

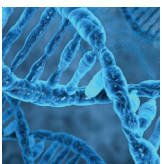


PROJECT PATHWAYS NIH BUILD AT XULA



BUILDING INTEGRATED PATHWAYS TO
INDEPENDENCE FOR DIVERSE BIOMEDICAL RESEARCHERS

XAVIER
UNIVERSITY OF LOUISIANA



PROJECT PATHWAYS

BUILDING INFRASTRUCTURE LEADING
TO DIVERSITY (BUILD) PROGRAM
AT XAVIER UNIVERSITY OF LOUISIANA



PROJECT PATHWAYS

NIH BUILD AT XULA

BUILDING INTEGRATED PATHWAYS TO
INDEPENDENCE FOR DIVERSE BIOMEDICAL RESEARCHERS





MISSION AND VALUES

Xavier University is grounded in the Christian principles exemplified by Saint Katharine Drexel and the Sisters of the Blessed Sacrament. Xavier is the Nation's only Catholic and Historically Black College or University (HBCU) and has the distinction of being the only Catholic university founded by an American born saint. Xavier's mission is to create a more just and humane society by preparing its students to assume roles of leadership and service in a global society. Xavier is dedicated to a curriculum that focuses on the liberal arts, ethical and moral values, critical thinking, and career preparation for further graduate or professional school education.

The University offers courses in over 40 different majors that lead to the Bachelor of Arts, Bachelor of Music, Bachelor of Science, Master of Arts, Master of Arts in Teaching, Master of Theology, Doctorate of Education, or the Doctorate of Pharmacy. Xavier expects its students to meet the highest standards of academic excellence, be prepared to compete in a global market, and to work effectively with individuals of diverse backgrounds and experiences.

A Xavier education features a solid liberal arts foundation and broad learning experiences that extend beyond the classroom and campus. The University is best known for its reputation in the health professions, ranking first nationally in the number of African Americans who earn Bachelor's degrees in the biomedical, life, and physical sciences. A recent

report released by the National Science Foundation confirms Xavier's success in educating science graduates. According to the report, Xavier is ranked first in producing African American graduates who go on to receive life sciences Ph.D. degrees; fifth in the Nation in producing African American graduates who go on to receive science and engineering Ph.D. degrees; and seventh in producing African American graduates who go on to receive physical sciences Ph.D. degrees.

Additionally, Xavier is first among the Nation's colleges and universities in the number of African American graduates who go on to complete medical school, according to data compiled by the Association of American Medical Colleges. Xavier had 60 African American graduates earn medical degrees in 2011, the latest year for which complete data are available. Howard University was second with 43 graduates. In addition, since Fall 2005, Xavier has awarded 1564 Doctorate of Pharmacy degrees. During the same time period, graduates from our College of Arts and Sciences obtained 26 Pharmacy degrees at other institutions, as well as 66 dental science degrees. Consequently, Xavier alumni contribute significantly to the number of minority physicians, pharmacists, dentists, and other professionals in medical-related fields who practice throughout the United States; many of who opt to work in the greater New Orleans area.



A NOTE FROM THE PRESIDENT

To satisfy needs of the economy and to fulfill its leadership role globally, the United States must prepare sufficient well-qualified STEM practitioners. The ETS report Meeting the Need (2002) warned that the nation was not educating the requisite talent in science and technology across diverse fields. Moreover, the report notes that the nation will not meet the needs of the economy, of national security, of healthcare, and of environmental stewardship without significantly improving the academic success of its underrepresented minorities.

The BUILD Project Pathways enables Xavier University of Louisiana to innovate and to put in place resources and approaches to assure the success of all students and their advancement to careers and higher study in biomedical science. A number of students do arrive in college without the quality pre-collegiate experience that all American students deserve. The BUILD initiative at Xavier enables an engaged faculty to identify weaknesses among students and to apply appropriate remedies and assure progression.

Xavier University of Louisiana has demonstrated ability to educate African American STEM students and to do it well. BUILD at Xavier will demonstrate effective methods that can be replicated at other institutions. Thus, Xavier will advance the national goal to meet a vital need through good education. Xavier is indeed pleased to contribute to this effort towards development of the American talent pool.



C. Reynold Verret,

President

Xavier University of Louisiana



INTRODUCTION TO BUILD AT XAVIER

Xavier University of Louisiana is a historically Black and Catholic university that is nationally recognized for its science, technology, engineering and mathematics (STEM) curricula. Approximately 69.7% of Xavier's students are African American, about 59.5% are from Louisiana (primarily from the New Orleans area) and the remainder come from other states from coast to coast, the District of Columbia, the U.S. Virgin Islands, and several other countries. The Fall 2015 enrollment at Xavier University was 2,969.

Due to Hurricane Katrina, Xavier's campus sustained over \$50 million worth of damage in August of 2005. Every building on campus was damaged by floodwater and subsequent mold growth. However, with great leadership and determination, Xavier reopened five months after the storm, in January of 2006. Fortunately, through funds donated to Xavier from the NIH, the NSF, the Sherman Fairchild Foundation, the Howard Hughes Medical Institute, and the nation of Qatar, nearly all scientific equipment and supplies lost were replaced.

During the past decade, Xavier has ranked first nationally in the number of African

American students earning undergraduate degrees in biology, chemistry, physics, and the physical sciences. Seventy-eight percent of Xavier's undergraduates major in the biomedical sciences, and Xavier is a national leader in the number of STEM majors who go on to receive M.D. and Ph.D. degrees in science and engineering. Despite Xavier's advances in this area, African Americans still earn about 7.5% of the bachelor's degrees, less than 8% of the master's degrees, and less than 5% of the doctoral degrees conferred in STEM disciplines in the United States (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2009 through Fall 2013). Additionally, although many well-prepared, highly-motivated students are attracted by Xavier's reputation in the sciences, many of these students, though bright and capable, come from underperforming public school systems and receive substandard preparation in STEM disciplines.

The BUILD (Building Infrastructure Leading to Diversity) Program at Xavier University of Louisiana, Project Pathways, is funded by the National Institute of

General Medical Sciences (NIGMS) at the National Institutes of Health (NIH). Project Pathways now in its second year, is one of only ten BUILD Programs across the country. This highly-innovative program was designed as a set of experimental training awards made to institutions of higher education to study and implement effective approaches to engaging and retaining students from diverse backgrounds in biomedical research careers. The ultimate goal of this NIGMS Training, Workforce Development, and Diversity (TWD) program is to address the lack of diversity in the biomedical research workforce in the Nation, and prepare a diverse group of future contributors to the NIH-funded research enterprise.



VISION BEHIND PROJECT PATHWAYS

Minorities currently represent an expanding portion of the U.S. population, and unless scientific education becomes more inclusive, the Nation will be denied the talents of a large segment of its population. A diverse biomedical workforce provides benefits to society by tapping into unique perspectives and narrowing the health gap with a focus on health inequities and disparities, while promoting and ensuring fairness.

Xavier is a leader in placing African American students in professional and graduate programs in spite of the fact that it is a relatively small school, and the majority of its students and their families are socioeconomically challenged. Even so, there is room for improvement and Xavier, with its unique culture and brand in STEM fields, has the potential to lead the way to making a difference. The national literature identifies unique barriers faced by African Americans and other individuals from underrepresented groups entering into biomedical research careers, including the lack of: (1) Early Awareness and Deepening Exposure to the type of rewards associated with biomedical research careers, and the sense of accomplishment gained from success in early STEM educational experiences; (2) Supportive Relationships, particularly those related to faculty advising and mentoring; (3) Suitable Educational Infrastructure, namely, (a) innovative STEM courses that engross students in activities that promote a STEM mindset, and (b) the supplemental help needed when they face educational challenges;

and (4) Active Engagement in meaningful biomedical research experiences and the presence of faculty and institutional resources needed to do this.

