

PATHWAYS IN THE LIFE SCIENCE INDUSTRY
February 9, 2024

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Agenda

- 5:30 pm** Welcome-/Opening Remarks by **Ruben Rosario**
- 5:35 pm** VIDEO by **Liberty Science Center**
- 5:45 pm** The Governor's STEM Scholars- **Kim Case**
- 6:00 pm** Meet STEMpowering Kids Co-Founders-**Mahika Jawa/Leena Mirchandani**
- 6:10 pm** **Session 1** -H.S./Undergraduate career path and opportunities. **Moderator-Dan Barnett**
- 6:40 pm** **Break**
- 6:55 pm** **Session 2** -Life Sciences Industry: Professions, and Workforce
Moderator- **Dr. Vibha Jawa**
- 7:30 pm** **Q/A session**
Closing Remarks: **Dr. Vibha Jawa, Executive Director,**
Bristol Myers Squibb
- 7:45 pm** Networking time



Kim Case, J.D.

President, CN Communications International, Inc.

Executive Director, Research & Development Council of New Jersey

Kim Case is President of strategic communications firm, CN Communications International, Inc. At CN, she provides consulting services in the areas of media relations, strategic communications, and association management. She also serves as Executive Director of the Research & Development Council of New Jersey, CN's largest client. In this role, Kim sets the Council's overall agenda, advises its leadership on issues related to the Council's mission of advancing excellence in STEM education and innovation in the state, and runs the day-to-day operations of the organization. Kim spearheaded the development of the Council's STEM education initiative, the Governor's STEM Scholars Program, a public-private partnership with the State of New Jersey, as well as created New Jersey STEM Month, in partnership with the Governor's Office and New Jersey State Legislature, to highlight the state's STEM achievements. Kim leads the New Jersey STEM Pathways Network, a statewide strategic alliance striving for excellence in STEM education and workforce development across New Jersey.

Prior to her work with CN, Kim served as a middle-school teacher in the South Bronx as part of Teach for America (TFA) and received her Master in Teaching from Pace University. Subsequent to teaching, Kim attended Rutgers School of Law-Newark and upon graduating was a litigation associate. Kim received her B.A. in Political Science from Rutgers College.

In 2020, Kim served on New Jersey's Restart and Recovery Advisory Council's Manufacturing Subcommittee. In 2018, Kim was named one of NJBIZ's 50 Best Women in Business and was recognized for her work in STEM by the Association of Women in Science (New Jersey). She also serves as President of the Long Hill School Board of Education and served on Governor-elect Murphy's Education, Access, and Opportunity Transition Committee. Kim is a graduate of Lead NJ and was a fellow in TFA's Emerging Political Leaders Fellowship Program. Kim was appointed by Governor Christie to serve on the New Jersey Governor's School Board of Overseers and serves on the Rutgers Women's Institute for Leadership Advisory Board. She is a graduate of LEAD STEM, selected as one of only twenty candidates from across the country for this intensive STEM leadership development program.

Meet STEMPowering Kids Co-Founders

Mahika Jawa is a Junior (Grade 11) at Holmdel High School in Holmdel NJ.

- Teen board President at STEAMPark, a nonprofit in NJ, that aims to enhance learning of students in elementary and middle school for minority underserved communities
- She also leads a program known as the Remote Learning Initiative which aims to teach spoken and written English to students in India through curriculum taught through google classroom platforms.
- She also accompanied middle school and high school girls on a day trip to Columbia University to build awareness on careers and courses to consider for advanced education.
- Mahika also enjoys being a part of the varsity fencing team at Holmdel High School and is a member of the Model UN.

Leena Mirchandani is a Junior (Grade 11) at Peddie School in Hightstown NJ

- Co-founder and co-host of Dear Little Sisters, a podcast aimed to empower girls by sharing the stories of inspiring women. She has connected with guests all over the world from diverse industries.
- She is also an active Girl Scout, classical Indian dancer, and cellist. Leena is passionate about engaging in all aspects of her community.
- Leads Hightstown Steampark as teen board leader to build STEM awareness and outreach in underserved communities through mentoring and volunteering

STEMpoweringkids

- An initiative to introduce elementary and middle school students to different fields in STEM through hands-on learning techniques.
- Raised funds from local life sciences Biotechnology and Biopharmaceuticals for support of their programs.
- Together they hosted multiple week-long summer camps and workshops over the past three summers
- Participated in web-based panels hosted by Women in Pharmaceutical Scientists.
- Through STEMPowering Mahika has been able to help fundraise and distribute period care products with an organization in Kampala, Uganda
- Participated in a STEM career panel at Caldwell University where they shared their experience starting STEMPowering non-profit with high school students.



