2024-2025
ASR Informational Resource

Instagram @ASR_LHS

Table of Contents

ASR Admin/ Staff	**4**
ASR Institutional Review Board	**5**
ASR Advisory Board	**6-8**
Academy Background	**9**
Course Descriptions	**10**
Internships & Affiliations	**11**
Academy Oath	**12**
Expectations of Students	**13**
2024-2025 Calendar of Events	**14**
2024- 2025 Important Competition Dates	**15-16**

Mr. Ian Sherman, Principal

Mr. Sherman is celebrating his 12th year as Principal of Lincoln High School and is the recipient of the Leadership in Education Award through the Yonkers Public Schools. He received a Bachelor of Science in Business from the University of Buffalo as well as two Masters degrees. One from Long Island University in Elementary & Special Education and the other from Mercy College in School Administration & Supervision. He understands what is necessary to produce positive academic and social-emotional outcomes for the students and personifies the spirit, dedication, and accomplishments of an outstanding instructional leader. Every day, he looks forward to working with young adults and helping them reach their full potential. As a result, he led Lincoln High School to its highest graduation rate in decades.

Mr. Jonathan Morano, Assistant Principal

Mr. Morano is currently in his fourth year as the assistant principal at Lincoln High School and his 14th year in administration. This is Mr. Morano's third year overseeing the Academy of Scientific Research. He holds a BA in History and Education, a Master of Professional Studies in Special Education and a Masters of Science in School Building Leadership. In addition to his work at Lincoln High School, he serves as an Adjunct Professor of Education at CUNY. To Mr. Morano, there is no greater passion than allowing students to fall in love with learning.

Mrs. Sunitha Howard, Director/ Instructor

Mrs. Howard is a product of the Yonkers Public School district and a NYS Master Teacher with a license in 7-12 General Science and Biology. She received her B.S. from Lehman College in Anthropology- Biology-Chemistry and her M.P.H from Columbia University. She is in her third year as Director and was recently named an Advocate for the Society for Science. She also received the distinction of Yonkers Teacher of the Year for the 2021-2022 school year. She believes that all children should grow up in a supportive, safe and nurturing environment where they are respected and loved. An educated and empathetic child makes better decisions for themselves and others, growing up to be a well-informed and successful member of their community. She strives to look at the whole child and help remove obstacles that might impede learning so children can succeed. In her eyes, It is through their success that she succeeds!

INSTITUTIONAL REVIEW BOARD

Mr. Jonathan Morano, Assistant Principal

Mr. Morano is currently in his fourth year as the assistant principal at Lincoln High School and his 14th year in administration. This is Mr. Morano's third year overseeing the Academy of Scientific Research. He holds a BA in History and Education, a Master of Professional Studies in Special Education and a Masters of Science in School Building Leadership. In addition to his work at Lincoln High School, he serves as an Adjunct Professor of Education at CUNY. To Mr. Morano, there is no greater passion than allowing students to fall in love with learning.

Mr. Roger Crawford, Social Worker

Mr. Crawford is a Yonkers Public Schools Social Worker who splits his time between Lincoln High School and the Barack Obama School for Social Justice. He received his Bachelors degree in Psychology from Brooklyn College. He later went on to graduate from Yeshiva University with a degree in Clinical Social Work and then an advanced degree in Public School Administration from the City University of New York. Mr. Crawford has practiced Social Work for over 25 years in multiple capacities.

Ms. Kathleen Mancuso, Science Teacher

Kathleen Mancuso is a high school chemistry teacher at Lincoln High School. She completed her undergraduate degree in chemistry education at Manhattan College in Bronx, NY. She completed her graduate degree in Science education with a concentration in geology at CUNY Lehman in the Bronx, NY. During her time at Manhattan College, Kathleen collaborated with various faculty, teachers and students to publish research on STEM education. Through the support of various National Science Foundation grants, the papers were accepted by the American Society for Engineering Education (ASEE) and presented in 2016 and 2017. Kathleen is an advisor for My Sister's Keeper: Yonkers, a culturally responsive initiative to empower young women and the Lincoln High School chapter of Science National Honors Society.

ASR ADVISORY BOARD

Kathryn Burke

Kathryn Burke, long time educator and author, is currently director of Historic Bridges of the Hudson Valley. She focuses her expertise and time on providing opportunities for educators to create project-based, authentic STEM opportunities for their students. Utilizing the history and maintenance of the five Hudson River bridge crossings of the NYS Bridge Authority, Kathryn encourages real-world STEM experiences that require research and examination of the science of past, current, and the possibilities for future infrastructure technologies.