Surveys of Xavier life sciences alumni and the graduate faculty at other institutions who teach them replicated many of these findings and pointed to areas in Xavier's curriculum and support services that needed to be revised or supplemented. Project Pathways was designed to implement strategies focused especially on the 78% of Xavier's pre-pharmacy/pre-medical students who change their career goals before the junior year, at which point obtaining the education and experience needed to pursue a biomedical Ph.D. becomes more difficult. This BUILD project aims to broaden the career interests of these and other students early on, and engage them in activities enticing them to continue their education toward biomedical research careers. Project strategies involve a transformation of Xavier's academic and non-academic programs through the redesign, supplementation and integration of academic advising, tutoring, career services, personal counseling, undergraduate research training, faculty research mentoring, and developing new biomedical and research skills courses. The Program also focuses on mentor training and providing faculty members with opportunities to improve their teaching skills as well as their research competitiveness.





BASIC OVERVIEW OF PROJECT PATHWAYS

Project Pathways is a collaborative program supported by the combined efforts of the Institutional Development Core (IDC), Student Training Core (STC), and Research Enrichment Core (REC). The Administrative Core oversees the activities of all Cores, and also provides support to enhance faculty research competitiveness. The Student Training Core, Research Enrichment Core, and Institutional Development Core together have activities

designed for students from freshmen to seniors in addition to select recent Xavier graduates. These activities were developed to address the challenges and barriers Xavier students face as part of entering the biomedical workforce.

The goal of the **Institutional Development Core** is to enhance the academic infrastructure at Xavier. The Institutional Development Core provides resources for key offices and centers across

the campus that assist students with academic support, professional development, and undergraduate research activities. Project Pathways has contributed to the addition of both personnel and support to the Student Academic Success Office (SASO), the Career Advancement Center (CAC), the Center for Undergraduate Research (CUR), and the Center for the Advancement of Teaching and Faculty Development (CAT+).

INSTITUTIONAL DEVELOPMENT CORE HIGHLIGHT

DR. JA'WANDA GRANT AND THE CENTER FOR UNDERGRADUATE RESEARCH

Dr. Ja'Wanda S. Grant was hired as the full-time Director for the Center for Undergraduate Research (CUR) in 2015. Under Dr. Grant's direction, CUR has utilized GOLD RUSH EXPRESS, Xavier's online career services platform, to provide easy access to information about summer research programs at BUILD partner and other

institutions. Dr. Grant and the CUR staff also provide one-on-one support in identifying and applying to research opportunities. CUR also sponsors workshops on applying to summer programs, preparing for summer research experiences, and proposal writing. In addition to workshops and seminars, CUR provides

funding to students and faculty for research and travel to conferences. CUR hosts the Annual Festival of Scholars and Summer Research Symposia, which encourage Xavier students to present their research and creative work to the broader campus community.





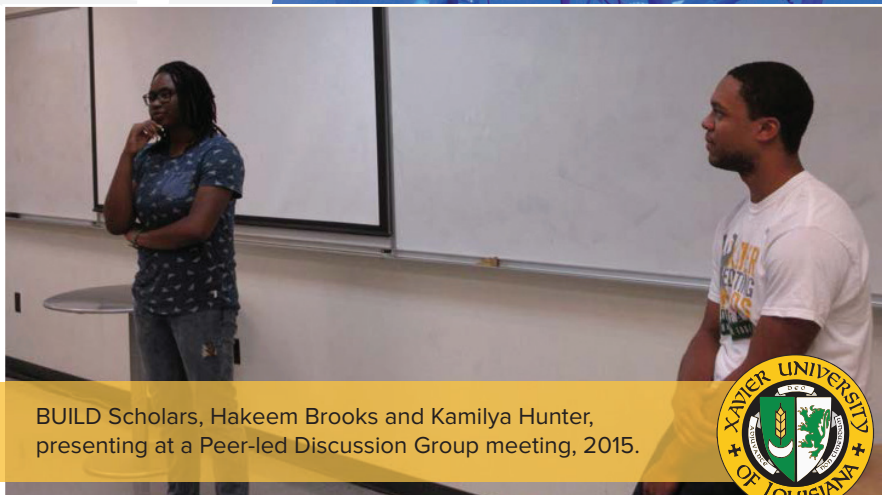
The Student Training Core expands the number of biomedical research opportunities offered to Xavier students. In close collaboration with the Career Advancement Center, this core also coordinates a number of activities designed to educate freshman and sophomore students about the variety of possible biomedical research careers they can pursue. The Student Training Core activities allow students to gradually increase their involvement, based on their level of interest in biomedical research. Both freshmen and sophomores are given opportunities to explore research labs at Xavier. The “Freshman Open House” allows freshmen to visit different research labs, while sophomores can apply to shadow a current research student on campus. The shadowing experiences allow students to see what the day-to-day activities are like in a research environment.

STUDENT TRAINING CORE HIGHLIGHT

STUDENT DISCUSSION GROUPS

Each spring, the Student Training Core chooses twelve sophomore students from among the participants in these different activities to become BUILD Scholars. The Scholars receive two years of mentored research, including a summer at a partner institution, a monthly stipend, up to 60% of Xavier tuition, and funds for travel and research supplies. Each year, several additional students are chosen as BUILD Research Students. Like the Scholars, the Research Students are matched with mentors and receive a monthly stipend, and funds for travel and research supplies; however, a Research Student appointment is for a period of twelve months with potential for competitive continuation for an additional year.

All sophomores interested in biomedical research are invited to attend a regularly held series of peer-led discussion groups. The topics discussed in these groups are determined by the students and in the past have included topics such as Ebola, Alzheimer’s, Autism, vaccine safety, and cancer therapies. Juniors and seniors active in research provide peer support and mentoring during these group meetings and present their research to the sophomore participants. As part of the discussion groups, sophomore students also participate in a library training session designed to introduce them to searching the scientific literature.



BUILD Scholars, Hakeem Brooks and Kamilya Hunter, presenting at a Peer-led Discussion Group meeting, 2015.





The Research Enrichment Core strengthens the supportive environment needed for Xavier students to overcome barriers to success through curriculum enhancement, mentor training, and post-baccalaureate research training opportunities for recent graduates. Several new courses have been developed with support from this core including the Science and Technical Writing course, the Scientific Communication course, and the Research Ethics course. The Research Enrichment Core also provides curriculum development mini-grants for faculty to develop new courses or modify existing courses in order to fill gaps in the biomedical curriculum at Xavier. The Research Enrichment Core also supports a very innovative part of Project Pathways, the BUILD Technician Program, which provides recent Xavier graduates with additional training and research experience needed to successfully enter and complete graduate work.

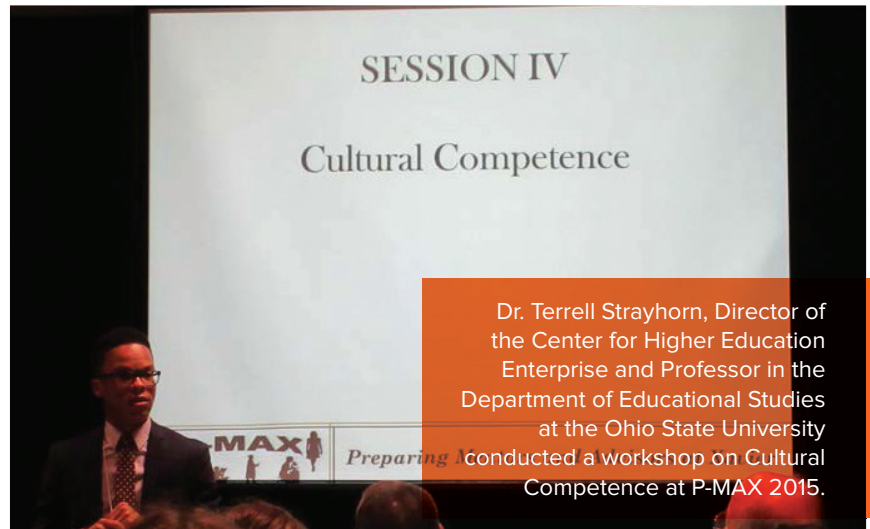
RESEARCH ENRICHMENT CORE HIGHLIGHT

PREPARING MENTORS AND ADVISORS AT XAVIER (P-MAX)

The Research Enrichment Core provides training activities for faculty and staff that ensure Xavier research mentors are aware of the challenges faced by their mentees and are equipped to provide the

necessary support both in and out of the laboratories. The Xavier Center for the Advancement of Teaching and Faculty Development works closely with the Research

to participate in a full-day mentor training workshop during their first summer in the Program as well as follow-up workshops. All faculty and research staff working



Dr. Terrell Strayhorn, Director of the Center for Higher Education Enterprise and Professor in the Department of Educational Studies at the Ohio State University conducted a workshop on Cultural Competence at P-MAX 2015.

