and currently doing his rotations. He is preparing for residency interviews and hopes to stay in the Midwest.

Emmanuella Joseph (2015), received Student Scholarship in Stroke Award from American Heart Association.

Hahyung Kim (2012), began working at Boston University Medical School where she will also take graduate classes.

Amanda Naa Atswei Laryea (2015), in final year of MPH program at MSU specializing in International Development. Foreign Language and Area Studies (FLAS) Fellowship from CASID and GenCen for Summer 2016 and for the 2016-2017 academic year to study Swahili. Over summer 2017 co-led the Tanzania Partnership Program's study abroad course, Sustainable Community Development in Tanzania. Helped lead a group of undergraduates in a public health research and outreach project. Accepted into the 2017 Master of Art in Biological Sciences.

Mary Lian (2013), accepted into the 2017 Master of Art in Biological Sciences.

Gerald Lily (2014), currently a 3rd year CHM student, completed an 8 week research internship at Harvard Medical School in 2015, a 1 year research scholarship under Dr. John Risinger in the Department of Obstetrics, Gynecology and Reproductive Biology, endometrial cancer research in his lab at the Van Andel Institute in 2016 and is now doing clinical rotations in GR.

Ashley Monet Lyles (2014), is a graduate student at New York University, pursuing a master's degree through the Science, Health and Environmental Reporting Program (SHERP). She was one of only six NYU students selected to participate in GlobalBeat, and traveled to Cambodia on a scholarship to report on global health issues. In October she will go with the TCTMD editorial team to Denver for the annual Transcatheter Cardiovascular Therapeutics (TCT) Conference, and write articles for print the web and other media including PBS Newshour. Applying to medical school in 2018.
“Achievement has no color” — Abraham Lincoln

Kamara Maseray (2015) graduates from MSU College of Human Medicine in 2018. Selected to serve as the Editor to the American Medical Association (AMA) Journal of Ethics Safe Water issue, she also published an article called Clinician’s Roles in Ensuring Access to Safe Water.

Kaitlin Moorhead-Hill (2016), received Memphis Academy of Nutrition and Dietetics Scholarship; began Masters in Dietetics at MSU.

Huei-Min Ni (2013), is completing her Masters in Counseling at Wayne State University and doing epidemiological research.

Roya Omari (2015), is in her 2nd year pharmacy program at Ferris State University where she also does research.

Gabriela Peguero Kushner (2016), earned a Full Scholarship to Glasgow Caledonian University, Scotland, to complete an MSc in Biomedical Sciences and Biomolecules.

Anand Saripalli (2016), presented a poster at ARVO 2017. He attends Chicago Medical School and plans to continue his research in Ophthalmology

Kristina Savage (2013), graduated from Georgetown University Graduate School with a M.S. degree in Physiology and is now in Medical School at Medical College of Wisconsin.

Faith Thornton (2014), is currently a second year medical student at MSU’s College of Osteopathic Medicine. She completed her Masters in Public Health in 2016.

Rosa Torres (2012), received MSU MPH’s International Practicum Fellowship and traveled to Ghana for research.

Angel Trevino (2013), earned his Bachelors in Kinesiology and is currently doing PT with special injuries and physical needs and applying to graduate school.

Veronica Tijerena (2014), works for the State of Michigan as a Data Analyst at Department of Childhood Lead Poison Prevention and has her MPH.

Neco Wilson (2012), is in her 2nd year of Comparative Medicine and Integrative Biology (CMIB) a doctoral program, and does research in Dr. Adam Moeser’s lab in veterinary medicine at MSU.

Kiana Wood (2016), published in EbioMedicine Journal; Presented at ARVO; 2017 Research Intern at Fred Hutchinson Cancer Research Center in Seattle; now working in Dr. Busik’s research lab; will apply to grad school in 2018.

Hasib Yousefzai (2014), is in his 3rd year of medical school at University of Washington and expects to finish in 2019 - also pursuing a MPH. He says, “REPID was a formative experience.”

“REPID opened many opportunities that I never imagined. Thank you so much for your effort and continuous support.”