Dr. Richard Carbonaro

Dr. Carbonaro is a Professor of Chemical Engineering at Manhattan College in Riverdale, NY. In his position at the College, he conducts research and teaches courses on environmental chemistry, chemical kinetics, and mathematical modeling of chemical processes. He has worked as an engineer for approximately twenty years, specializing in the fate and transport of contaminants in soil, groundwater and sediments. His research focuses on the fate and transformations of organic and inorganic chemicals in engineered and natural environments. In addition, he also consults for various clients on a range of environmental engineering topics, including remediation of organic and inorganics in soil and groundwater, water quality, contaminant fate and transport, groundwater geochemistry, and environmental forensics.

Crystal DiMiceli

Crystal has over twenty years of experience in environmental education, sustainability, and conservation. She currently works as an environmental educator and podcast producer dedicated to helping people answer the question, “But what could I possibly do to make a difference for the environment?”. She does this through her podcasts, *Forces for Nature* and *The Healthy Seas Podcast*, and her educational programming geared for schools and businesses, the *EcoAction Lab*. Prior, she worked for the Wildlife Conservation Society, National Geographic / Solimar, and the Smithsonian Institution. Crystal holds a B.Sc. in Environmental Studies and an M.P.A in Nonprofit Management.

Monica Lopez

Monica Lopez is a lifelong resident of Yonkers and currently the Supervisor for the Revenue Cycle at Saint Joseph's Medical Center. In this position, she is responsible for ensuring surgery resources are accounted for, review and maintain daily surgical reports, make changes as needed per Department of Health, contracted plans, federal/state agencies/ and or vendor(s). She holds an associate and bachelor's degree in health service administration from The College of Westchester and is the mom of a Lincoln Lancer.

Dr. Jennifer Sneider

Dr. Jennifer Sneider is an Assistant Professor of Psychology in the Department of Psychiatry at Harvard Medical School and the Assistant Director of the Neurodevelopmental Laboratory on Addictions and Mental Health in the Imaging Center at McLean Hospital. Her work investigates the neurobiology of memory and learning, with a focus on the hippocampus, using non-invasive magnetic resonance techniques to examine brain structure, function, and neurochemistry. Neurobiological measures are examined relative to cognitive ability and clinical indicators of mood and anxiety. Dr. Sneider has engaged in a wide range of preclinical and clinical studies, including investigations of sex differences, hormones, spatial and other types of memory, brain development, alcohol, and other substance use addictions, and depression. Her current work is focusing on the use of virtual yoga as a treatment for mood and anxiety symptoms in youth, with a recent focus on racially and ethnically underrepresented youth to address mental health disparities

Dr. Laura Tropp

Dr. Laura Tropp is the Director of Academic Affairs and Associate Campus Director, University of Connecticut, Stamford Campus and Affiliated Professor of Digital Media and Design. Her research explores media environments, gender, and culture. Her first book, A Womb with a View: America's Growing Public Interest in Pregnancy explored the shift of pregnancy from a private experience to a public one. Her co-edited collection, Deconstructing Dads, explored the representation of fathers in popular culture. Her newest book Grandparenting in the Digital Age: The Third Act explores grandparenting and aging. Her writing on subjects such as technology and media, online learning, postpartum depression, and teen fathers regularly appear in popular media and edited collections. Dr. Tropp's contribution to scholarship often involves making visible topics that are less explored in academia.

Dr. Bianca Wentzell

Dr. Bianca Wentzell is Dean of the School of STEM and Associate Professor of Biology at St. Thomas Aquinas College. She specializes in studying human impact in wetland ecosystems, remediation of contaminated water using aquatic plants, and wetland restoration. Dr. Wentzell received her B.S. in Biology from Siena College in 2010 and her Ph.D. in Biology from Rensselaer Polytechnic Institute in 2014. She conducted postdoctoral work at Montclair State University and Kean University prior to arriving at St. Thomas Aquinas College in 2017. Dr. Wentzell became Interim Dean of the new School of STEM in 2021, and Dean in 2023.

Dr. Kimberly Wise White

Dr. Kimberly Wise White is the Vice President of the American Chemistry Council's (ACC) Regulatory and Scientific Affairs Division. In that position, she oversees the development of ACC's policy positions in response to regulatory and legislative proposals. She also leads a staff of experts to identify, analyze and create technical and policy materials to serve as the foundation for ACC's activities. Previously, she served as a Scientific Advisor for the oil and natural gas industry where she was responsible for regulatory efforts and research programs focused on environmental, health, and safety. Kimberly received Bachelor of Science and Master of Science degrees in biology and a Doctor of Philosophy degree in Environmental Toxicology from Texas Southern University.

The Academy of Scientific Research (ASR) Background Information

Who are we? The Academy of Scientific Research is an Academy for STEM (Science, Technology, Engineering, Math) professions, partnering with academic and business institutions in New York City and Westchester County. Students learn about, and prepare for, careers in STEM. Students are taught how to be leaders, how to communicate, how to evaluate their successes, and to concentrate on their personal goals. By being involved in STEM research projects, taking STEM classes and seminars, participating in internships as well as regional and national STEM competitions, students acquire practical experience in the STEM world.