Mahika Jawa



Leena Mirchandani



Moderator

Dan Barnett | *Chief Development Officer*
Students 2 Science, Inc

Dan Barnett joined Students 2 Science in 2021 as the Chief Development Officer, overseeing fundraising, marketing/communications, and school relations for the organization. Before joining the leadership team of S2S, Dan served as the Senior Director of Development at the Hyacinth Foundation, New Jersey's largest HIV service provider. With over 20 years in the higher education and non-profit sectors, Dan's professional experience includes working with the Rutgers University Foundation and serving as the Director of Alumni Relations at Loyola University Maryland and the Director of Campus Programs in Alumni Relations and Annual Giving at Carnegie Mellon University. Dan is a graduate of Youngstown State University with a Bachelor of Arts degree and Bowling Green State University with a Master of Arts degree. Additionally, he is near completion of a Master of Public Management degree from Carnegie Mellon. Along with his work at Students 2 Science, Dan is on the steering committee for NJ STEM Month and is the Life Science Industry Partnership Convener for the Northern and Central regions with the New Jersey Department of Labor and Workforce Development.





SCHOOL PANELIST BIOS



**Maria A. Agapito, PhD - Assistant Professor of Biology -
School of Natural Sciences - Caldwell University/President at
NJ Academy of Science**

*Dr. Agapito considers herself to be both a scientist and an educator at heart. She received a B.S. in biology with a minor in chemistry and a M.S. in biology with a concentration in molecular biology from Montclair State University in Upper Montclair, NJ. In 2013, she completed her doctoral training in neuroscience at Rutgers, The State University of New Jersey. After her PhD, she was accepted to the National Institute of Health IRACDA/INSPIRE Postdoctoral program. Dr. Agapito joined the pathology and laboratory medicine department at Robert Wood Johnson Medical School and conducted research in the areas of developmental biology, neurology, and ethanol toxicology using *C. elegans* as an animal model system. Dr. Agapito has published various peer-reviewed journal articles, presented at various national conferences, and obtained prestigious fellowships. She is currently the president of the NJ Academy of Science, serves as a convener for the NJ Industry Partnerships – Life Sciences Northern region, and since 2011, Dr. Agapito has served Kean University as an adjunct professor in the School of Natural Sciences.*

Dr. Agapito's long-term goal is to change the face of America by enhancing curiosity, educating, and mentoring students to enter STEM-related fields. In this way, we can create a diverse population of role models for the next generations to come.



Tracy Espiritu holds a bachelor's degree in mechanical and aerospace engineering from Rutgers University, School of Engineering, Master's degree in Management in Science and Technology from New Jersey Institute of Technology, and a New Jersey School Administrator Certificate from NJExcel.

Tracy Espiritu left a career as engineer in the aerospace industry to become a middle school science teacher. As an Aerospace Engineer for 7 years at Howmet Aerospace, she supported the investment castings and manufacturing of parts for turbine engines. Espiritu has been instrumental in the implementation of the K-8 STEAM curriculum at Elizabeth Public Schools, which aligns well with the United States Department of Education's goals of increasing student proficiency and interest in science, technology, engineering, and mathematics (STEM) education, as well as the "Educate to Innovate" federal initiative designed to attract, develop, reward and retain outstanding educators in STEM educational fields.

Espiritu enhanced the STEAM program through effectively training her colleagues in implementing STEAM instruction. The professional development she has provided to fellow STEAM educators has helped increase rigor and raise the level of achievement.

In 2018, Tracy Espiritu was the Supervisor of Career and Technical Education, supervising vocational and STEM-related programs across the district including Automotive Repair, Culinary Arts, Nursing, Computer Science and Engineering. In this position, she strengthens career pathways with colleges, universities, and industry partners to create student opportunities such as dual credit, internships, and industry-recognized certificates. Today, she supports students with Career and Technical Education as the Supervisor of STEM Research and Projects at the DCL STEM Academy at Passaic County Technical Vocational Schools in Wayne, New Jersey, where she manages the 4-year high school STEM programs in Biomedical Science, Engineering, and Computer Science.

