

JUNE 2024

RUTGERS YOUTH ENJOY SCIENCE

RUYES WATCH



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ABOUT RUYES

The Rutgers Youth Enjoy Science (RUYES) program seeks to encourage youth from groups that are underrepresented in the biomedical sciences to pursue cancer research and healthcare careers.

Visit: www.cinj.org/ruyes
to apply. Email us at
RUYES@cinj.rutgers.edu

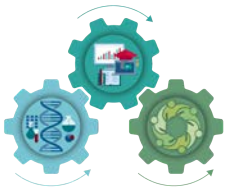
Rutgers Youth
Enjoy Science
[R U Y E S]

Promoting
Biomedical
Workforce
Diversity

RWJBarnabas
HEALTH

R | RUTGERS HEALTH
Rutgers Cancer Institute

NCI
Designated
Comprehensive
Cancer Center



STEM MIND-SET WORKSHOP



Rutgers Youth Enjoy Science (RUYES) hosted a STEM Mind-set workshop for RUYES, Oncology Physician Training Initiative to Maximize Diversity (OPTIM), and the Scholar and Early-Stage Investigator (SEA) Initiative for a professional development and networking event that took place at Rutgers Cancer Institute of New Jersey.

On April 13, Emonie Hall of the Walter Reed Army Institute of Research presented on discovering diversity and personalities, exploring personal perception, and equality verses equity.

The day was filled with active learning, shared research and mingling.



PROGRAM NETWORKING EVENT



Rutgers Youth Enjoy Science (RUYES), Oncology Physician Training Initiative to Maximize Diversity (OPTIM), and Ludwig Summer Internship Summer Program participants met for a networking event.

On June 13, at the Education & Training Office, undergrads and medical students from these programs came together to learn about each of the programs, engage in light-hearted ice breakers and networking, meet the staff, and have lunch.



LINDEN CANCER HEALTH FAIR

ROSA MESSINA
PROGRAM COORDINATOR, RUYES

On April 30, 2024, Linden High School hosted its 2nd Annual Linden Cancer Health Fair. The Rutgers Youth Enjoy Science (RUYES) program and the Linden Youth Enjoy Science (L-YES) club in collaboration with Rutgers Cancer Institute of New Jersey's Community Outreach & Engagement (COE) Department provided booths and stations with learning activities various cancer-focused topics. These included general cancer education topics, tobacco cessation, pancreatic cancer, sun safety, and a public health and cancer presentation. Students from the RUYES club shared their research in poster presentations to small groups of students that were interested in their research and how they were able to get involved in such a program.

This in-person event included approximately 500 people made up of staff, teachers, students, board members, Linden's Superintendent of Schools, Dr. Atiya Y. Perkins, and Mayor Derek Armstead's wife, Erika Armstead.

In addition to these lively activities, Gabriella Dumbrique, Cancer Control Specialist from the Community Outreach and Engagement department, provided a district wide presentation via zoom on "Cancer and the Environment". This online forum reached approximately 260 participants including teachers, students, faculty, and community members.



The RUYES Linden students involved were so impressive and inspirational that they were invited to present their research posters at the May 21st Town Council meeting where they and the advisors of the Linden YES club were acknowledged by a Mayor's Proclamation. In attendance were council members, community members, and law enforcement that were also being honored.

Advisors and RUYES teacher participants, Pramila Natarajan and Tristan Mondesir, were celebrated for their work creating the club. Linden students, club members, and RUYES participants Deanna Lescouflair, Diego Sanabriga, and Ita O Braonain Murcia along with other Linden YES students were acknowledged and given time to communicate their research to council and community members. The students were excited to share their findings in such a forum where adults could learn from them. Their presentations were well received.



Above: A small ceremony honoring the members of the Linden YES Club alongside Principal Charles Koonce, Supervisor Cynthia R. Apalinski, and Superintendent Dr. Atiya Y. Perkins.



Left: Diego and Ita of RUYES discussing tobacco cessation with Monica Gilles of COE. **Right:** Deanna and Tia of RUYES sharing their research posters.



Above left and above right: Linden YES Club advisors and RUYES teacher participants and Linden high school students and RUYES participants receive recognition at Linden's May Town Council meeting.