Enrichment Core and the National Research Mentoring Network (NRMN) to present workshops on topics such as cultural awareness, stereotype threat, and using technology to foster the mentor-mentee relationship. All BUILD research mentors and their research staff are required

with Xavier undergraduates are encouraged to participate in these workshops, including the research mentors in the NIGMS funded Research Initiative for Scientific Enhancement (RISE) and Maximizing Access to Research Careers (MARC) Programs.



Preparing Mentors and Advisors at Xavier, P-MAX Workshop 2015



THE TEAM

Dr. Maryam Foroozesh is Project Pathways' Lead Principal Investigator serving as the Core Director for the Administrative and Research Enrichment Cores. Dr. Foroozesh, an Endowed Professor in the Chemistry Department, is an organic chemist by training and a graduate of Tulane University. Her research areas of interest are in the design and synthesis of new families of inhibitors for cytochrome P450 enzymes involved in carcinogenesis, and the design and synthesis of ceramide-mimicking agents for the potential reversal of chemo- and endocrine-resistance in breast cancer cells. Over the years, Dr. Foroozesh has served as the research mentor to over 75 students and a number of B.S.-level technicians and post-doctoral fellows.

Dr. Marguerite Giguette is a Project Pathways Principal Investigator and Director of the Institutional Development Core. Dr. Giguette serves as the Associate Vice President for Academic Affairs at Xavier University and is an Endowed Professor of Computer Science and a graduate of Tulane University. As a faculty member, Dr. Giguette managed grants totaling over \$2.5 million that included a summer program for high school students interested in Computer Science, and an undergraduate research program for Computer Science students. She also led the grant that assisted in funding the establishment of Xavier's Center for Undergraduate Research in 2000. Dr. Giguette assisted in the establishment of the Student Academic Success Office in the College of Arts and Sciences.

Dr. Kathleen Morgan is a Project Pathways Principal Investigator and Director of the Student Training Core. She is also an Associate Director of Xavier's Center for Undergraduate Research. Dr. Morgan, an Endowed Professor in the Chemistry Department, is an organic chemist and graduated from Dartmouth College and Yale University. Her current research involves thermochemical analysis of simple carbohydrates, diols, and related compounds. Dr. Morgan has mentored over 40 undergraduate

research students in her fourteen years at Xavier, as well as six B.S.-level technicians.

Dr. Kelly Johanson is Co-Director of the Student Training Core. Dr. Johanson is a biochemist by training and graduated from Tulane University. Her research areas focus on transcription factor structure and function with focus on the FOXO family of transcription factors. She also studies the DNA-binding ability of FOXO truncations including regions of the protein contained within an oncogenic fusion protein, PAX3-FOXO1, whose expression is linked to the development of Alveolar Rhabdomyosarcoma. Dr. Johanson has served as a research mentor to over 15 students.

Mr. Lasana Cambrice is the Executive Director of the Career Advancement Center at Xavier University of Louisiana. In addition, Mr. Cambrice is an Instructor of two Freshman Seminar sections on campus. Previously, he served the University as Executive Associate for Academic Affairs and Director of Campus Activities. Mr. Cambrice received his Bachelor of Science in Biology and an M.B.A. in Finance from the University of New Orleans.

Dr. Tiera Coston is an Education Improvement Specialist who directs Xavier's mentor training program (Preparing Mentors and Advisors at Xavier – P-MAX) established through Project Pathways. Dr. Coston also works closely with the course improvement/development mini-grant recipients and moderates the Science Education Research Group (SERG) meetings. She brings more than eight years of experience in faculty training and development. Dr. Coston earned a Ph.D. in Molecular and Cellular Biology from Tulane University and a J.D. from Loyola New Orleans.

Dr. Gene D'Amour, whose academic specialty is philosophy of science and mathematical logic, is a graduate of the University of Minnesota, and is Xavier's former Senior Vice President for Resource Development and BUILD Program Principal



Members of the BUILD Team at Xavier (from left to right: Dr. Kelly Johanson, Dr. Ja'Wanda Grant, Ms. Amy Billizon, Ms. Doryne Sunda-Meya, Ms. Melanie Steen-Sighinolfi, Dr. Kendall Eskine, Dr. Kathleen Morgan, Dr. Gene D'Amour, and Dr. Maryam Foroozesh)

Investigator. Dr. D'Amour is now serving as the Special Assistant to the President and member of Project Pathways' Management Team. He is also serving on the Advisory Committee for the National Research Mentoring Network (NRMN) South East Region.

Dr. Kendall Eskine is Project Pathways' Internal Evaluator and Assessment Specialist. Dr. Eskine received his B.A. in Psychology and Philosophy and his Ph.D. in Cognition, Brain, and Behavior (Experimental Psychology) from the City University of New York. He specializes in human judgment and decision-making strategies, and has many years of experience focusing on human subjects research methods and predictive statistics. He has mentored dozens of students, typically with research projects falling under the domain of social cognition and selfunderstanding.

Dr. Ja'Wanda S. Grant is the Director of the Center for Undergraduate Research. Dr. Grant received her B.S. in Chemical Engineering from the University of Mississippi and her Ph.D. in Pharmaceutical Science from the University of Tennessee, with research experience in drug discovery and design. After completing her Ph.D., she was a Ruth L. Kirschstein Postdoctoral Fellow in the Department of Environmental Medicine at New York University, followed by faculty positions at John Jay College of Criminal Justice and Berkeley College. She now serves as a mentor and advisor to students who are seeking research experience at Xavier and beyond.

Ms. Amy Billizon is the Program Manager for the Student Training and Research Enrichment Cores.

She has an undergraduate degree in Anthropology from Tulane University and a Master's of Education degree from Ashford University. Her many years of experience working with grants from state and federal funding agencies as well as her expertise in mentoring and advising students make her an asset to the BUILD Program.

Ms. Melanie Steen-Sighinolfi is the Program Manager for the Institutional Development Core. She is a Certified Information and Referral Specialist (CIRS) and an Applied Suicide Intervention Skills Trainer (ASIST). She has extensive experience in the areas of Community Information and Resources, Counseling, and Grant Administration. Ms. Steen-Sighinolfi earned a Bachelor's degree in Psychology/Substance Abuse from Southern University at New Orleans (SUNO) and a Master's degree in Rehabilitation Counseling from the Mankato State University.

Ms. Doryne Sunda-Meya is the Program Manager for the Administrative Core. She has many years of experience in public health and brings a wealth of knowledge in the areas of program implementation and grant management. She has collaborated on several projects and publications regarding childhood asthma in New Orleans. Ms. Sunda-Meya received her Bachelor of Science in Computer Science from the North Carolina Central University and a Master's degree in Health Care Management from the University of New Orleans.





