HUDSON COUNTY COMMUNITY COLLEGE
Division of Continuing Education and Workforce Development

6TH ANNUAL
GIRLS IN TECHNOLOGY SYMPOSIUM

HUDSON COUNTY COMMUNITY COLLEGE
CONTINUING EDUCATION & WORKFORCE DEVELOPMENT

THURSDAY, MARCH 28, 2019
9 A.M. – 2:00 P.M.
CULINARY CONFERENCE CENTER
161 NEWKIRK STREET
JERSEY CITY, NJ

HUDSON COUNTY COMMUNITY COLLEGE

WELCOME TO
Hudson County Community College's
Sixth Annual Girls in Technology Symposium!

We thank your teachers, counselors, and administrators
who encourage you to pursue your passion for STEM.
As the day unfolds, we encourage you to immerse yourself
fully in the activities and discussions throughout the event.
Ask your burning questions to our "A Day in the Life of Women
in STEM" panel. We hope you leave having made new friends
and more inspired than when you came.

PARTICIPATE IN TODAY'S PANEL DISCUSSION!

#GIT2019
#GIT2019
#GIT2019

Tweet Questions to
@HCCCHudsonCEWD
& Include #GIT2019
in Your Question

STUDENT DISPLAY CONTESTS

VOTE for your favorite!
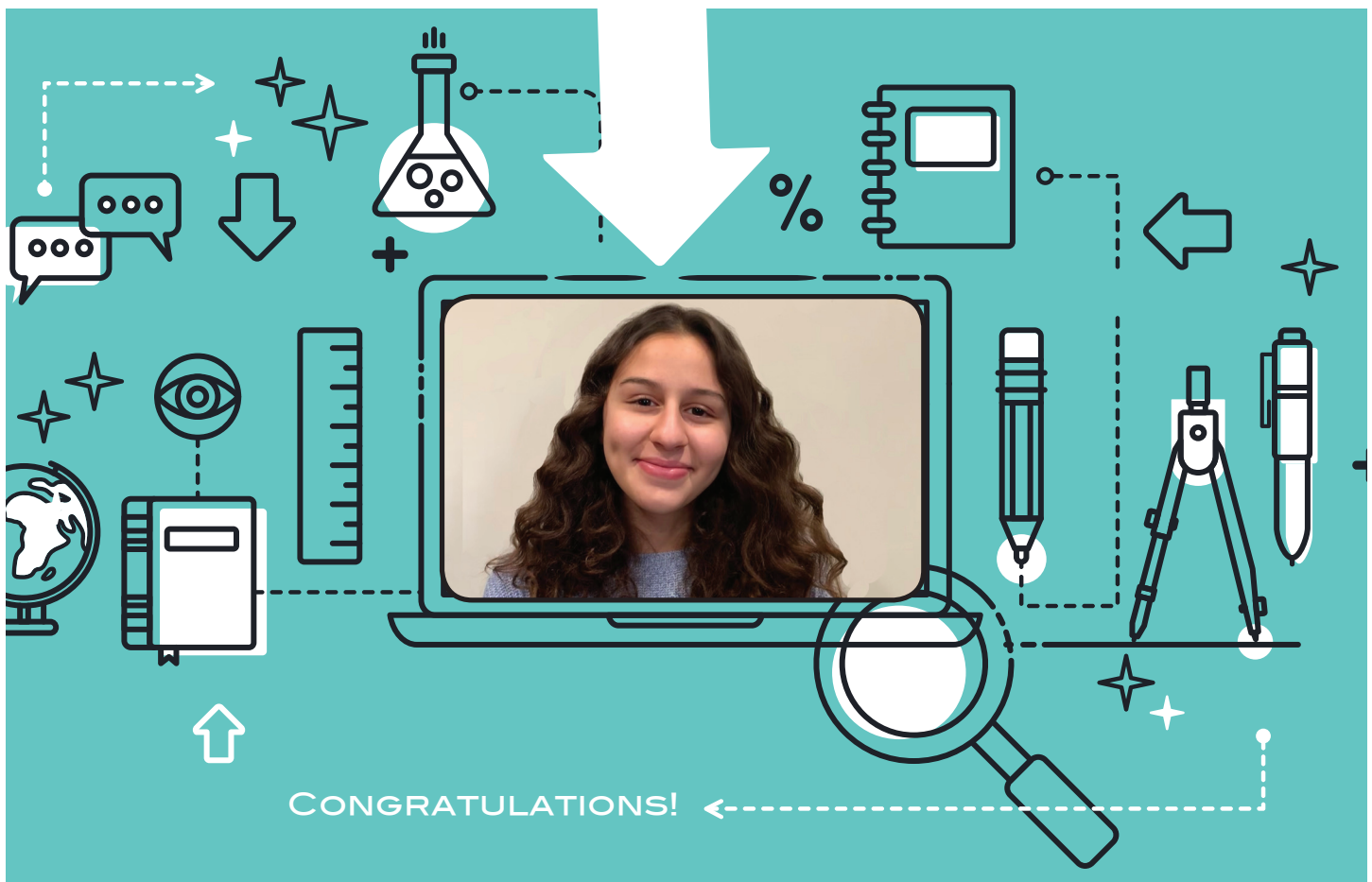
Go to:
www.tinyurl.com/GIT2019contest