PAST EVENTS



Rutgers Youth Enjoy Science (RUYES) in collaboration with Center for Mathematics, Science, & Computer Education

Science Teacher Round Table PLC & RUYES Cancer focused PBL/NGSS Unit Introduction



Date: Tuesday, March 12, 2024
Time: 4:00pm - 5:30pm
Location: Zoom

Registration



Throughout their participation in RUYES, teachers have created cancer focused interactive unit samples using Problem Based Learning (PBL) and Next Gen Science Standard (NGSS) for teaching in their classrooms. These units are developed with the collaboration of the Education and Training Department at Rutgers Cancer Institute of New Jersey and the Center for Mathematics, Science and Computer Education, Rutgers Continuing Studies.

Join us in a Science Teacher Round Table where our teachers highlight their cancer focused activities, share resources, and plan for future implementations.

Cancer-focused topics to be presented:

- Case Studies: Cancer Patient
- Cancer Research: Electrophoresis with Everyday Materials
- Endocrine Disruptors and Cancer Prevention
- DNA and Genetic Cancer Mutations
- Underrepresented Cancer Types
- Design Challenge: Educational Model for a Nano-based Delivery System for Chemotherapeutics
- Water Quality EPA and Effects in Cancer
- PSA for Cancer Screening
- Environmental Impacts on Cancer
- Avoid Misinterpreting Research Data

* The RUYES program is funded by the National Institutes of Health/National Cancer Institute grant 1R25CA247785.

cmsce.rutgers.edu

cinj.org/RUYES

MARCH & APRIL 2024

Tuesday March 12

Science Teacher Round Table PLC & RUYES Cancer focused PBL/NGSS Unit Introduction

Saturday April 13

STEM Mind-set Professional Development

Tuesday April 30

Linden Public Schools 2nd Annual Cancer Health Fair



STEM Mind-set

Join Rutgers Youth Enjoy Science (RUYES) trainees and staff in near peer mentoring professional development session and welcome new trainees for summer 2024



Saturday, April 13, 2024
10am-2pm

Rutgers Cancer Institute of New Jersey
195 Little Albany St New Brunswick, NJ

To Register:

<https://go.rutgers.edu/rvsizoc9>



The RUYES program is funded by the National Institutes of Health/National Cancer Institute grant 1R25CA247785.

SUMMARY

- Learning styles in mentoring
- Exploring personality types
- Enhancing Diversity in STEM careers
- Meet mentors
- Welcome new trainees
- Cancer research posters
- Lunch is provided



RUTGERS UNIVERSITY YOUTH ENJOY SCIENCE (RUYES)

LINDEN PUBLIC SCHOOLS 2ND ANNUAL CANCER HEALTH FAIR

PROMOTING CANCER EDUCATION, RESEARCH AND AWARENESS THROUGHOUT OUR COMMUNITIES

BOOTHS ON:

- Lung Cancer
- Skin Cancer
- Cancer Research
- Tobacco Cessation
- HPV Education
- Environmental Impact

APRIL 30, 2024
8:30AM - 3:00PM

Linden High School
121 West Saint George Avenue
Linden, New Jersey 07036
(Open to Linden Students Only)



INTERESTED IN CANCER RESEARCH? JOIN THE YES CLUB AT LINDEN HIGH SCHOOL!
[HTTPS://WWW.REMIND.COM/JOIN/798889E](https://www.remind.com/join/798889e)

The RUYES program is funded by the National Institutes of Health/National Cancer Institute grant 1R25CA247785.

UPCOMING EVENTS

JUNE 2024

RUYES Orientation Week

Wednesday June 19

Start for undergraduates

Thursday June 20

Lab Skills

Conference Posters in PowerPoint

Workshop Marcia (1pm Zoom/in-person)

Monday June 24

Start for teachers/PBL Curriculum;

All in-person

JUNE 2024

RUYES Orientation Week

Tuesday June 25

Kick-off all participants

Wednesday June 26

All in-person

Thursday June 27

RSE Activity/Report to Research



JUNE 2024

Monday June 24

Introduction to Design Thinking &
RUYES Cancer PBL Units
Professional Development