Tracy Espiritu continues to improve Career and Technical Education, by effectively tackling the challenges in Career and Technical Education. To address teacher shortages, especially in CTE and STEM subject areas, Espiritu speaks at regional industry conferences and networking events increasing the awareness of teaching CTE as a viable career change option for those considering a career change. In 2021, she was a guest speaker at the Northeast Medical Device and Manufacturing Regional Conference at the Jacob Javits Center, New York City, where she introduced and explained the teaching certificate process to teach Biotechnology, Biomedical Science, and Biomedical Engineering in public high schools. Additionally, in efforts to expand equitable access to work-based learning experiences for high school students, she engages in discussions with industry partners to change their mindset in considering high school students as competent interns to college students. Identifying and solving these problems is priority to Espiritu because she ardently believes in the value of CTE for learners and the greater community.



Dr. S Ziaei -Associate Professor Natural Sciences, Felician University

Dr. Ziaei is an Associate Professor at Felician University. She is formally trained as a geneticist of aging and cancer. Her work has resulted in peer-reviewed publications in high-impact scientific journals and book chapters. Her past research focused on inducing lysosomal cell death in breast cancer cells. Her current interests include targeting mitochondria in prostate cancer cells to induce apoptosis. She has extensive experience training and mentoring students and is passionate about inspiring and supporting young scientists. Dr. Ziaei has over 10 years of teaching a variety of biomedical courses to diverse student populations. As a professor, her goals are to instill the curiosity and love of scientific discovery in her students and prepare them for careers in biomedical and health sciences. She was a recipient of the NISOD Excellence Award for outstanding commitment to students and colleagues.



Paul Casey, M.S - Associate Director of Employer Engagement at Kean University

Paul Casey, M.S - Paul is the Associate Director of Employer Engagement at Kean University, In this role he manages and oversees the development and implementation of innovative programs and partnerships that connect students and alumni with employers and career opportunities. With more than 20 years of experience in the field of education and youth services, he is passionate about making a positive difference in the community.

His core competencies include leadership, strategic thinking, creative problem solving, youth and workforce development, grant writing, nonprofit management, coaching, professional development, training, donor cultivation and stewardship, team building, change management, communication, and program, board, and resource development. He has a proven record of acquiring and managing multimillion-dollar grants, leading complex multi-state consortia, building resilient workforce and organizational capacity, and increasing impact and outcomes for diverse populations. Some of his most notable achievements include developing a Resiliency Competency Model, a Resiliency Teaching and Learning Guidebook, and a Teaching Resiliency Hub, as well as establishing the relationship for Boys & Girls Clubs to be chosen as the charity of choice by the Snowflake Foundation for the NY/NJ Super Bowl. Most importantly, he is a father to Sean and Evan.



Robert Topper, Ph.D. Professor of Chemistry, School of Engineering at Cooper Union.

Robert Topper is a Professor of Chemistry in the School of Engineering at the Cooper Union for the Advancement of Science and Art in New York. He has also served as the Chair of Chemistry, Medical Technology, and Physics at Monmouth University, where he coordinated medical laboratory science and clinical laboratory science degree programs collaboratively with local and regional healthcare organizations.

Topper and his students use computers to predict and understand the structures and properties of atmospheric particles, chemically damaged DNA, polypeptides, and materials. To date, his research projects have included mentoring over 120 undergraduate, graduate, and high school students as research colleagues and co-authors. Prof. Topper completed a B.S. in physics and chemistry at Florida State University and then earned a Ph.D. in physical chemistry at Yale University. He then carried out research at the University of Minnesota and the University of Rhode Island before coming to Cooper Union in 1993.

He is currently serving as a member of the organizing team for the International Virtual Winter School on Computational Chemistry (<http://winterschool.cc>), which freely welcomes students and scientists around the world to share the latest research in computational chemistry.