VOTE

Sixth Annual Girls in Technology Symposium

AGENDA Girls in Technology Symposium - March 28, 2019

8:30 a.m. to 9 a.m.	**Student Check-in/Guest Check-in/Breakfast**
9 a.m to 9:10 a.m.	**Welcome:** Dr. Chris Reber, President, Hudson County Community College
9:10 a.m. to 9:15 a.m.	**Review of the Day:** Lori Margolin, Dean of Continuing Education and Workforce Development **Opening Remarks/ Essay Contest Winner:** Lyna Bacha, High Tech High School
9:15 a.m. to 10:15 a.m.	**"A Day in the Life of Women in STEM" Panel Discussion:** Panelists: Dr. Natalie Batmanian - Director for The Office for the Promotion of Women in Science, Engineering and Mathematics, Rutgers University D'Jvonne David - President, Dynamic Digital Air, LLC Shelley Goldman - Program Director, D2.0 Architecture Governance, AT&T Sophie Wakita - Manager of Tech & Design Studio, Liberty Science Center Allie Surina - Marketing Data Scientist, Priceline Moderator: Zakia Hmamou, Instructional Technologist, Center for Online Learning at Hudson County Community College
10:15 a.m. to 12:15 p.m.	**Activities:** Breakout EDU Competition - New Jersey City University Ed-Tech Doctors Straw Buoyancy Challenge - Zaniac Jersey City Finding Your Tech Secret Identity - Allie Surina Food Technology, Recycling & Conductors - STEM Division, HCCC 10:15 a.m. to 10:45 a.m. Activities Session 1 10:45 a.m. to 11:15 a.m. Activities Session 2 11:15 a.m. to 11:45 a.m. Activities Session 3 11:45 a.m. to 12:15 p.m. Activities Session 4
12:15 p.m. to 12:45 p.m.	**Student Display Contests & Voting** "Technology: Past, Present and Future"
12:55 p.m. to 2 p.m.	**Lunch Proceedings** 1:15 p.m. to 1:30 p.m. Eastern Millwork Presentation 1:30 p.m. to 1:45 p.m. IBEW Joint Apprentice Training Center Presentation 1:45 p.m. Student Display Contest Winner Announced & Photos
2 p.m.	**Dismissal**

# OPENING SPEAKER ESSAY WINNER

Congratulations!