RUTGERS
Cancer Institute
of New Jersey
RUTGERS HEALTH

Center for Mathematics, Science, & Computer Education



Introduction to Design Thinking & RUYES Cancer PBL Units Professional Development

Date: June 24, 2024

Time: 9:00am - 3:00pm

Location: Rutgers New Brunswick



Registration

Part 1 - The first part of the PD will be an introduction to Design Thinking. Design thinking is a way of thinking and working, as well as a collection of hands-on methods. Design Thinking is not an exclusive property of designers—all great innovators in literature, art, music, science, engineering, and business have practiced it. In this workshop you will learn about design thinking skills, habits of mind, ways of thinking, being reflective about how we think, and common language for design thinking in STEAM. You will be immersed in hands-on-minds-on activities that will help you unlock your creative potential.

Part 2 - The second half of the day participants will be introduced to High School Science Cancer based PBL Units that have been created by NJ science high school teachers taking part in the RUYES program. The teachers who have created these units will be sharing what they have created, including any lesson plans and tips to implementing these units in your high school science curriculum. You will have the opportunity to hear about several units created and ask questions.

*Cancer focused curriculum developed by high school science teachers in the RUYES (Rutgers Youth Enjoys Science) program. The RUYES program is funded by the National Institutes of Health/National Cancer Institute grant 1R25CA247785.

UPCOMING EVENTS

JUNE 2024

Cancer-focused STEM Activity Development with Rutgers, Summer 2024 Opportunity
First Meeting: **Thursday June 27**
10am - 3:30pm



CANCER-FOCUSED STEM ACTIVITY DEVELOPMENT WITH RUTGERS SUMMER 2024

OPPORTUNITY

Are you a middle school science teacher interested in developing innovative STEM activities based upon research done at the Rutgers Cancer Institute? We are looking for 4 teachers who will have the opportunity to collaborate directly with the Rutgers Youth Enjoy Science (RUYES) program and its partners the Rutgers Science Explorer program (RSE) and Rutgers Office of STEM Education.

BACKGROUND

Prior RUYES participants (teachers and students) have created interactive lessons, grounded in the NJ State Science Standards, that have focused on the prevention, diagnosis and awareness of cancer. These 60-90 min lessons focus on real-world problems and current cancer research to address these problems. Selected candidates will engage in creating supplemental learning packets for one of these lessons and will use them in their classrooms.

BENEFITS

Selected candidates receive...

- \$500.00 compensation
- Complementary visit by the Rutgers Science Explorer Bus to their school (for 4 sessions) or visit to the Rutgers Science Explorer Station (up to 50 students)

Rutgers Explorer Bus Program Details:

This unique opportunity to foster interactions between scientists and students is available in two ways. Middle school students within a 50 miles radius of Rutgers New Brunswick Main Campus can participate in activities aboard our 40-foot long mobile laboratory. Alternatively, if a bus visit isn't feasible, our scientists can lead the activities inside your classrooms or libraries.

Rutgers Science Explorer Station

Along with the opportunity to have our mobile science lab and scientists visit you on-site, we also offer in-person programming for grades 4-9 on Rutgers' Busch Campus. This expanded program continues to support our goal of providing your students exciting, standards-based learning opportunities led by Rutgers' scientists.



AT A GLANCE

OPPORTUNITY

- 4 middle school teachers needed
- Develop STEM activities based on cancer research

BENEFITS

- \$500 compensation
- Rutgers Science Explorer Bus or Rutgers Science Explorer Station for your students

PARTICIPANTS MUST ATTEND THE FOLLOWING MANDATORY MEETINGS:

- Thursday, 6/27 10am-3:30pm (in New Brunswick)
- Friday, 6/28 9am-10:30am (zoom)
- Wednesday, 7/10 9am-10:30am (zoom)
- Wednesday, 7/31 9am-10:30am (zoom)
- Wednesday, 8/14 12pm-4pm (in New Brunswick)



Contact: Casandra Gabriele, Program Coordinator
RUYES@cinj.rutgers.edu

AUGUST 2024

SAVE THE DATE RUYES RESEARCH POSTER SYMPOSIUM

August 22, 2024

RUYES Trainees from Cohorts 3 & 4 present research projects and findings through posters and presentations.