A little bit more about us:

The Lincoln High School Academy of Scientific Research (ASR) is a multidisciplinary STEM problem-based learning research Academy in the Yonkers City School District. Since its inception in 2017, the program has given 1330 students (50%, female, 20%, black, 67% Hispanic, 11% ELL, 90% economically disadvantaged, 86% eligible for free lunch) opportunities to carry out authentic research projects. On average there are 80 students per year working on 50 to 60 independent research projects running simultaneously in the ASR lab. In addition to the work done in the ASR lab, our juniors and seniors also conduct original science research projects and hold internships at various institutions such as Memorial Sloan Kettering Cancer Center, Regeneron, and the Center for the Urban River at Bezack that expose them to various STEM career pathways. Students have competed in local, national, and international science competitions such as the Westchester Rockland Junior Science and Humanities Symposium, Science Talent Search, Westchester Science and Engineering Fair, the Young Science Achievers Program, and Google World Science Fair.

The goal of the ASR is to increase the number of women, ELL, and underrepresented minorities being admitted to college for STEM and engineering professions. The LHS ASR bridges the gap between the classroom and the workplace. It provides students with 21st-century skills needed to function in today's workforce.

Course Descriptions

Science Research 1 (Freshman)

Science Research 1 is the first course in a 4-year sequence that introduces students to the research experience and is open to all interested 9th grade students. In small groups, students are engaged in scientific methods through a variety of short-term science experiments and projects. Students learn the necessary skills needed in the more advanced research courses such as working with research lab equipment, improving journal article comprehension, research paper writing skills, public speaking skills, and the peer-review process. They are also exposed to the different careers in STEM and produce a paper on a research topic of their choice by the end of the year. Additionally, students are expected to participate in the ASR Club in various roles to plan events for the Academy.

Science Research 2 (Sophomore)

Science Research 2 is a sophomore level research class designed to identify specific societal problems and use research and technology to find solutions. Students participate in a literature review to come up with a topic of interest. Based on their literature review, they identify and reach out to mentors for their project while simultaneously working on a Research Proposal. They synthesize their objective and hypothesis, identify their independent and dependent variables, and work on collecting and analyzing data from similar studies. They also get introduced to statistics and learn how to analyze data. At the end of the academic year, many students are matched up in a lab at a college, university, or medical center where they can do a research project with a scientist during the summer. Additionally, students are expected to participate and organize the annual Science Research Symposium at Lincoln High School and lead the ASR Club in various roles to plan events for the Academy.

Science Research 3 (Junior)

During their junior year, students spend the majority of their time collecting data and working on their research paper independently. Students learn how to function in an adult working environment and develop many academic and personal skills that will be of lifelong benefit. The project culminates in a completed research paper by the end of the year. At the end of the academic year, select students are matched up in a lab at a college, university, or medical center where they can do an additional research project with a scientist during the summer. Additionally, students are expected to participate and organize the annual Science Research Symposium at Lincoln High School and lead the ASR Club in various roles to plan events for the Academy.

Science Research 4 (Senior)

Their final year in the program comprises of time spent on finalizing their paper, applying to different competitions, and creating Presentations and Posters to get ready to compete. Students are expected to compete in various competitions including WESEF, JSHS and STS. Additionally, students are expected to participate and organize the annual Science Research

Symposium at Lincoln High School and lead the ASR Club in various roles to plan events for the Academy.

Internships & Affiliations

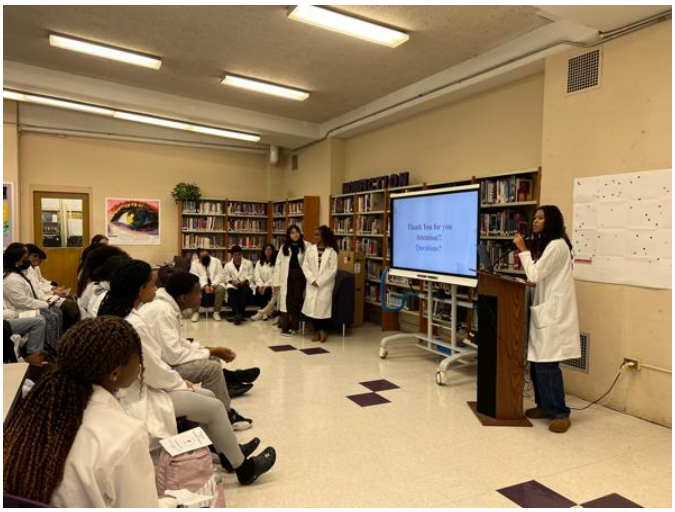
We are grateful to the following organizations for supporting our students:

ASR Oath

In the name of Lincoln High School and the Academy of Scientific Research, I sincerely pledge the following with humility and gratitude:

- I will continue to practice and support a scientific process that is based on logic, intellectual rigor, personal integrity, and an uncompromising respect for truth.
- I will strive to minimize the harm done to any living being and the environment in the course of my research.
- I will apply statistical rigor in designing my research and interpreting my findings and minimize bias.
- I will participate in teaching and mentoring others and disseminating scientific knowledge.
- I will respect the hard-won scientific gains of the researchers who contributed to my field of research by giving credit to others where it is due.
- And finally, I will take advantage of any and all opportunities outside of school that will help my community and/or I to flourish so that I can be a valuable member and role model to others in this Academy.