Lyna Bacha

Lyna Bacha is a 15-year-old freshman at High Tech High School. Lyna majors in Digital Fabrication (DFAB). She is passionate, driven and motivated to pursue her interests in Computer Science and Engineering. She actively participates in many extracurricular activities including Girls Who Code, Student Council, Robotics and French Club. Lyna participates in Track, Cross Country, Basketball and Swimming teams. Outside of school, she attended summer camps such as The Academy at Rutgers for Girls in Engineering and Technology. She also loves to travel around the world, read novels, watch movies and paint. Previously, valedictorian of her middle school graduating class, she continues to maintain academic excellence by taking all honors courses. She strives to inspire others and grasp opportunities when given to her.

PANELISTS
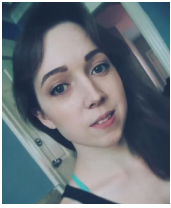
Sophie Wakita

Sophie Wakita is the manager of the Tech and Design Studio at the Liberty Science Center, in Jersey City, NJ. Her background is rooted heavily in Makerspaces, having worked closely with them for the past 7 years. In 2017, Sophie graduated with a BS in Game Art and Animation from Champlain College in Burlington, VT. Prior to that, she attended the University of Vermont for 3 years with a focus on Anthropology and Computer Science, before transferring into the program at Champlain College. Shortly before graduating, she accepted a job offer from the Liberty Science Center where she now works to develop and provide computer science-based education on everything from coding to digital art, delivering content to students and adults alike.

Allie Surina

Allie Surina is a data scientist at Priceline, the online travel start-up that helps travelers book amazing deals on hotel rooms, flights and car rentals. She started her tech journey in childhood, falling in love with electronic learning games and simple computer programming puzzles. Like many math-oriented students, Allie bounced around in many areas of interest within the natural and social sciences, first focusing on biology and chemistry, then economics. As the economy continued on its path toward jobs in data and computer engineering, Allie steered her studies toward those horizons. After gaining her Bachelor's degree at Western Kentucky University in Mathematics and Economics, Allie studied math education reform in China on a U.S. Fulbright scholarship, learning abut how Chinese teachers encourage and develop math talent and abilities in diverse student populations. Upon returning to the United States, Allie completed a Master's degree in quantitative methods at Columbia University, where she met and begin working alongside professors in business marketing and strategy. Allie worked for three years as a strategy and innovation consultant for Fortune 500 companies in the Northeastern region before finally taking a role as a data scientist, where she spends her days discovering new intelligence and creating new value for her company.

Natalie Batmanian

Dr. Natalie Batmanian has a degree in Cognitive Psychology from Rutgers University. Half of her career has been in behavioral science and the other half in higher education administration. After serving as the Director of the Office for the Promotion of Women in Science, Engineering and Mathematics for ten years, she has returned to language research at the Center for Cognitive Science at Rutgers University. Dr. Batmanian studies first- and second-language acquisition.

Shelley Goldman

Shelley Goldman is a trailblazing woman with over 100 patents to her credit. An AT&T veteran with vast experience in the frontiers of technology, she makes it a priority to encourage women and minorities in STEM and educate them about opportunities in the STEM field. Shelley blogs for The Huffington Post, has put out a YouTube video and continually mentors students through Girls Who Code and Aspire in her attempt to reach other women and minorities and encourage them in STEM. She has also spoken at colleges, Hackathons, YWCA and AT&T events on the importance of STEM. Through her AT&T career, Shelley was responsible for developing metrics focused on measuring the migration of AT&T's network to 75% software based by 2020. She has also provided the "Voice of the Customer" to AT&T Labs and led the AT&T Emerging Technologies Forum. ETF provided a venue for AT&T Labs to introduce new concepts, ideas and technologies forming a bridge between tech innovations and the business environment. No stranger to either space, Shelley has served AT&T through stints in marketing research, customer satisfaction, and mobility as well as at Labs. Shelley is a graduate of City University of NY – Baruch College (BBA) and Columbia University (MBA). She has participated in Columbia Senior Executive Programs and has been a guest lecturer at Columbia University. Shelley has received numerous awards including the Research Excellence Award for development and deploying services. Her projects have gained international recognition and have been mentioned in publications as diverse as *Fortune Magazine* and *Data Briefs*. Ever mindful of the need to give back Shelley recently retired from AT&T and is now a full-time diversity and inclusion leader mentoring the next generation.