If interested in attending contact RUYES Program Coordinators
ruyes@cinj.rutgers.edu

August 23

Last Day for Teachers

August 30

Last Day for Students



CONGRATULATIONS GRADUATES



Jaina McKoy

Graduated from: Union County Vocational
Technical High School
Attending: Spelman College, Intended Major:
Biochemistry



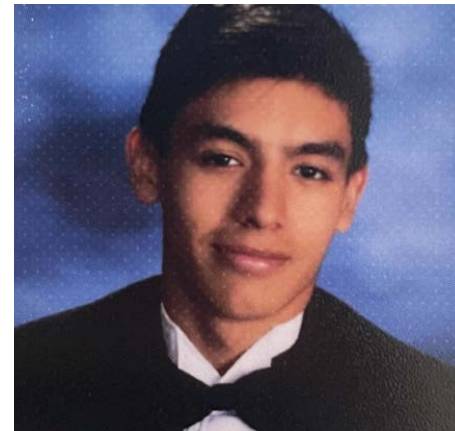
Melanie Spruill

Graduated from: Piscataway High School
Attending: Hofstra University, Intended
Major: BS/MS for Physician Assistant Studies



Abdur-Rahman Oladoja

Graduated from: Woodbridge High School
Attending: Yale University, Intended Major:
Molecular, Cellular, and Developmental Biology



Diego Sanabriga

Graduated from: Linden High School
Attending: Stevens Insitute of NJ,
Intended Major: Biomedical Engineering



Elizabeth Escobar Gomez

Graduated from: New Brunswick Health
Sciences Technology High School
Attending: Duke University, Intended
Major: Neuroscience with a minor in
Computational Biology



Ita O Braonain

Graduated from: Linden High School
Attending: To be determined

WHERE ARE THEY NOW?

Leyneir Cespedes

Cohort 1



Leyneir Cespedes graduated from Rutgers University - New Brunswick with a major in Molecular Biology and Biochemistry and a minor in Chemistry with high honors for her Interdisciplinary Honors Thesis where she carried out her own research project for her senior year. Leyneir will be starting medical school this August at New Jersey Medical School with the goal of becoming a surgeon.

Leyneir applied to medical school through an early decision application and received her acceptance last year in August. She is in a 6-week pre-matriculation program called First Introduction to Resources, Skills, and Training (FIRST) to gain valuable skills and knowledge enabling a successful transition into medical school.

Jessica Damanski

Cohort 1



Jessica Damanski obtained a summer internship at Merck in Global Clinical Trial Operations. In this role, she helped improve quality metrics for a phase I oncology clinical trial. Then, in May of 2024, Jessica graduated with a degree in Biological Sciences from The College of New Jersey.

Jessica is excited to continue her journey at Rutgers this fall as she starts the Biomedical Sciences PhD program on the Molecular Biology, Genetics, and Cancer track.

RUYES TEACHERS ROUNDTABLE

Our RUYES teachers created cancer-related activities to incorporate into their classroom to teach their students about cancer. Here are a few highlights:

Pramila Natarajan

Topic: Learning through play - cancer board games

Courses it can be taught in: Biology, Genetics

Number of students: 30

NGSS Standards: HS-LS1-1, HS-LS1-2, HS-LS1-3

Goals: Educate the younger population in Linden about the different types of cancers, create a board game about different types of cancer to educate LHS students

- Students went into different classrooms and played board games with the other students
- Guest speaker came to speak about breast cancer

Kate Cilluffo

Topic: Disparities in cancer treatment

Courses it can be taught in: Biology, Genetics

Number of students: 41

NGSS Standards: HS-LS1-4, (said there were more)

Background research: Students select a certain type of cancer, explain what genes are mutated in said cancer, research the symptoms, and treatment options

Identifying the problem: Students research disparities present in public health/access to healthcare

Designing a solution: Students choose a disparity and identify a strategy to fix it

Communicating information: Students present their research!