Expectations of Students*



LHS ASR students are expected to

- ✓ Punctually attend all classes and events.
- ✓ Adhere to district dress code
- ✓ Dress professionally for all in and out of school events
- ✓ Conform to the district wide attendance policy
- ✓ Work to the best of their ability when completing assignments
- ✓ Ask questions for clarification
- ✓ Be able to complete assignments independently and before deadlines
- ✓ Learn how to work outside their comfort zone so they can grow and challenge themselves
- ✓ Compete with themselves and not with others in the class
- ✓ Be involved
- ✓ Support all fundraising initiatives
- ✓ Attend ASR Club meetings after school
- ✓ Attend program sponsored field trips
- ✓ Participate in, and successfully complete, a summer science research internship
- ✓ Participate in regional and national science competitions
- ✓ Attend Academy Day Speaker events, Annual Science Symposium, LHS ASR Lab Coat Ceremony, and ASR Senior Graduation

***Students not meeting Academy Expectations will be removed from the program.**

ASR Calendar of Events 2024-2025*

October 8th	International Bridge Conference – West Point Military Academy
November	Faculty Feud
November	Academy Day 1 – Presenter TBD
December	Candy Gram Fundraiser
January	Academy Day 2- Senior Panel Presentations
February	Joint Academy Fundraiser with AOF
March	Lab coat ceremony
April	Academy Day 3- Presenter TBD
May	Academy Day 4 Presenter TBD
May	Junior/ Senior Picnic
June	ASR Senior Graduation

*Additional Trips/ Opportunities will be added to this calendar throughout the year.

LHS Academy of Scientific Research
Important Competition Dates
2024-2025

October 25, 2024 (Friday)- WR-JSHS School Registration (Seniors):
Registration deadline for the Westchester-Rockland Junior Science and Humanities Symposium. Seniors may do PowerPoint or Google Slides only. Only winners in Regional will move to the state level.

November 7, 2024 (Thursday)- STS Deadline @ 8 pm (Seniors): Recommendations, Transcript, Application, and Final Paper submission date for Regeneron STS. Transcripts and recommendations must be received by Regeneron Science Talent Search.
https://www.societyforscience.org/regeneron-sts/ https://sciencetalentsearch.fluidreview.com/

November 20, 2024 (Wednesday)- WR-JSHS Payment/ Paper Submission (Seniors): Deadline to submit papers and payment ($55 per student) to compete in JSHS with Powerpoint or Google Slides for competition day. https://www.albany.edu/uhs/science-research-program/upstate-ny-junior-science-humanities-symposium#tab-sub-regional-symposia

Mid-November 2024– WESEF Registration (Seniors):
Online registration (in school) for the Westchester Science & Engineering Fair (WESEF). All WESEF/ISEF forms and the Research Plan will be submitted electronically via zFair.

December 15, 2024- WESEF Deadline (Seniors):
All WESEF forms, abstract, paper, entry fees due ($90 per student). All students with research results and a final paper may enter. www.wesef.org

January 25, 2025 (Saturday)- Westchester-Rockland JSHS Competition (Seniors):
8 am - 5 pm @ Yorktown High School. All participating students must stay for the ENTIRE TIME including the awards ceremony. Regional winners may qualify for the Upstate NY JSHS at SUNY Albany in March. Juniors and Sophomores can attend as observers.

February 26-27, 2025- Upstate NY JSHS at SUNY Albany (Seniors): Seniors must win a spot at WR-JSHS to attend this fair at the state level and could qualify for National JSHS Spring 2025.

March 14, 2025 (Friday)- WESEF Poster setup (Seniors):
@Somers High School. All students are required to set up their own posters in the evening.

March 15, 2025 (Saturday)- WESEF Competition (Seniors):
@Somers High School from 8-5 p.m. Full day for all students that are presenting their research. Freshman, Sophomores and Juniors are encouraged to come check it out during the public viewing time in the afternoon. Top winners go to the International Science and Engineering Fair (ISEF) in May OR Genius Olympiad in Rochester, NY in June.

March 20, 2025 (Thursday)- WESEF Awards ceremony (Seniors):
@ Somers High School at 7 p.m. Parents are invited.