BUILD SCHOLARS



Hakeem Brooks
Sorrento, LA
Major: **Biology**
Minor: **Chemistry**
Class of 2017
Mentor:
Dr. Jeremy Cohen



Jenae Bryant
Lake Elmo, MN
Major: **Biology**
Minor: **Chemistry**
Class of 2017
Mentor:
Dr. Terry Watt



Khari Gilmore
Dallas, GA
Major: **Biology**
Class of 2017
Mentor:
Dr. Thomas Huckaba



Kamilya Hunter
Atlanta, GA
Major: **Biology**
Minor: **Chemistry**
Class of 2017
Mentor:
Dr. Robert Blake



Veronica Miles
Armarillo, TX
Major: **Chemistry**
Minors: **Biology & Spanish**
Class of 2017
Mentor:
Dr. Jayalakshmi Sridhar



Michaela Smith
Shreveport, LA
Major: **Chemistry**
Class of 2017
Mentor: **Dr. Cecily DeFreece**



Nhu Tran
New Orleans, LA
Major: **Chemistry**
Minors: **Biology & Philosophy**
Class of 2017
Mentor: **Dr. Florastina Payton-Stewart**



Kendale Watson
Morgan City, LA
Major: **Biology**
Class of 2017
Mentor:
Dr. Stassi DiMaggio



Zaharra Withers
Laveen, AZ
Major: **Psychology**
Class of 2017
Mentor:
Dr. Katherine Eskine



Amber Weatherspoon
Harvey, LA
Major: **Biochemistry**
Class of 2017
Mentor:
Dr. Kelly Johanson

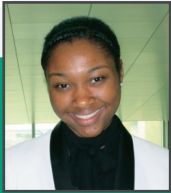


BUILD Scholar, Khari Gilmore, performing research, February 2016.





BUILD STUDENT RESEARCHERS



Delany Bradford
Birmingham, AL
Major: **Biology**
Minors: **Chemistry & Spanish**
Class of 2017
Mentor: **Dr. Florastina Payton-Stewart**



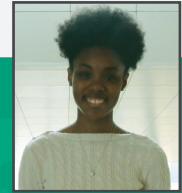
Amira Gee
Brooklyn, NY
Major: **Chemistry**
Class of 2017
Mentor:
Dr. Mehnaaz Ali



Theresa Hudson
Baton Rouge, LA
Major: **Biology**
Class of 2017
Mentor:
Dr. Robert Blake



Chelsea Kelland
Harvey, LA
Major: **Biology**
Class of 2018
Mentor:
Dr. Thomas Huckaba



Kyshari McCullough
Naperville, IL
Major: **Chemistry**
Minor: **Biology**
Class of 2017
Mentor: **Dr. Florastina Payton-Stewart**



Kylar Wiltz
Breaux Bridge, LA
Major: **Biology**
Minor: **Chemistry**
Class of 2018
Mentor:
Dr. Anup Kundu



BUILD Research Student, Chelsea Kelland, performing research, February 2016.



BUILD Scholar,
Nhu Tran,
discussing
her synthesis
project,
February 2016.



BUILD Scholar,
Jenae Bryant,
performing
research,
February 2016.





BUILD TECHNICIANS



Davon Carter is a Xavier University graduate and a current Lab Technician from Fairfield, CA. While attending Xavier, Davon majored in Biology with a minor in Chemistry. Davon's future goal is to obtain a M.D./Ph.D. in Anesthesiology & Clinical Research.

"I prefer acute care instead of chronic care. In addition, before patients go into surgery I will have the opportunity to make them feel comfortable and confident in my ability to perform the procedure. Lastly, many anesthesiologists run intensive care units and have the opportunity/time to conduct clinical research."

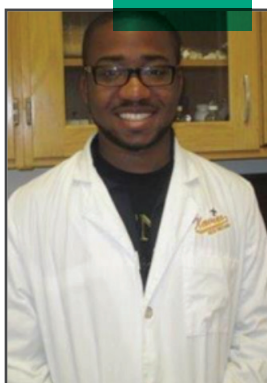
Mentor:
Dr. Thomas Huckaba



Kyra Dodson is a Xavier University graduate and a current Lab Technician from St. Louis, Missouri. While attending Xavier, Kyra majored in Biology and minored in Chemistry. Kyra's future goal is to obtain her Ph.D. in Toxicology. Ideally, she would love to use her degree to perform breast or ovarian cancer research. She has chosen this profession because she has a huge passion for women's health.

"Toxicology is the perfect combination of all my interests. I get to make a difference in the world doing something that I love."

Mentor:
Dr. Florastina Payton-Stewart



Justin Grennell is a Xavier University of LA graduate and a current Lab Technician from Byram, MS. While attending Xavier, Justin majored in Chemistry with a minor in Biology. Justin's future goal is to obtain a Ph.D. in Analytical Chemistry. He hopes to work for the Federal Government as an Analytical Chemist.

"I always wanted to work for the CDC or FDA as a scientist."

Mentor:
Dr. Mehnaaz Ali



Faith Joseph is a Xavier University of LA graduate and a current Lab Technician from Houston, Texas. While at Xavier, Faith majored in Biology with a minor in Chemistry. Faith's future plans are to complete a M.D./Ph.D. in Clinical and Translational Sciences.

"Through Clinical and Translational Sciences I am able to join my passions of both research and patient care together and make it a career. I'm excited to continue my education and will be doing so in Houston Texas starting fall 2016!"

Mentor:
Dr. Jayalakshmi Sridhar

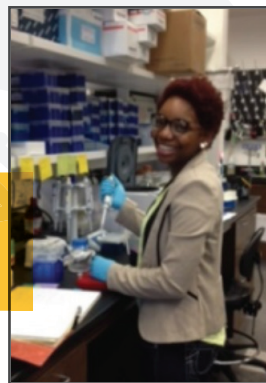




Brianyell McDaniel is a Xavier University of LA graduate and a current Lab Technician from New Orleans, LA. While attending Xavier, Brianyell majored in Biochemistry. Brianyell's future goal is to get a Ph.D. in immunology.

"My dream is to become an immunologist and work for the Government to help develop vaccines for new and current biomedical threats to the human population."

Mentor:
Dr. Kelly Johanson



Jade Meyers is a Xavier University of LA graduate and a current Lab Technician from Waggaman, LA. While attending Xavier, Jade majored in Chemistry with a minor in Biology. Jade's future goal is to become a Research Physician.

"I think that I can help more people being a research physician because I can see my patients and also have insight into their recovery by doing the research necessary to help them find a cure for whatever it is that ails them."

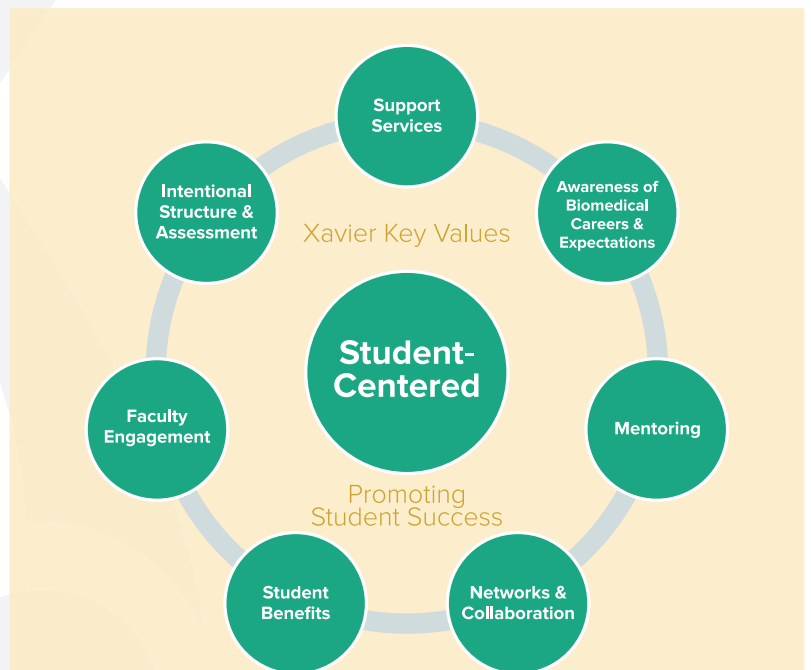
Mentor:
Dr. Cecily DeFreece



Peter Pham is a Xavier University of LA graduate and a current Lab Technician from New Orleans, LA. While attending Xavier, Peter majored in Chemistry with a minor in Biology. Peter's future goal is to attend graduate school to receive a Ph.D. as either a Polymer Chemist or a Medicinal Chemist.