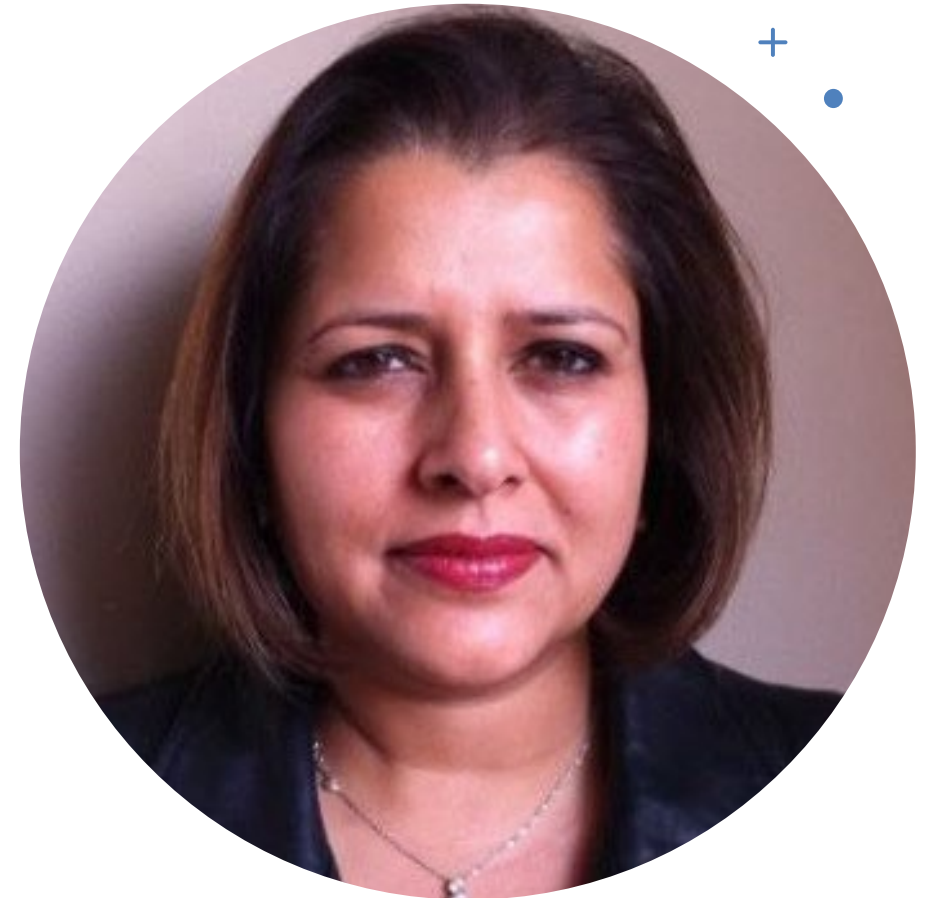
RUBEN ROSARIO Senior Director, School & Public Programs-Liberty Science Center

Ruben Rosario, Sr. Director of School and Public Programs at Liberty Science Center. I have been employed at LSC for 29 years. I received my Bachelor of Science in Chemistry from St. Peter's University. After graduation, I researched magnetic materials at Rhodia, Inc. and created "fun" science experiences at Liberty Science Center. My primary responsibility is overseeing informal science educators who engage learners of all ages in educational experiences. Additionally, I manage the Partners in Science program. The Partners in Science is an intensive, eight-week summer program for rising high school juniors and seniors that pairs students with mentors in science, health, and technical fields. It exposes them to current questions driving scientific discovery and challenges them to participate in ongoing research and independent projects.

Moderator

Vibha Jawa Ph.D. Executive Director Bristol Myers Squibb Vibha Jawa, Ph.D. Fellow of American Association of Pharmaceutical Sciences (FAAPS) Executive Director, Clinical Pharmacology and Pharmacometrics – Disposition and Bioanalysis, Bristol Myers Squibb

Dr. Jawa is responsible for leading biotherapeutic and cell/gene therapy bioanalytical (BA) functions, supporting DMPK and immunogenicity, and providing strategic and scientific oversight for the BMS developmental portfolio. Vibha was at Merck for 4 years where she led the Predictive and Clinical Immunogenicity group and at Amgen for 14 years supporting Discovery to Development for biotherapeutics. Vibha has 20+ years of experience in diverse fields of biologics, vaccine development, and gene therapy with the successful support of 20+ IND, BLA, and MAA filings. Vibha is a recognized leader in Bioanalysis and Immunogenicity with more than 75 peer-reviewed publications and serves as a reviewer and Editor for the AAPS Journal and J. Pharm Sci. Her current interests include preclinical translational approaches, data mining, ML/AI-based algorithms, and systems-based modeling, and improving the developability of novel modalities, including cell and gene therapies.



