

LSUMARC

ANNUAL NEWSLETTER

Fall 2022



Message from the Director



It is exciting to be back 100% in-person on campus after one year of online courses and virtual meetings due to the COVID pandemic. I am very proud of our MARC scholars and all they have achieved in the past year! Despite the pandemic, our MARC scholars continued to learn, develop their research and communication skills, and expand their network of mentors. The first cohort of MARC students graduated during the past academic year and are currently enrolled in various graduate pro-

grams across the US. The second cohort just came back from their exciting summer research experiences at different institutions, while the third cohort is actively conducting and promoting biomedical research at LSU. I can't wait to hear about all their accomplishments in the upcoming year. Geaux Tigers!

Graça Vicente, Ph.D.
Director, Maximizing Access to Research Careers (MARC) Program
Boyd Professor and Charles H. Barré Distinguished Professor of Chemistry

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MARC Scholar Profiles

2022-2023

Rachael Coates, Junior

Major: Biological Sciences

Faculty Mentor: Dr. Elizabeth Martin, Assistant Professor, LSU Department of Biological and Agricultural Engineering

Research Topic: Identifying the role of MAPK15 in triple-negative breast cancer

Macallister Davis, Senior

Major: Chemistry

Faculty Mentor: Dr. Victor Garcia-Lopez, Assistant Professor, LSU Department of Chemistry

Research Topic: Artificial molecular machines to interrogate and modulate cell function

Sarah Delhaye, Senior

Major: Biological Engineering

Faculty Mentor: Dr. Adam Melvin, Associate Professor, LSU Department of Chemical Engineering

Research Topic: 3D cell migration

Maya Dunn, Junior

Major: Chemistry

Faculty Mentor: Dr. Graça Vicente, Professor, LSU Department of Chemistry

Research Topic: Synthesis and functionalization of asymmetric bis(borondifluoro) fluorophores based on pyrrole and pyrazine

Alexa Gonzales, Senior

Major: Microbiology

Faculty Mentor: Dr. Jeremy Brown, Professor, LSU Department of Biological Sciences

Research Topic: Evolution and biodiversity of SARS-CoV-2 genomes

Sarah Jimenez, Senior

Major: Biological Engineering

Faculty Mentor: Dr. Elizabeth Martin, Assistant Professor, LSU Department of Biological and Agricultural Engineering

Research Topic: Evaluation of estrogenic effects of phytochemicals on breast cancer cell lines

Katy Knecht, Junior

Major: Chemistry

Faculty Mentor: Dr. Noemie Elgrishi, Assistant Professor, LSU Department of Chemistry

Research Topic: Solution stability studies on nitrogen oxyanions

Jemiah Maxi, Junior

Major: Biological Sciences

Faculty Mentor: Dr. Tammy Dugas, Professor, Department of Comparative Biomedical Sciences, LSU School of Veterinary Medicine

Research Topic: Effects of environmentally persistent free radicals on vascular health

Zoe Patton, Senior

Major: Chemistry

Faculty Mentor: Dr. Justin Ragains, Professor, LSU Department of Chemistry

Research Topic: The synthesis and investigation of selenouranium chloride salts

Kaitlyn Perkins, Junior

Major: Biological Sciences

Faculty Mentor: Dr. Sita Withers, Assistant Professor, Department of Veterinary Clinical Sciences, LSU School of Veterinary Medicine

Research Topic: Investigating tumor microenvironment in canine and human osteosarcoma

Kyron Thomas, Junior

Major: Chemistry

Faculty Mentor: Dr. Andrew Maverick, Professor, LSU Department of Chemistry

Research Topic: Chromism of platinum based complexes

Chelbye Turner, Senior

Major: Chemistry

Faculty Mentor: Dr. Tammy Dugas, Professor, Department of Comparative Biomedical Sciences, LSU School of Veterinary Medicine

Research Topic: 2-D cell culture model to test whether particulate matter air pollution induces vascular dysfunction

MARC Graduates



Iyana Charles

B.S., Kinesiology

Post graduation: M.S. program; Johns Hopkins University



Mia Goodson

B.S., Psychology

Post graduation: Applying to Ph.D. programs in clinical neuroscience



Aaryana Jones

B.S., Biological Sciences

Post graduation: Applying to graduate programs



Alejandra Ham

B.S., Biological Engineering

Post graduation: M.S. program in Biological Engineering, LSU



Calli Nguyen

B.S., Biological Sciences

Post graduation: M.S. program in Biomedical Sciences and Health Equity, Baylor College of Medicine



Kiara Warren

B.S., Psychology

Post graduation: Ph.D. program in clinical psychology, LSU

Summer Research Experiences

This past summer, the second cohort of MARC scholars conducted research at an extramural site to further develop their research skills and foster personal and career development. The SRE 2 experience formally connects MARC scholars with mentors, research projects, and potential graduate programs at other institutions.

Macallister Davis

Dr. Kjersti Aagaard, Baylor College of Medicine

Sarah Delhaye

Dr. William Polacheck, University of North Carolina, Chapel Hill

Alexa Gonzalez

Dr. Cintia de Paiva, Baylor College of Medicine

Sarah Jimenez

Dr. Jane Grande-Allen, Rice University

Zoe Patton

Dr. Bill Wuest, Emory University

Chelbye Turner

Dr. Jeffrey Berger, NYU Langone



MARC Scholar Zoe Patton at Emory University

“The thing that I most enjoy about research is that I know that although it may not seem like it at the time, the research I do today adds to the preexisting scientific knowledge and could very well make a difference in the lives of cancer patients one day, either by informing current treatment plans or by discovering new treatment options.”

