

Year 2019 -2020

HBCU-UP Scholars

1. Valeria Brown (Biology major)
2. Ashanti Brownlow (Biology major)
3. Caleb Cooper (Biology major)
4. Olive Cooper (Biology major)
5. Brittnie-lee Duffus (Biology major)
6. Jessica Graham (Biology major)
7. Samuel Graves (Computer Sci. major)
8. Mallory Greer (Biology major)
9. Justin Hannah (Biology major)
10. Tashana Irving (Math major)
11. Kelsey Mathews (Biology major)
12. Cherica Scott (Math major)
13. Alitzel Serrano (Math major)
14. Sylmia Shepherd (Biology major)
15. George Taylor (Computer Sci. major)

Faculty Seed Grants

1. Caixia Chen, Ph.D., *Assistant Professor of Mathematics*, **Title of Research:** Numerical Simulation of Shock Wave Boundary Layer Interaction in Supersonic Flows Using High Order Large Eddy Simulation
2. Manliang Feng, Ph.D., *Associate Professor of Chemistry*, **Title of Research:** The Electrochemical Process on Graphene Oxide
3. Professor Sharon Streeter, *Associate Professor of Mathematics and Computer Science*, **Title of Research:** The Wildlife and Conservation Experience for STEM students

Research Conference Presentations

A. The Annual Biomedical Research Conference for Minority Students (ABRCMS) Conference, November 13-16, 2020 in Anaheim, CA

1. Jazmine Baylor, Biology Major, Title: *Effects of Shear Stress on hDA Endothelial Cells*
2. Destinee Bledsoe, Chemistry Major, Title: *The Role of p38 γ on Oligodendrocyte Progenitor Cells (OPC) Differentiation and Remyelination in Multiple Sclerosis*
3. Jammie Bozeman, Biology Major, Title: *Impact of Metformin Treatment on Hippocampal Brain-Derived Neurotrophic Factor in Active Wheel-Running Mice*
4. GerMya Bradley, Mathematic Major, Title: *Predicting the presence of Alzheimer's using Artificial Intelligence*
5. Brittnie Duffus, Biology Major, Title: *Novel Ortho-and Para-Alkylated Di-substituted Anilines with Benzylic Carbon Stereocenters Reduces the Growth of Breast Cancer Cells*
6. Daja Pegues, Biology Major, Title: *The Role of Exercise on Lupus Nephritis*
7. Samuel Graves, Computer Science Major, Title: *Chandra Experience*
8. Mallory Greer, Biology Major, Title: *Cytolytic Natural Killer Cells Play a Direct Role in Causing Hypertension and Intrauterine Growth Restriction in Pregnant Rats*
9. Jalisa Jones, Biology Major, Title: *Progesterone induced blocking Factor reduces mitochondrial dysfunction and reactive oxygen species in response to elevated sFlt-1 during pregnancy*
10. Kennadi Johnson, Biology Major, Title: *Development of a Drosophila Model of SCA1 Disease*
11. Kingsley Nwaokorie, Computer Science, Major, Title: *Utilizing LEAN Methods to Optimize Health IT Operations*
12. Kaitlin Powell, Biology Major, Title: *Association between the Severities of Hypokalemia & Primary Aldosteronism*
13. Teryn Railely, Biology Major, Title: *Association Between the Severity of Hypokalemia & Primary Aldosteronism*
14. La Shon Webb, Biology Major, Title: *Community Connectedness & its Association with Overall Health among Black MSM*

B. 2020 Emerging Researchers National (ERN) Conference, February 6-9, 2020 in Washington, DC.

Faculty:

1. Jinghe Mao, Ph.D., Title: *Implementing Basic Research Technique Workshops at Tougaloo College*
2. Manliang Feng, Ph.D., Title: *Graphene Oxide Changes the Auto-Reduction Mechanism of Bis-Fe(IV) MauG*
3. George Armstrong, Ph.D., Title: *POGIL Pedagogy Increased Student Success in Organic Chemistry I and II*

Students:

1. Kadrian Armstrong, Biology Major, Title: *Disentangling the Effects of Mass Mortality Events on Soil Food Webs*
2. Ashanti Brownlow, Biology Major , Title: *Correlation of Estrogen Receptors with Progression and Racial Disparity of Prostate Cancer4)*
3. Caleb Cooper, Biology Major, Title: *Effects of Predators on Their Prey and the Broader Ecological Communities*
4. Olive Cooper, Biology Major, Title: *Assessment of Water Quality at Ross Barnett Reservoir*
5. Jessica Graham, Biology Major, Title: *Influence of Flavonoids in Colon Cancer Cells*
6. Kelsey Mathews, Biology Major, Title: *TLR7 Agonist, Imiquimod, Stimulates Leukocyte Immune-type Receptor Expression in Channel Catfish, *Ictalurus punctatus**
7. Faren White, Biology Major, Title: *Garlic Presents a Possibility in the Management of Acute Promyelocytic Leukemia*
8. Jamease Williams, Biology Major, Title: *Magnetic Nanostructures Coupled to Antibody Fragments as Novel Probes for Molecular MRI Detection of Toxic Amyloid Beta Oligomers in Alzheimer 's disease*

C. 2020 Mississippi Academy of Science Conference: February 20-21, 2020 in Biloxi, MS

Faculty:

1. Caixia Chen, Ph.D., Title: *Study on the Formation and Evolution of Asymmetrical Vortex Structures in the Late Transitional Boundary Layer*
2. Scoty Hearst, Ph.D., Title: *A Functional Analysis of Matrix Metalloproteinases as Therapeutic Targets in Neurodegenerative Disease*
3. Lianna Li, Ph.D., Title: *Association of Different DCLK1 Isoforms with Oncogenesis and Chemo resistance of Human Colorectal Cancer*
4. Pradip Biswas, Ph.D., Title: *Structural Landscape of DNA Damage Employing Multiscale QM/MM Dynamics*

Students:

1. Valeria Brown, Biology Major, Title: *Establishment of Human DCLK1 Isoform 2 Isogenic Cells Using HCT116 Cells*
2. Brittnee-Lee Duffus, Biology Major, Title: *Association of DCLK1 With Migration and Invasion of Colorectal Cancer Cells*
3. Cherica Scott, Mathematics Major, Title: *Numerical Solution of Boundary Value Problems*
4. Cedonia Thomas, Biology Major, Title: *Coping and Resilience: Association between Positive Aspects of Caregiving and Health of Parent Caregivers*
5. Kennedy Johnson, Biology Major, Title: *Development of a Drosophila Model of Spinocerebellar Ataxia Type 1 (SCA1) Disease*
6. Justin Hannah, Biology Major , Title: *Using White-Tailed Deer as a Model to Monitor Social Network Dynamics in Urban and Rural Populations*

7. Desiree Mills, Biology Major, Title: *The Role of Matrix Metalloproteinases in the Metabolism of Atxn1 Protein Aggregates*
8. Ja'Kyra Hick, Chemistry Major, Title: *Anodic Stripping Voltammetry for Determination of Lead in Water*
9. Alexandria Morgan, Chemistry Major, Title: *Anodic Stripping Voltammetry for Determination of Lead in Water*
10. Enleyona Weir, Chemistry Major, Title: *A Structure- Activity Study on the Binding of Morin and Flavone Prototypes with Human Serum Albumin*
11. Romans Grant, Chemistry Major, Title: *Inhibition of Amyloid- β Dimer Binding Affinity with Morin Derivatives: A Molecular Dynamics and Temperature- Dependent Study*
12. Micah Robinson, Chemistry Major, Title: *Microwave-Assisted Alkylation of Disubstituted Anilines: Alkylation of 2,4- Dimethylaniline with Vinylarenes and MTT ASSAY Test of these Drugs on Prostate Cancer Cells*
13. Melann Bender, Chemistry Major, Title: *Microwave-Assisted Alkylation of Disubstituted Anilines: Alkylation of 2,4- Dimethylaniline with Vinylarenes and MTT ASSAY Test of these Drugs on Prostate Cancer Cells*