"I like Chemistry in general and I would like to apply this to helping improve my education as well as save lives."

Mentor:
Dr. Maryam Foroozesh



Project Pathways was designed to build on Xavier's strengths. Through the analysis of data collected during the External Evaluators' (Office of Educational Innovation and Evaluation, Kansas State University) site visit focus groups and project management team interviews, key themes emerged which directly align to the student-centered focus.

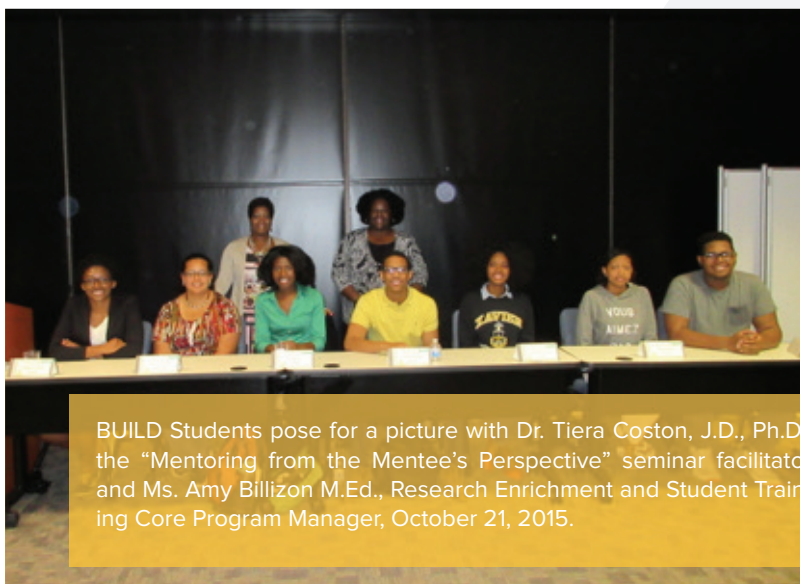


PROGRAM HIGHLIGHTS

STUDENT ACTIVITIES



BUILD Trainees visit the New Orleans BioInnovation Center, July 27, 2015.



BUILD Students pose for a picture with Dr. Tiera Coston, J.D., Ph.D., the “Mentoring from the Mentee’s Perspective” seminar facilitator and Ms. Amy Billizon M.Ed., Research Enrichment and Student Training Core Program Manager, October 21, 2015.



BUILD students pose with John Prescott M.D., Chief Academic Officer, Association of American Medical Colleges during the 13th Annual University of California Davis Pre-Medical and Pre-Health Professions National Conference, October 10-11, 2015.



BUILD and RISE students attend the 13th Annual University of California Davis Pre-Medical and Pre-Health Professions National Conference, October 10-11, 2015.



PROGRAM HIGHLIGHTS

STUDENT ACTIVITIES



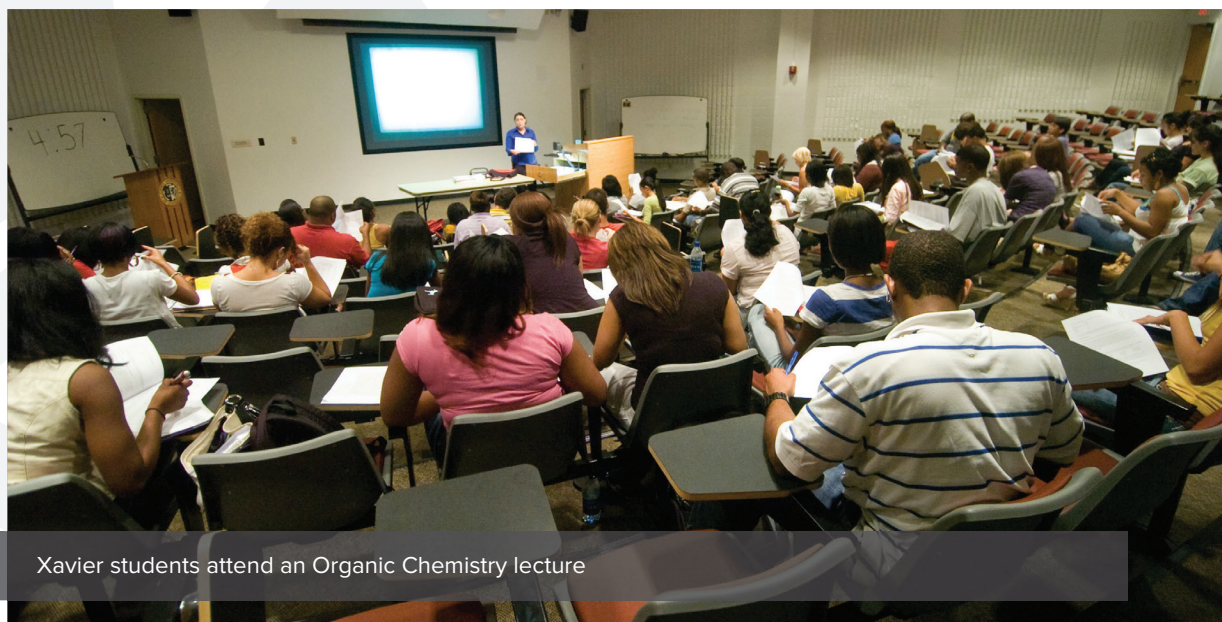
BUILD Technician, Justin Grennell and RISE Scholar, Deanna-Kaye Daley, present at the Annual Biomedical Research Conference for Minority Students (ABRCMS) in Seattle, WA, November 2015.



BUILD Participants meet with Dr. Algernon Kelley from SUNY Brockport, in a session on "Self-Confidence", February 2016.