HONORS ASSIGNMENT:

Number of students: 63

- Addition of research in clinical trials
- Students would identify what new research is being done
- Addition of going on PubMed to find additional research
- Students would find existing research and identify an angle they would focus on while conducting research on their chosen cancer



HIGH TECH HIGH SCHOOL FIELD TRIP

On Thursday, February 29th, students from High Tech High School in Secaucus, NJ visited the Rutgers Cancer Institute of New Jersey. The day was nothing short of inspiring and educational. Students had the incredible opportunity to immerse themselves in the world of cutting-edge cancer research, courtesy of the esteemed professionals at the Rutgers Cancer Institute.

The visit was a pivotal moment for High Tech's Biomedical Science students, offering them invaluable insights into the realm of scientific discovery and medical innovation. During their visit at the institute, students engaged in a variety of enriching activities. One of the highlights of the day was the hands-on laboratory experience, watching lung tissue, mimicked by a sponge, grow and change based on the chemicals found in flavored vapes. Students worked in groups as they added common chemical flavorings to the "lung tissue" and followed with a cell health test solution to see the damage done by these chemicals on the tissue. Students analyzed the data they collected and went to their next activity.



Students had the privilege of interacting with passionate individuals pursuing diverse careers in the scientific field. From researchers to medical professionals, they had the opportunity to engage in meaningful conversations and gain invaluable advice from those who are paving the way in their respective fields.

The exchange of ideas and experiences undoubtedly left a lasting impression on students, igniting their curiosity and fueling their aspirations for the future. Another noteworthy aspect of the visit was the opportunity to connect with students from their RUYES program. Students had the chance to view posters showcasing the remarkable work being undertaken by their peers and engage in insightful discussions about their research and their shared academic journeys.

It was a truly collaborative and empowering experience, underscoring the importance of community and knowledge-sharing in the pursuit of excellence. A comprehensive tour of the institute provided our students with a behind-the-scenes look at the inner workings of a world-class research facility. From state-of-the-art laboratories to collaborative workspaces, they gained valuable insights into the dynamic and innovative environment that drives scientific discovery at the Rutgers Cancer Institute of New Jersey. Under the guidance of experienced mentors, our students had the chance to witness firsthand the techniques and technologies driving groundbreaking discoveries in the fight against cancer. The Rutgers Cancer Institute of New Jersey was an enriching and transformative experience for all involved. We extend our heartfelt gratitude to the staff and faculty for their warm hospitality and unwavering commitment to fostering the next generation of scientific leaders.



HEALTH FAIR HIGH TECH HIGH SCHOOL

On May 29, 2024, the Rutgers Youth Enjoy Science (RUYES) program partnered with the Oncology club at High Tech High School in Secaucus, NJ to play a crucial role in educating attendees about cancer prevention and early detection. Their engaging displays highlighted essential information related to cancer risk factors, screening guidelines, and sun exposure protection. The RUYES program emphasized the importance of preventing cancer through early detection. They provided resources that described risk factors and other relevant information, empowering attendees to have informed conversations with their healthcare providers about screening schedules.



Skin cancer, including melanoma, is largely preventable by reducing exposure to harmful ultraviolet (UV) rays. RUYES participant and representative, Ileana Gonzalez, stressed the significance of sun protection and shared practical tips for safeguarding our skin. Regular self-skin checks and dermatologist visits were also encouraged. They provided prosthetic skin cancer models demonstrating how various forms of skin cancer may look on an individual's skin. In addition, they had a bracelet making station using beads that change color according to the ultraviolet rays when outside. The set up was engaging and called attention to serious issues allowing students and staff to understand the importance of protection against the sun.

The RUYES program heavily expressed the importance of early detection and prevention for skin cancer. While there is no official recommendation for routine skin cancer screening, most doctors advise checking your skin monthly, especially if you are at higher risk. Individuals with weakened immune systems or a history of skin cancer fall into this high-risk category. Early detection remains crucial for successful treatment. Early prevention can be made through the use of sunscreen, which was provided to many of the attendees.



In summary, the health fair provided valuable insights into cancer prevention, with a special focus on skin health. The RUYES program's participation contributed significantly to raising awareness and empowering our school community to take proactive steps in maintaining their well-being.

Special thanks to Carolyn J. Heckman, PhD and Anna Mitarotondo Research Program Manager of Heckman Research Program for their collaboration in this event and the Rutgers Youth Enjoy Science program.