-Violeta Nieves

Scholars Breakdown (2012-2017); 93 REPID Scholars

Summary Table: REPID Scholars (2012-2017) Research and Current Status

<table>
<thead>
<tr>
<th>Cohort Year</th>
<th>Total # recruited</th>
<th>Scholars Level at time of matriculation to REPID UG</th>
<th>HP students*</th>
<th>Current Status after completion of REPID Training Med</th>
<th>UG</th>
<th>Grd</th>
<th>HP**</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
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<tr>
<td>2013</td>
<td>18</td>
<td>16</td>
<td>2</td>
<td>1</td>
<td>5</td>
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<td>4</td>
<td>14</td>
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<tr>
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<td>16</td>
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</tbody>
</table>

Abbreviations: Grd= Graduate student; HP= Health Professional; Med= Medical student; R= Research; UG= Undergrad

HP students* represents individuals who had completed their undergraduate programs and were a medical student, or graduate student in nursing, public health, or other graduate programs, and lifelong students.

HP** denotes the individuals working at health care facilities/hospitals or public health institutions.
2016 REPID Scholars

Kyle Archer
Major: Psychology
Mentor: Dr. Seydel

Marian Catalan
Major: Nutritional Science
Mentor: Dr. Kadrofske

Saima Chishti
Major: Biochem & Molec. Bio
Mentor: Dr. Parameswaran

William Davie
Major: Physiology
Mentor: Dr. Gallo

Nabila Farabi
Major: Human Medicine
Mentor: Dr. Song

Larissa Georgeon Richard
Major: Human Medicine
Mentor: Dr. Gorelick

Jordan Hood
Major: Human Biology
Mentor: Dr. Copple

Courtney Jackson
Major: Genetics
Mentor: Dr. Uhal

Kaitlin Moorhead-Hill
Major: Dietetics
Mentor: Dr. Song

Daniel Nguyen-Tran
Major: Human Biology
Mentor: Dr. Olomu

Gabriela Peguero Kushner
Major: Physiology
Mentor: Dr. Uhal

Richard Rebbelo
Major: Human Medicine
Mentor: Dr. Gonzalez

Anand Saripalli
Major: Biomedical Engineering
Mentor: Dr. Busik

Ayman Taher
Major: Human Biology
Mentor: Dr. LaPres

Evonte Terrell
Major: Human Biology
Mentor: Dr. Olomu

Kiana Wood
Major: Nutritional Sciences
Mentor: Dr. Busik
2017 REPID Scholars

Kalin Bayes
Major: Biomedical Lab Science
Mentor: Dr. LaPres

Rebecca Cena
Major: Human Biology
Mentor: Dr. Kadrofske

Oluwatobi Dauda
Major: Nutritional Science
Mentor: Dr. Song

Malcolm Davis
Major: Human Biology
Mentor: Dr. Uhal

Karam Gagi
Major: Physiology
Mentor: Dr. Gorelick

Joseph Grech
Major: Physiology
Mentor: Dr. Seydel

Aja Green-Walker
Major: Neuroscience
Mentor: Dr. Olomu

Tatiyana Harris
Major: Physiology
Mentor: Dr. Leinninger

Justin Ingram
Major: Neuroscience
Mentor: Dr. Copple

Batoul Sadek
Major: Human Biology
Mentor: Dr. Olomu

Mercedes Serratos
Major: Human Biology
Mentor: Dr. Busik
Good intentions are valuable in the hands of a capable administrator. Dr. Elahé Crockett is a well published researcher who cherishes her academic career at MSU and derives great comfort in her achievements. To provide a worthy experience in biomedical research to under-served undergraduate and graduate students she submitted a proposal for funding to the National Institutes of Health and was rewarded with the REPID five year training grant. She used all available means to attract and enroll deserving individuals. She coaxed, befriended, charmed and succeeded in placing all her recruits with excellent mentors conducting cutting edge research in their laboratories. Like a hawk she pounced on mistakes, she rewarded progress, reviewed abstracts, relentlessly pushed all her trainees to achieve excellence and year after year fifteen to twenty REPID graduates matriculated to medical schools, pursued graduate studies or were hired to work in industry. This remarkable achievement is owed to Dr. Crockett’s good intentions and her unsurpassed managerial skills.

“Like a hawk she pounced on mistakes, she rewarded progress,...”

