



The Morganton Scientific

North Carolina School of Science and Mathematics

Journal of Student STEM Research

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Words from the Editor

Welcome to the *Morganton Scientific*, the first edition of the STEM research journal at the North Carolina School of Science and Mathematics in Morganton, North Carolina. This journal showcases student research spanning a variety of fields, including Biology, Chemistry, Engineering, Physics, Computer Science, Mathematics, and interdisciplinary topics.

As members of the first graduating class of NCSSM-Morganton, we filled the blank pages with new stories and milestones that have and will shape our high school career and beyond. During these two years, we've embarked on a new journey together with Mrs. Jennifer Williams, the Chair of Science and advisor of *Morganton Scientific*. Although we initially only knew of each other, through our collaborations in establishing this journal and bonding over our love for science communication, all of us have reflected upon the true meaning of being inaugural.

Fittingly, this year's theme is DNA. Just as DNA establishes the underlying code for life, we hope this journal will establish a new beginning in encouraging students to explore the sciences, at NCSSM, the greater community of North Carolina, and more. Our hope is that students from all around read this journal and are inspired to come to NCSSM and/or discover the world of research.

A novel way to showcase research, the *Morganton Scientific* is only the start of the journey. We hope that future years are able to add on to this product, and as DNA mutates and evolves, the journal will as well.

As a journal by and for emerging scientists, it was important to us that we created a medium that progressed with the scientific community. As open science is becoming further integrated into how we share our research, *Morganton Scientific* wanted to follow this example by using MyST, an open-source tool designed to make research transparent, accessible, and inclusive. MyST allows us to make our pieces machine readable, and thus more accessible to online queries. It enables us to be transparent about the research we share, as we can include the data sets or code used for each experiment, making them more easily reproducible. We would like to thank Mr. Taylor Gibson for introducing us to this amazing tool and giving us his time and expertise to help launch the online portion of this journal.

Finally, we would like to give a special thank you to Ms. Jennifer Williams, Dr. Amy Sheck, Mr. Taylor Gibson, Rowan Cockett, Dr. Jonathan Bennett, and Mr. Kevin Baxter for their continuous support in the creation of this journal.

Bianca Chan, Kovida Vupputuri, Lara Dincer, Tanvi Sharma, and Rachel Joel
Founding Editors