- Rachael Coates, LSU MARC Junior and [2022-23 Astronaut Scholar](#)



MARC Scholar Macallister Davis

Distinguished Researchers

MARC graduates **Calli Nguyen**, **Mia Goodson**, **Alejandra Ham**, and **Aaryana Jones** were named 2022 Distinguished Researchers. The LSU Distinguished Undergraduate Researcher designation recognizes the achievements of outstanding LSU undergraduates who participate in a track of educational and research activities leading to a final and public presentation or publication of a faculty-mentored undergraduate scholarly project. Distinguished Researchers are honored at a special medal ceremony in their graduating semester and the designation is noted on their transcripts.



Presentation Awards

LSU MARC Scholar graduate **Iyana Charles** received first place for the College of Human Sciences and Education at the 2022 LSU Discover Day.

Macallister Davis, MARC senior, received an Outstanding Presentation in Chemical Synthesis Award at the 2022 Gulf Coast Undergraduate Research Symposium at Rice University and third place monetary poster award for the College of Science at 2022 LSU Discover Day.

LSU MARC Scholar graduate **Mia Goodson** received first place for the College of Humanities and Social Sciences at the 2022 LSU Discover Day.

Chelbye Turner, MARC senior, received second place for her poster under the College of Science division at the 2022 LSU Discover Day.

Scholar Publications

Balaji, S., Short, W.D., Padon, B.W., Prajapati, T.J., Farouk, F. Kaul, A., Belgodere, J.A., **Jimenez, S.E.**, Deoli, N.T., Guidry, A.C., Green, J.C., Son, D., Keswani, S., Jung, O.S., Astete, C.E., Kim, M., Jung, J.P. (2022). Engineering Antioxidant and Oxygen-Releasing Lignin Composites to Accelerate Wound Healing, *bioRxiv*. DOI: [10.1101/2022.03.18.484913](https://doi.org/10.1101/2022.03.18.484913)

Cohen, A.S., Rodriguez, Z., **Warren, K.K.**, Cowan, T., Masucci, M.D., Granrud, O.E., Holmlund, Y.B., Chandler, C., Foltz, P.W., Strauss, G.P. (2022). Natural Language Processing and Psychosis: On the Need for Comprehensive Psychometric Evaluation, *Schizophrenia Bulletin*, 48, 5, 939–948. DOI: [10.1093/schbul/sbac051](https://doi.org/10.1093/schbul/sbac051)

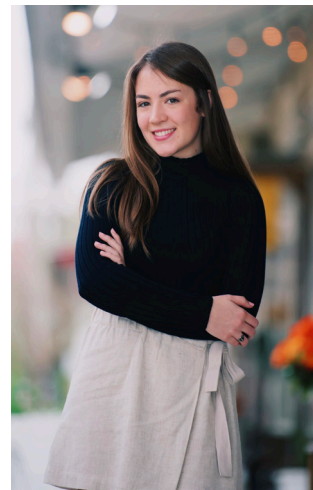
Minor, K.S., Myers, E.J., Abel, D.B., Mickens, J.L., Ayala, A., **Warren, K.K.**, Vohs, J.L.. (2022). Stuck Inside: How Social Functioning in Schizophrenia Changed During the COVID-19 Pandemic. *The Journal of Nervous and Mental Disease*. DOI: [10.1097/NMD.0000000000001558](https://doi.org/10.1097/NMD.0000000000001558)



2022 Tiger Twelve

Alejandra Ham

MARC scholar and graduate Alejandra Ham received a 2022 LSU Tiger Twelve designation, which recognizes 12 outstanding seniors per year that contribute positively to the life of the campus, surrounding community and society, and who demonstrate commitment to intellectual achievement, inclusive excellence, leadership, and service. [Learn more](#)



Mia Goodson

MARC scholar and graduate Mia Goodson received the **2021 Paul C. Young Outstanding Graduate in Psychology Award**. Mia was a Supplemental Instruction (SI) Leader since her sophomore year and successfully defended her honors thesis through Dr. Paul Soto's Behavioral Psychopharmacology Lab looking at the effects of olanzapine on weight gain and sucrose preference in mice.

Conference Presentations

Iyana Charles

LSU Discover 2022

Alexa Gonzalez

LSU Discover 2022

Katy Knecht

LSU Discover 2022

Oluwatobi Ojemakinde

ABRCMS 2021

Rachael Coates

LSU Discover Day
2022 LS PAC Models

Mia Goodson

LSU Discover 2022

Calli Nguyen

LSU Discover 2022

Chelbye Turner

2022 LS-PAC Model Conference

Macallister Davis

LSU Discover Day
2022 NOBCCHE Conference
2022 GCURS at Rice University

Alejandra Ham

LSU Discover 2022

Zoe Patton

LSU Discover 2022

Kiara Warren

LSU Discover 2020
2021 Society for Affective Science
2021 Society for Research in Psychopathology

Sarah Delhaye

LSU Discover 2022

Sarah Jimenez

2022 LSU Discover
Society for Biomedical Engineering Conference 2022

Kyron Thomas

LSU Discover 2022
2022 NOBCCHE conference

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Graça Vicente, Ph.D.

Director, Maximizing Access to Research Careers Program
Boyd and Charles H. Barré Distinguished Professor of Chemistry

Gabela Nelson

MARC Graduate Student, supported by the LSU College of Science

Tyrslai Williams-Carter, Ph.D.

Assistant Dean of Mentorship, Education, & Research
LSU Graduate School

Mahannah El-Farrak

MARC Graduate Student, supported by the College of Human Sciences & Education.

Gretchen Schneider, Ph.D.

MARC Manager