Presidential Inauguration

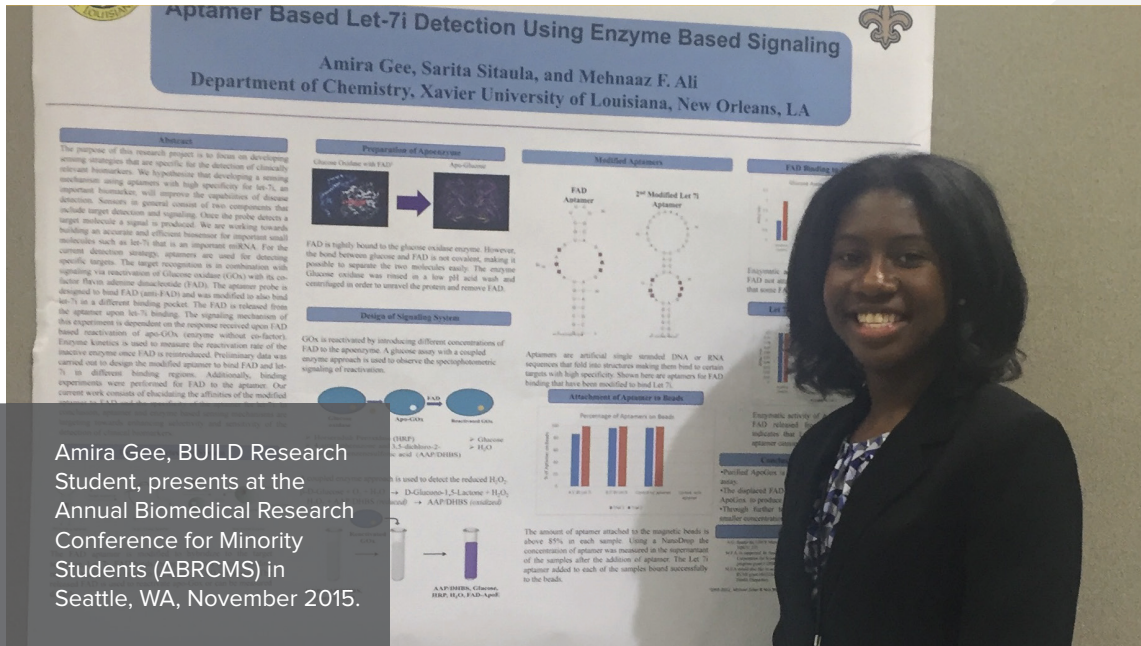


Xavier students attend an Organic Chemistry lecture

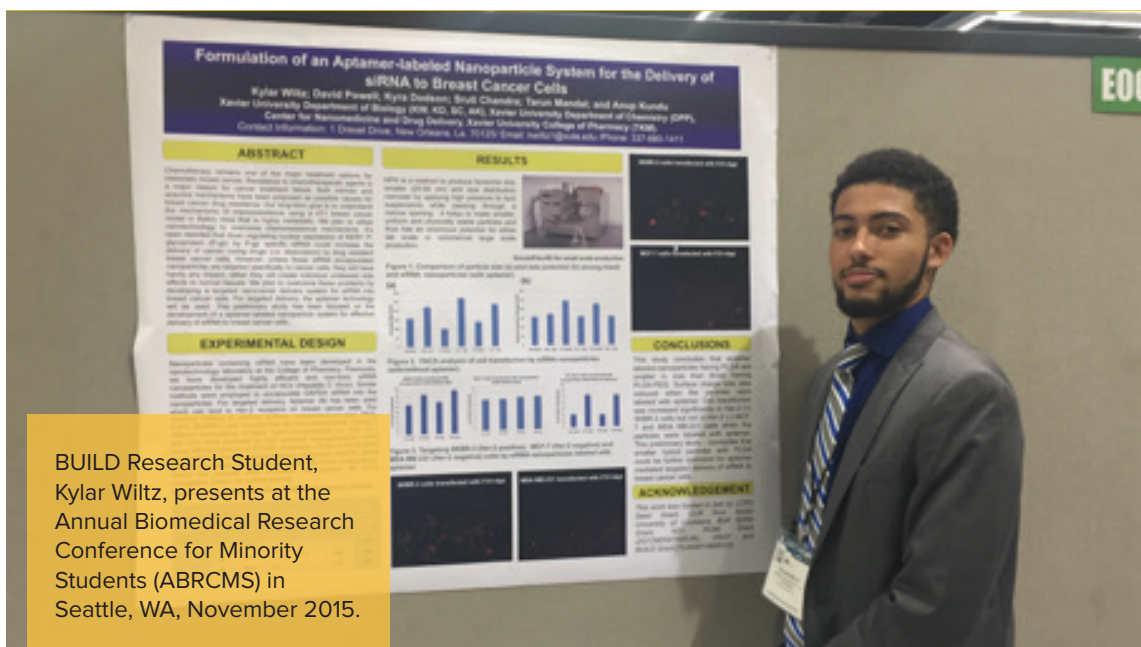


PROGRAM HIGHLIGHTS

STUDENT ACTIVITIES



Amira Gee, BUILD Research Student, presents at the Annual Biomedical Research Conference for Minority Students (ABRCMS) in Seattle, WA, November 2015.



BUILD Research Student, Kylar Wiltz, presents at the Annual Biomedical Research Conference for Minority Students (ABRCMS) in Seattle, WA, November 2015.



LOUISIANA RESEARCH SUMMIT

University Medical Center New Orleans · February 16, 2016

LOUISIANA RESEARCH, NATIONAL IMPACT



BUILD Scholars, Hakeem Brooks and Veronica Miles, join other Louisiana students at a meeting with Dr. Francis S. Collins, M.D., Ph.D., Director of the National Institutes of Health (NIH).



BUILD students join other Xavier students in a visit to Louisiana State University in Baton Rouge, January 2016. Also pictured are Dr. Gloria Thomas (LSU) and Dr. Ja'Wanda Grant.



OFFICES AND CENTERS INVOLVED IN PROJECT PATHWAYS STUDENT ACADEMIC SUCCESS OFFICE

The mission of Xavier's Student Academic Success Office (SASO) is to improve retention and graduation rates of Xavier students by offering academic support through tutoring, supplemental instruction (SI), and academic success workshops. These services were originally offered only to freshman and transfer students taking introductory courses in biology, chemistry, physics, and mathematics. Writing and Reading centers are also available to all Xavier students through

this office. Using BUILD funding support, SASO has expanded its tutoring services and supplemental instruction to include sophomore- and junior-level courses.



FALL FORWARD

SUCCESS COMES TO THOSE WHO
#PUTINTHEWORK

STUDENT SUCCESS WORKSHOP SERIES

THROWBACK THURSDAY WORKSHOPS
PAST WORKSHOPS. REPEATED. DON'T MISS OUT, AGAIN.

THURSDAYS
AT 4PM

SEPT 24

WORKSHOP

1

WAS THAT TODAY?
GETTING CONTROL
OF YOUR TIME

OCT 15

WORKSHOP

2

THIS CAN'T WAIT
PROCRASTINATION +
TEST ANXIETY

OCT 22

WORKSHOP

3

IT'S YOUR CHOICE
MAKING STRATEGIC
CHOICES

NOV 5

WORKSHOP

4

THE METHOD
HOW TO STUDY
SMARTER

NOV 19

WORKSHOP

5

HEARD ENOUGH?
THE POWER OF
LISTENING

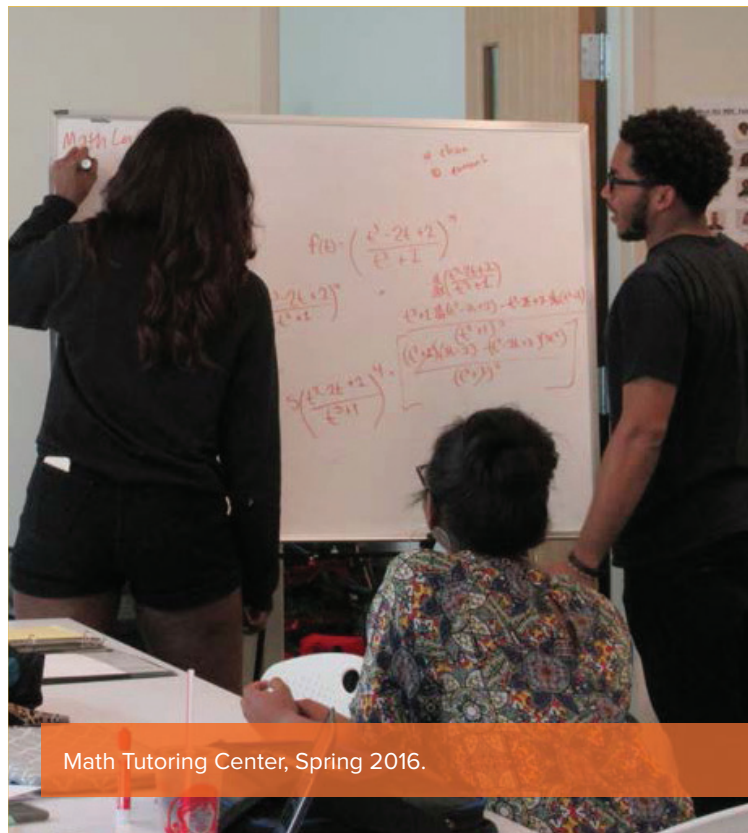
FOLLOW
XULA_SASO

LOCATION: ST. JOSEPH ACADEMIC +
HEALTH RESOURCE CENTER ROOM 111

WORKSHOPS ARE FREE & OPEN TO ALL XAVIER STUDENTS
PRESENTED BY THE STUDENT ACADEMIC SUCCESS OFFICE



Organic Chemistry
Tutoring Center,
Spring 2016.