Hudson County Community College

D'Jvonne David

D'Jvonne David is an IT partner, senior project manager and entrepreneur. She is a focused, results-driven industry leader and entrepreneur with over 20 years of IT experience. She has worked for Lehman Brothers/Barclays for eleven years in the Global Technology Information Services group. While at Barclays, she worked as Lead U.S. Infrastructure Partner for Cloud Hosting, Senior Project Manager Lead for Data Center NJ/NY Metro Plan Migration and Decommission Program and Datacenter Operations IMAC Manager for two U.S. Global Datacenters. In 2019, she moved into a new role with Royal Bank of Canada (RBC) Capital Markets as Infrastructure Program Manager for Fixed Income, Currencies and Commodities (FICC) Technology. At RBC, she is responsible for driving hardware utilization program, managing financials related to hardware infrastructure, identifying cost savings/efficiencies, driving a simplified application decommission process; implementing a hardware and storage procurement process; leading various infrastructure related projects including planning, budgets, communication and reporting; building close working relationships with Heads/Project Managers across Capital Markets and Global Technology Infrastructure teams. D'Jvonne is also the President/CEO of Dynamic Digital Air, LLC a signage company that provides LED and static signage services to federal, state, local government entities and private commercial firms. D'Jvonne holds a Masters of Arts in Computing and Education from Columbia University and a Bachelor's of Science in Computer Science from Long Island University.

Zakia Hmamou

Zakia Hmamou is an Instructional Technologist for the Center for Online Learning at Hudson County Community College. She develops and edits online learning materials and content for HCCC courses. Zakia specializes in online learning technologies and regularly trains faculty and staff to leverage technology in delivering online content. Zakia is a certified civil engineer and is in the process of becoming a certified Instructional Designer from the Online Learning Consortium Institute. Zakia holds a Bachelor's of Civil Engineering from New Jersey Institute of Technology, an Associate's in Engineering Science from Hudson County Community College.

Continuing Education's Spring/Summer 2019 catalog is now available!

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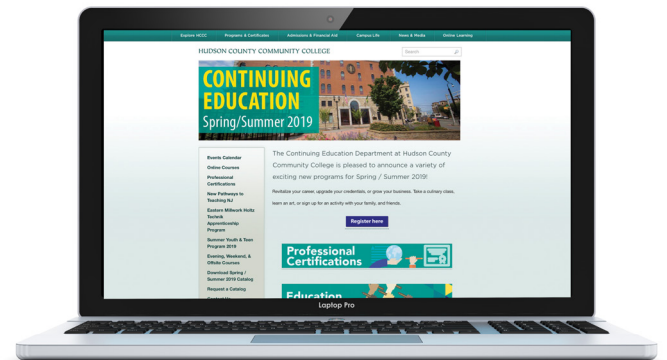
Visit the new and improved CE webpage at www.hccc.edu/continuingeducation to learn about and register for new programs and events!

ACTIVITIES

Straw Buoyancy Challenge
by Zaniac

Design and build a boat out of straws, plastic wrap, and aluminum foil or a paper cup that can hold as many pennies possible before sinking!

Zaniac is the go-to after school and summer camp STEAM-enrichment center for parents who want to give their children an academic edge and 21st century skills for a better future.

Kids experience STEAM exploration and discover how much fun learning can be in Zaniac's high-tech environment.

Food Technology, Recycling & Conductors
by STEM Division, Hudson County Community College

See how water activity predicts and controls the shelf life of food products, learn about recycling plastic, and find out which materials are the best electricity conductors.
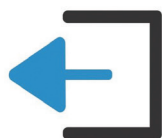
Breakout EDU Competition
by New Jersey City University Ed-Tech Doctors

Breakout EDU is a physical game kit and platform where students work together to solve various puzzles to open a locked box, similar to an escape room.