“REPID is an example of excellence in action”

REPID is a wonderful opportunity for a diverse group of aspiring young scientists to learn the practices and the culture across biomedical and health sciences. The program components, the mentored experiences in laboratories, and the dedication of the faculty are first-rate. The students’ own comments, and more importantly, the outcomes and placements of the students speak for themselves. The outcomes are truly remarkable over this relatively short period of time. Our society becomes more diverse. REPID is an example of excellence in action.

For our REPID graduates and those just entering or wishing to enter the graduate program, a personal note: congratulations and wish for success to all of you.

Your choice of a career in healthcare is important to each of the individuals who you serve and to the larger communities in which you live. A big THANK YOU to the REPID program director, Dr. Elahé Crockett! Her development and nurturing of this program and its students demonstrate excellence in leadership and commitment to providing meaningful opportunities to enhance diversity in the health care sector.

-Dr. Karen Klomparens, PhD
Associate Provost for Graduate Education and Dean of the Graduate School. REPID Advisory Board Member
“Strength lies in differences, not similarities.” -Stephen R. Covey

Research Mentors

“REPID students are exceptional young men and women. For some of my students, REPID has offered a first true research and laboratory experience, and I have been impressed with their dedication and willingness to learn. Each of my students has been bright and hard-working, and within a short period of time, have become valuable members of my lab. Several of my students have remained in my lab after the summer and have earned independent study credits as they continue their research projects. REPID provides a tremendous opportunity and helps launch professional and academic careers.”

-Dr. Mark Kadrofske, MD, PhD
REPID Co-Director & Research Mentor

“In learning you will teach, and in teaching you will learn.”

-Phil Collins

In 2016 summer, Nabila Farabi (first year Medical School at MSU) and Kaitlyn Moorhead (senior dietetics major) joined my research team. Both worked on a community research project with Migrant Seasonal Farmworker Families. With the REPID program support, both Nabila and Kaitlyn immersed in the intense planning and process of research teamwork throughout the summer. At the end of the summer, both presented at the URC conference at MSU. Nabila produced a manuscript based on secondary data analysis entitled, “High Prevalence of Asthma and its Determinants among Children in Michigan” and presented the abstract at the Experimental Biology Conference in Chicago in April, 2017. Kaitlyn began her competitive dietetic internship in Tennessee right after the REPID program, and is now back to graduate school at MSU pursuing her MS program.

In 2017 summer, Oluwatobi Elizabeth Dauda (sophomore nutritional science major) also worked with our research team. Tobi worked closely in a team throughout the summer, and her work was presented at the URC conference.

It has been a privilege to work with and inspire these intelligent and motivated students with the spirit of creating new knowledge, the essence of research. We all, including myself as a mentor, endured, grew from the process and attained new levels of professional and educational achievements in advancing science and medical research, thanks to REPID program. We are also thankful for the wholehearted and significant support provided by MSU extension and Michigan Telamon Corporation.

“REPID is a marvelous program whereby a specially-selected student is paired with experts in the field to carry out a summer research experience designed to enhance scientific diversity and excellence.

It is a great joy to assist the REPID scholar in their work and watch the scholar grow and network within one's laboratory whether it be in the clinical or basic sciences. The REPID program is opening new doors as it trains future scholars, and is directed by an excellent mentor and leader, Dr. Elahé Crockett. We have found this program to be an outstanding experience.”

-Dr. Philip B. Gorelick, MD, MPH
REPID Research Mentor, Professor and Medical Director, Mercy Health Saint Mary’s Hospital

-Dr. Won Song, PhD
REPID Research Member
The remarkable outcome that we have witnessed is a true team effort, and it could not have happened without strong support of the faculty and academic staff across campus.
“Diversity: the art of thinking independently together.”  - Malcolm Forbes

More Ways To Get Involved...

The REPID Program is grateful to be funded by the National Institutes of Health- NHLBI. Not only has the NIH given resources to Michigan State students through the REPID Program, but they also provide a plethora of different training opportunities for students as young as sixteen all the way to Post-doctoral students nation-wide. This is a great way for those who are not currently attending a university to still be able to get involved in biomedical research.

For more information about how else you or someone you know can get involved in biomedical research, please visit the website below:

https://www.training.nih.gov/programs
Rushing through the swirling stream of life we study the nature of what we are. Our persistent study of life is more than whimsical curiosity. For countless generations we try to keep the little flame of life burning in ourselves and those around us. And for generations to come we will never stop trying to keep the flame burning because we are alive, we are a part of life.