Math Tutoring Center, Spring 2016.



OFFICES AND CENTERS INVOLVED IN PROJECT PATHWAYS CAREER ADVANCEMENT CENTER

The Xavier University Career Advancement Center (CAC) currently offers comprehensive services to all Xavier students to assist them in their transition from undergraduate study to graduate/professional school or employment. The purpose of the CAC is to provide coordinated and focused professional development programs and services to Xavier students to ensure that they are optimally prepared to enter graduate school, professional school, or the workforce upon completion of Xavier's undergraduate degree programs. Xavier's well-documented leadership in producing African American scientists has long been credited to both their academic preparation combined with the formative support these students receive from the CAC's professional staff in preparing them to reach their career goals. This especially holds true for students majoring in STEM disciplines who comprise the largest percentage of the Xavier student body.

Xavier's signature professional programs in Pre-Medicine and Pre-Pharmacy are very popular since students easily identify with the aforementioned careers and clearly see the pathway to success. However, many of Xavier's students are unaware of biomedical careers outside of medicine and pharmacy. Through a series of broad-based workshops, the CAC assists BUILD students in gaining a better understanding of the nature of biomedical research careers beginning in the freshman year. Early exposure to biomedical research career paths allows students the opportunity to build the skills necessary for success. In addition, when motivated to pursue a career, students

are more likely to engage in their courses, which leads to enhanced retention and improved graduation rates. The CAC's goal is to guide students through a process that results in the ability for each student to:

- Identify a specific biomedical research interest;
- Obtain experiences that advance their research skills; and
- Develop the tools needed to be accepted to and succeed in graduate programs.



BUILD SPEAKER SERIES (HOMECOMING EDITION)

Wednesday, November 18th, 2015
UC: Rm 205 C
12:15- 1:00 pm



DR. BRITTANY ALLISON

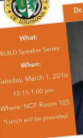
Brittany is a PhD Candidate at Xavier University. She completed her BS in 2009 from Xavier. As a graduate student in the lab of Dr. Jens Meiler, she studies protein-protein interactions and uses computational methods to design protein-ligand interfaces. Scientifically, she is interested in the basis of recognition between molecules. Her research focuses on computational protein design, protein binding, and methods to detect and

PROJECT PATHWAYS BUILD SPEAKER SERIES

Dr. Gloria Thomas, LSU



Dr. Leah Warner, LSU



Dr. Gloria Thomas is an Assistant Professor of Chemistry, Education and Mentoring Program, and the LSU Center of Energy Research and Energy Storage. She has received numerous awards for her work in education, including the National Science Foundation CAREER award in 2008. She is currently a member of the National Academy of Sciences (NAS) and the American Chemical Society (ACS). She is also a member of the National Black Leadership Initiative Institute (NBLII) and the National Black Leadership Initiative Institute (NBLII).

CAREER ADVANCEMENT CENTER PRESENTS... PATHWAYS TO YOUR FUTURE

SCHEDULE OF EVENTS

- September 21 - 3rd Floor
- September 22 - 205 C
- September 22 - 205 C
- September 23 - 205 C
- September 23 - 205 C
- September 24 - 205 C
- September 24 - 205 C
- September 24 - 205 C
- September 25 - 205 C
- September 25 - 205 C

Career Services

Center for Intercultural and International Programs

Graduate Placement



IMPORTANT INFORMATION, FOOD, FUN & DOOR PRIZES

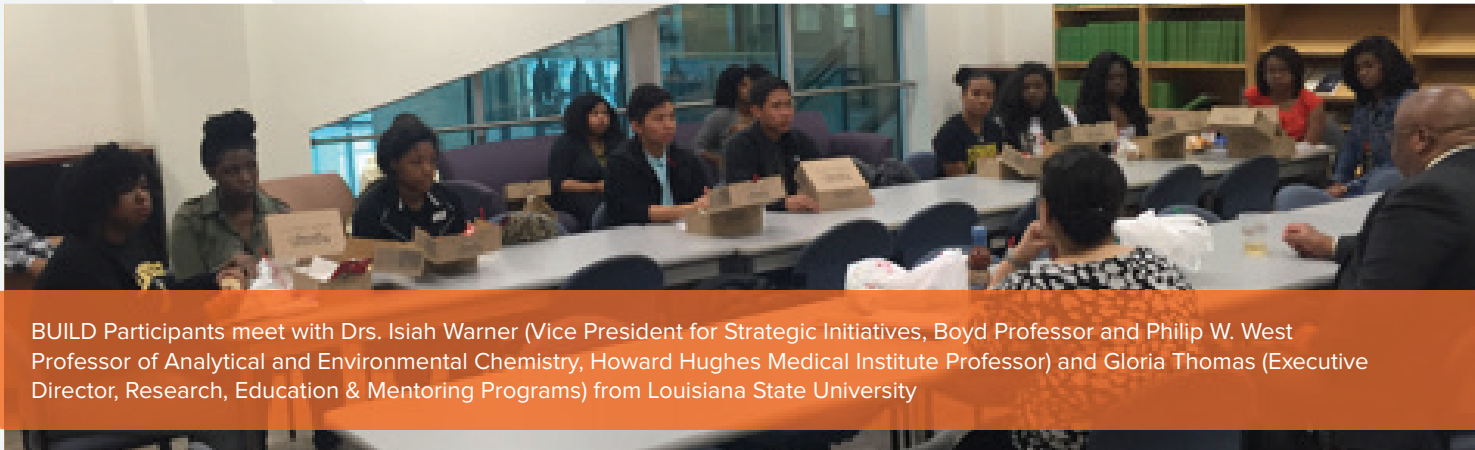




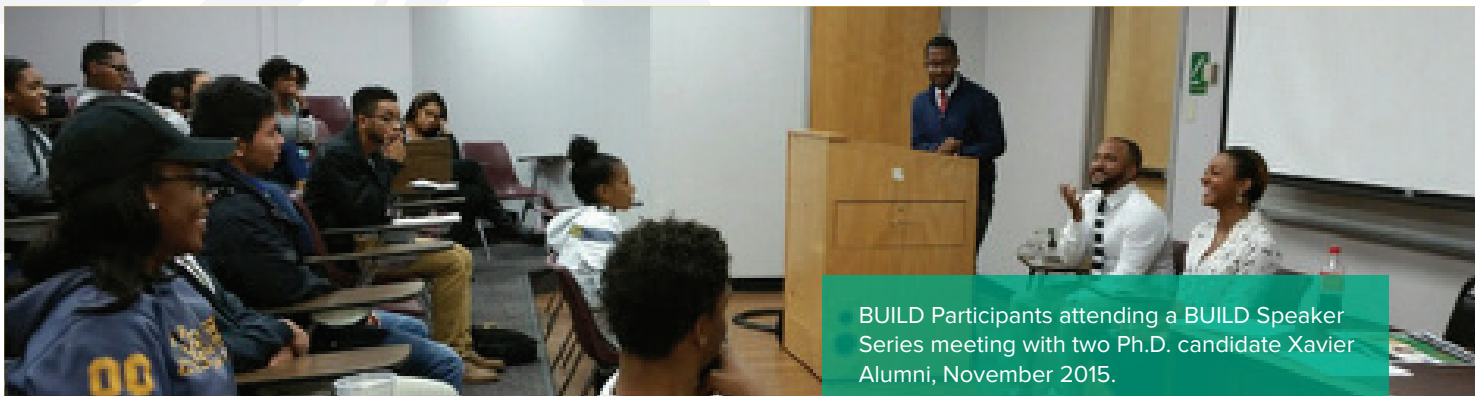
CAC Career Advisors, Mr. Logan Perkins and Ms. Raychell Watson, and CAC Assistant Director, Ms. Donna Lee (center), provide career information to STEM students in the Norman C. Francis Science Building, February 2016.