Finding Your Tech Secret Identity
by Allie Surina

Data Scientist, Allie Surina, takes you on a journey to discover how your personal strengths, what brings you joy, and how you envision yourself in the future, can translate into a tech career, designed specifically for you.

ACTIVITY LEADERS

Fahima Bacha

Dr. Fahima is a computer science adjunct professor at NJCU and a mathematics and computer science high school teacher. Fahima Bacha is a leader in educational technology. She implemented state-of-the-art programs that initiate change and promote Science Technology Engineering and Mathematics (STEM) education. Fahima has a life-long passion for computer science. Her early exposure to computer programming as a software engineer and love for mathematics are all contributing factors to her desire to lead and make STEM education fun to all students particularly for girls, minority groups, and the underserved. Fahima earned a Doctorate Degree in Educational Technology Leadership from New Jersey City University in 2018. She also holds an Engineering degree in Information Systems and a Master's degree in Computer Science.

Gemma David

Gemma David is a project engineer and estimator at Eastern Millwork Inc. located in Jersey City, NJ since the fall of 2014. From AutoCAD to install, EMI has provided her the opportunity to work with Nintendo World, Museum of Modern Art, and NYU Kimmel Pavilion as well as other spaces in the New York/New Jersey area. In 2014, she graduated from Rutgers School of Engineering with a Bachelor's degree in Civil Engineering and had a position as the High School Outreach Chair for the Society of Women Engineers Rutgers Chapter. Back in 2009, Gemma was a founding student of Bayonne High School's engineering program, which led to being a Governor's School of Engineering and Technology student and staff alumna.

Melanie Demio

Melanie Demio works at Eastern Millwork Inc. in the shop at the benches building some of the projects, and in the finish department finalizing some of the work before it is shipped to be installed. Melanie has been working at the shop for a year now. Melanie says, "I find that building things feels fulfilling to me, and I enjoy working in this line of work."

Clive Li

Dr. Clive Li is an engineering science instructor at Hudson County Community College. He is the inventor of Biodegradable Diaper (patent #20170224540), Eggshell Bio-composite (patent #20140323616), and Wearable Aromatic Device (patent #20160174694). His research group at HCCC collaborates with researchers across several disciplines and utilizes different techniques including plasma sputtering, scanning electron microscopy, X-ray fluoresce, electrospinning, UV-visible spectroscopy and Fourier Transform Infrared spectroscopy. His current research is focused on biomaterials and nanotechnology.

Samantha J. Bahna

Samantha Bahna, Teacher of English, ESL, and Special Education, is a speaker, mentor, student, and trainer, all while working to earn a doctoral degree in Educational Technology Leadership at New Jersey City University, NJ. Additionally, Samantha is an Emerging Leader Fellow for the National Council of Teacher of English's Council for Exceptional Leaders (CEL) Committee. As a past Curriculum Resource Teacher, department head for English, and national leadership fellow, Samantha has assisted faculty, administrators, and even local government officials in conceptualizing and designing ESL, English, and adult literacy programs in urban communities and schools in NJ. Samantha was recently elected to the statewide teacher-leadership committee, Learning Forward, NJ to shape initiatives for the implementation of successful programming and coursework for educators to receive endorsement in Teacher Leadership.

Carol Munn

Carol Munn is a tech-savvy Technology teacher with over 15 years in Computer Science education. She is highly adept in providing professional development integrating technology into existing curriculum and creating new robust lessons. Carols has been a robotics team advisor and FLL judge for the past 8 years. She is an entrepreneur in the field of robotics education, and has created and facilitated after-school and summer camp enrichment programs specializing in robots and coding. She is also a curriculum writer (robotics education and engineering design) and professional development presenter. She is a doctorate student in Educational Technology Leadership through NJCU, focusing on robotics education. Presentations include ISTE, NJSC, NJECC MCCC, PETE&C, and FETC. Keynote speaker: Code of Conduct Conference.