INDUSTRY PANELIST BIOS

Robert Dodge, PhD Director Scientific Governance, Novartis

Rob Dodge has worked in the New Jersey Pharmaceutical Industry for over 20 years in therapeutic manufacturing and clinical bioanalysis of small molecule drugs, protein drugs, biomarkers, and novel molecular entities such as cell therapy, and gene therapy products. Rob started his professional career at the Hopewell NJ Bristol-Myers Squibb facility in the Immunology Department of the BMS Pharmaceutical Research Institute. He then left to co-found a Contract Research Company (Princeton Bioanalytical Laboratory) in Monmouth Junction NJ. Subsequently, he sold that business to Pharmanet, a publicly traded company in Princeton NJ. Rob is currently the Director of Scientific Governance at Novartis in East Hanover, New Jersey





**Cynthia A. Inzano, M.S., Sr. Principal
Scientist, Clinical Pharmacology,
Pharmacometrics, Disposition &
Bioanalysis, Bristol Myers Squibb, NJ**

Cynthia Inzano (M.S.) is a Senior Principal Scientist for the Clinical Pharmacology, Pharmacometrics, Disposition & Bioanalysis group (CPPDB) at Bristol Myers Squibb. Cynthia has worked in the pharmaceutical industry for the last 25+ years, split between Bristol Myers Squibb and Johnson & Johnson. She has her Bachelor's and master's degrees in biology and is currently working towards her Ph.D. in Molecular Biosciences at Seton Hall University. Cynthia enjoys reading, traveling, spending time with her family, and volunteering for the BMS STEM program in her downtime.



Carmela Maffucci, PhD, Medical Director B-Cell Malignancies, Johnson & Johnson Innovative Medicines

Carmela is a medical director within the Oncology Global Medical Affairs Group of Johnson & Johnson. She supports the research and development and global commercial strategy teams as they work to bring new treatments to patients living with various lymphomas. Before her role in Global Medical Affairs, Carmela was a Hematology Oncology Medical Science Liaison covering the Northern NJ and NYC territories. Before joining J&J Carmela was the Vice President of Medical and Scientific Strategy at Ogilvy Health, a healthcare advertising company. Her focus there was on the marketing of various cancer treatments. Carmela was at Ogilvy for 10 years before transitioning to her roles at J&J.

Carmela received her B.S. in biology from Rutgers University and her Ph.D. in Cellular Pharmacology from The University of Medicine and Dentistry/Rutgers Medical School. She went on to do a post-doctoral fellowship at Memorial Sloan Kettering Cancer Center in NYC.



Sreejit R Menon, a distinguished Research & Technology Manager at Croda Inc. in North America

Sreejit R Menon, a distinguished Research & Technology Manager at Croda Inc. in North America, is a seasoned organic chemist specializing in specialty chemicals, excipients, and drug delivery. Holding a Ph.D. in Chemistry from the University of Toledo, Ohio, Sreejit has garnered extensive experience with notable stints at BASF, Mitsui Chemicals, and PeroxyChem. His diverse professional journey encompasses expertise in dyes & pigments, crop protection, and pharmaceutical excipients.

A prolific contributor to the scientific community, Sreejit has presented talks and posters at esteemed international conferences, including ACS, AAPS, AIChE, and SDC. His research findings have been published in various journals, and he has authored an invited book chapter exploring the pivotal role of surfactants in biopharmaceuticals. Sreejit is passionate about sharing his professional experiences and learnings with future generations, aiming to enhance innovation and foster the professional growth of upcoming next-generation innovators.





John Szilagy, PhD Principal Scientist, Toxicology, BMS

Dr. Szilagy is an investigative toxicologist in Nonclinical Research & Development at Bristol-Myers Squibb. His primary role is to design and conduct molecular toxicology studies focused on the identification of mechanisms with a focus on species-dependent effects. In doing so, his work seeks to address issues in drug development during preclinical testing and informs risk mitigation activities for drug candidates. In addition, Dr. Szilagy evaluates and implements novel toxicology models and assays, such as organoids and stem cell-derived tissues. Prior to joining BMS, Dr. Szilagy received his Ph.D. in Toxicology from Rutgers University and worked as a postdoctoral researcher at UNC Chapel Hill. In both institutions, Dr. Szilagy focused primarily on toxicological mechanisms that interfere with placental development and function during pregnancy.

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The advertisement features a red background on the left with the ThermoFisher Scientific logo. The main image shows a laboratory setting with a computer monitor, pipettes, and petri dishes. The word "invitrogen" is written in red in the upper right corner of the image.



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