BUILD Participants meet with Drs. Isiah Warner (Vice President for Strategic Initiatives, Boyd Professor and Philip W. West Professor of Analytical and Environmental Chemistry, Howard Hughes Medical Institute Professor) and Gloria Thomas (Executive Director, Research, Education & Mentoring Programs) from Louisiana State University



BUILD Participants attending a BUILD Speaker Series meeting with two Ph.D. candidate Xavier Alumni, November 2015.





OFFICES AND CENTERS INVOLVED IN PROJECT PATHWAYS

THE CENTER FOR THE ADVANCEMENT OF TEACHING AND FACULTY DEVELOPMENT

The Center for the Advancement of Teaching and Faculty Development (CAT+) supports the development of Xavier's faculty across all career stages and areas of professional responsibility. Faculty are supported in their teaching, mentoring, scholarship, service, and work/life balance. CAT+ provides comprehensive facilities and resources, creative and relevant initiatives, and expert staff. Because effective mentoring is at the heart of Xavier's Project Pathways, CAT+ provides specific support to faculty in developing and nurturing their mentoring relationships through the Preparing Mentors and Advisors at Xavier (P-MAX) mentor training program. P-MAX is designed to provide participating faculty with the knowledge and skills needed to mentor and advise undergraduate students, particularly those engaged in research. The Program addresses topics such as mentor-mentee communication, goal- and expectation-setting, cultural

competence, issue identification and resolution, and best practices for good mentoring and advising. Faculty are also provided a repository of resources to support their growth as mentors. The Program begins with an intensive, day-long, workshop followed by at least three additional one-hour workshops during each of the subsequent fall and spring semesters. Case studies are routinely used to stimulate discussion on the topic to be addressed, and faculty are encouraged to bring their own real-world experiences for discussion. P-MAX programming is made accessible, relevant and inviting and by offering varying formats (panel discussions, hands-on workshops, seminars), locations (program locations vary across campus and online) and expert presenters/facilitators (outside speakers and consultants are frequently brought in to conduct workshops and seminars and advise CAT+ staff).



THE SCIENCE EDUCATION RESEARCH GROUP

The Science Education Research Group (SERG) is an open forum of faculty who meet bi-weekly to bring questions, concerns or suggestions related to teaching and learning for discussion with each other. SERG meetings are informal and multidisciplinary. These meetings were revived in the Fall of 2013 to encourage and support collaboration

and communication among and between science and non-science faculty. Topics discussed are suggested by the faculty participants, and discussions are facilitated by the Project Pathways' Education Improvement Specialist (EIS), Dr. Tiera Coston. The EIS also provides support in the form of topic research and presentation of pedagogical trends.



Science Education Research Group (SERG) Meeting, February 2016.



Faculty members participate in a discussion at the NRMN workshop “Culturally Aware Mentoring”, January 2016.



FACULTY TESTIMONIALS

ABOUT SERG:

“I like that SERG gives me an opportunity to interact with faculty from other departments in a structured, but not overly structured, way. Having a regular schedule of meeting times is helpful, but I like that each of these meetings are mostly open discussion. Knowing the topic ahead of time allows me to reflect a bit before the meeting, but what I value most is hearing my colleagues thoughts and ideas, and bringing some of this back to my own classroom.”

Dr. Michael Adams, Chemistry

“The SERG meetings have been a great opportunity to learn more about what other scientists on campus do, and they have helped me broaden my perspective as a result. That nature of the meetings encourages a more broad approach to science so that we can all speak the same language, and that different view of the field is great for seeing my own work through a fresh lens. The no-pressure tone of the meetings makes them a refreshing break from an otherwise hectic day, and I look forward to talking with my colleagues each time.”

Dr. Elliott Hammer, Psychology



PROJECT PATHWAYS

NIH BUILD AT XULA

BUILDING INTEGRATED PATHWAYS TO
INDEPENDENCE FOR DIVERSE BIOMEDICAL RESEARCHERS





FACULTY PILOT RESEARCH PROJECTS

To assure engagement of Xavier students in quality research experiences, it is important to have a faculty who are nationally research competitive. Toward this end, to address the need for junior faculty mentoring and release time, the need to expand Xavier's collaborative research network, and to expose our undergraduates to a broader range of research opportunities mentored and guided by a Xavier and often a partner institution faculty member, pilot projects are being funded. Initially it was anticipated that 5 pilot projects per year would be awarded. However, Xavier was able to partner with two other programs and awarded 13 projects in year 2 engaging 32 students. Pilot Project applicants/awardees fall into one of the following two categories: (1) recently hired faculty who need start-up funding

and (2) more experienced investigators with current or recently terminated external grant support who are seeking bridge funds to keep their laboratories functioning while they seek longer term external funding. Pilot project PIs are expected to work with BUILD Scholars and other Xavier undergraduates seeking research experiences to develop a well-defined research experience and, where applicable, to identify a collaborator from a partner institution who also will involve students in their lab during the summer. In addition, the Xavier investigator is required to participate in BUILD related activities such as mentor training workshops, grant writing workshops and relevant inter-institutional research seminars.

PARTNER INSTITUTIONS

Project Pathways involves 2 "core partners," Tulane University, and Louisiana State University (LSU) Health Sciences Center in New Orleans. In addition, 13 other universities are partnering in Project Pathways, namely, Emory University, George Washington University, Johns Hopkins University, Meharry Medical College, University of California San Francisco, University of Rochester, Dartmouth, Boston University, University of Chicago, University of California Davis, New York University, Icahn School of Medicine at Mount Sinai, and University of Wisconsin-Madison. Each Partner has a

"Liaison" who is responsible for:

- Connecting Xavier faculty/researchers to potential senior, highly successful faculty at their institution to form collaboration and mentoring relationships;
- Helping to increase the number of Xavier students who become involved in their faculty members' research labs and/or participate in their REU programs; and
- Encouraging faculty at partner institution who are involved with Xavier students to enroll in Xavier's P-Max mentoring program or a similar one at their institution.



PROGRAM EVALUATION

Due to the very complex nature of the BUILD programs across the country, an extended and interlinked evaluation system has been put in place to thoroughly assess and evaluate each individual BUILD program while assessing the success and national contributions of the overall NIGMS BUILD initiative. For Project Pathways, internal and external evaluation teams have collaborated with each other and the Coordination and Evaluation Center (CEC) at the University of California Los Angeles (UCLA) to ensure that project goals and deadlines are accomplished. An external evaluation of the Project Pathways is being performed by the Office of Educational Innovation and Evaluation (OEIE) at the Kansas State University, College of Education. Focusing on both formative and summative evaluation methods, Xavier’s evaluation team is currently developing predictive analytic plans as more data becomes available for analysis.

OEIE has recently completed an evaluation site visit to Xavier. The following passage is taken from their official evaluation report:

“In order to understand the context in which the BUILD Project at Xavier University of Louisiana is being implemented, OEIE asked participants to describe what supports student success at Xavier. Participants then provided one word or phrase that came to mind about Xavier promoting student success. Utilizing these responses, the resulting word cloud represents Xavier’s culture: centered on students with prominent core values reflected largely amongst an array of beliefs, activities, and people that contribute to success.”







Pictures by **Mr. Irving Johnson, III**, University Photographer and Media Specialist, **Vincent Simmons**, Technical Support Specialist, Technology Administration and **Ms. Amy Billizon**, BUILD STC/REC Program Manager



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