Sixth Annual Girls in Technology Symposium

Steven Wong

Steven works as an auditor on enterprise risk management and currently teaches as an adjunct professor at Saint Peter's University. He is a mentor to middle-grade students on various STEM-related projects and initiatives.

Susan Van Alstyne

Susan Van Alstyne is an academic library director with over 10 years of higher education experience. Susan is an active contributor in professional associations and has presented at local and national conferences and most recently presented a talk, "Beyond Data: The Need for Holistic Assessment of Academic Library Services" at the Drexel Assessment Conference. Susan's interests include human-computer interaction and how technology shapes our environments. She is a doctoral student in the Educational Technology Leadership program at New Jersey City University.

Martha Rand

Martha Rand, LCSW, is currently a School Social Worker with Explore Middle School in the Hudson County Schools of Technology district. She is actively involved in the NJ Chapter of the NASW. She has presented on Creative and Expressive Arts Therapies, Implementing Groups in Practice, Girls Aggression, Treating Eating Disorders, and The Body in Therapy, locally, statewide and nationally. Her website, Artshealer.com, includes paintings that have been in gallery shows and her writing includes professional publications as well as flash fiction in several anthologies. Martha is especially interested in engaging girls in technology and using technology in creative and expressive therapies.

Sonali Pai

Sonali Pai is the Founder of STEMina and Owner of Zaniac, Jersey City Campus. Sonali began her career in marketing for large financial conglomerates before eventually finding her way to Amazon's audiobook division, Audible. During her time there, she saw firsthand the importance of STEAM and its ability to shape the way we think and question the status quo. As she started to dig deeper into the technology needs of today, she realized these tools were not taught to her during her most impressionable years. When her son started school, she saw there was still a gap in the way we are teaching our children the practical applications of STEAM and most importantly making it as engaging as possible. Now, as one of the founding members of a nutritional supplements company, and a proud mother of two, Sonali's next chapter is to focus on bringing STEAM to her community, and allow children to build, create, and imagine from an early start.

Fatma Tat

Dr. Tat is currently a Chemistry Instructor at Hudson County Community College. She has a Ph.D. in Organic Chemistry. After completion of her degree, she was appointed as a Postdoctoral Fellow in the Department of Organic Chemistry at New York University, in the department of Chemistry and Cell Biology at Rockefeller University. Fatma has also worked as a scientist in a Biotechnology Company.

James Cox

James Cox has been a Librarian at Hudson County Community College, since 2009. Prior to becoming a librarian he was (sometimes still is) an archaeologist in the Mid-Atlantic, working in the field of cultural resource management (CRM). James has Masters' Degrees in History and Library and Information Science from Rutgers University and a Bachelor's Degree in Anthropology from the University of Tennessee. He is a resident of Jersey City and enjoys spending time with his daughters and wife.

Aya Badr

Aya Badr is a Biology and Chemistry Lab Technician at Hudson County Community College. In conjunction with ensuring biology and chemistry labs run successfully, she also troubleshoots laboratory instrumentation such as the autoclave and media pouring devices. Aya obtained a Bachelor's degree in Biology from New Jersey City University, while working at NJCU's chemistry department as a lab assistant.

Student Display Contest Entries
"Technology: Past, Present and Future"

"Future of Transportation"
North Bergen High School
Milena Patino

Technology is evolving at a fast rate, and with innovations from our generation, it is important to see how far we can go.

"Technology's Impact on the Workforce"
Henry Snyder High School
Sumayah Kayume, Maria Pineda, Shadiamond Rivera

The industrial revolution issued the birth of technology in the workforce. Workers were able to mass-produce within a reasonable amount of time with new machinery. In the present day, pertaining to the New York Stock Exchange, it is noted that there was a decrease in workers due to the influx of advanced computers that are able to record, buy, and sell within seconds. Compared to the past, the availability of jobs will diminish more drastically. Technology has had an impact on the workforce, the required skill sets, jobs in demand and availability.

"Technology and Communication; Past, Present, Future"
Henry Snyder High School
Nicole Melo, Athena Persaud, Taitu Ustanny

Communication has changed throughout the millennia with the development of technology. Technology has aided the way we communicate as humans in several ways. The ways in which our communication has changed and developed can be tracked through three distinct parts of history: the past, the present, and the future. Often times when people think of technology, they envision what they're surrounded by or items from science fiction; but its definition extends much beyond that. Technology encompasses any equipment or machinery developed from the application of scientific knowledge; therefore technology, especially when spoken about in the context of communication, can include tools and machinery such as animal horns, carrier pigeons, telegrams, email, social media, and voice calling. There is also a great potential for future development of communication methods, several of which have been thought of in science fiction TV shows and video games. Some proposed future developments to include neural implants, artificially intelligent assistants, and sensory prosthetics. Every part of history has made advancements in communication through technology, and our project details this change. We have stitched together a timeline dating back to BCE and extending into the future.

"Solar Energy Through the Ages"
Bayonne High School
Tashu Gupta

The sun has provided mankind various types of energy since ancient times and will continue to provide in the future. Perhaps the most common form of energy used by civilization is light energy. Not only does the sun illuminate the skies and provide us with light so humans can visually see, but it also gives us heat and color to ordinary objects. This is because eyes perceive color when unabsorbed photons reflect off an object back to our eyes. In a technological sense, the sun has allowed the ancient people to construct sundials in order to tell the time of day. Using glass-like objects, human civilizations have especially used concave lenses to direct the sun's rays in a specific area to burn a material. About two hundred years ago, it was discovered that solar energy can be utilized to generate electricity through the use of p-type and n-type semiconductors. These solar panels then progressed over time to the solar panels we use today, which are much more efficient. In the future, there will be transparent solar cells to replace glass windows and any other glass materials which direct exposure from sunlight.

"Running Through Time"
Bayonne High School
Casey Baquero, Kara Jozwiak

We would like to do the past, present and future display of track spikes. Track and field has been around for thousands of years and as time went on proper footwear was needed. Runners used to practice in traditional sportswear shoes but they were not getting enough traction on the track. That is why the first pair of track spikes were created in 1850. These running shoes called track spikes had built-in nails and business appearance, which made them heavy, hot, and dull. The weight of these shoes was an issue, so in the 1900s track shoes were made out of kangaroo leather, due to its low weight. The shape was remade from a formal look to sportswear. After recreating the shoe, the individual spikes were redesigned into multiple different shapes depending on the event. Enhancements were made and today's spikes are very different compared to the original track spikes. Now, these running shoes are light, airy and convenient with an arch supporting the heel. Companies continue to improve these running shoes because runners need the best shoes to stay at the top of their game.

"Past, Present, and Future of Sunscreen Technologies"
Hoboken High School
Emily Schroeder, Gabriella D'Antonio, Kaylee Oliveri, Gabriellis Delvalle

Our group performed an experiment to test the effect of different sunscreens on mutant yeast cells' growth rate after being exposed to UV rays. The purpose of this experiment was to compare the effectiveness of two different SPF 50 sunscreens: Cetaphil and Ultra Sport. Our procedure included growing samples of mutant yeast cells in 6 Petri dishes. Two dishes were protected by Cetaphil, two were protected by Ultra Sport, and two have no protection. All of the plates were left exposed for 48 hours under UV rays. The results of the experiment supported our hypothesis: Ultra Sport Sunscreen should protect the yeast cells the best and result in the most growth. In conclusion, the Ultra Sport sunscreen was the most effective when it came to the growth in the yeast cells because of the different ingredients and consistency that the Ultra Sport sunscreen provided compared to the Cetaphil sunscreen.

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