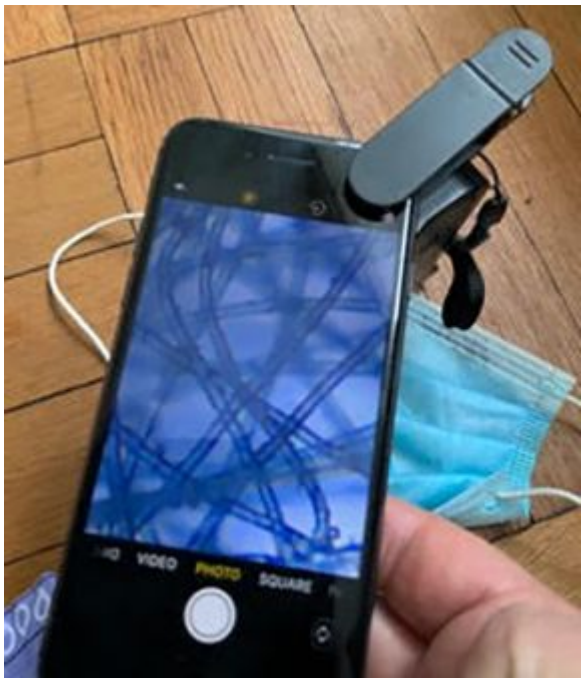
The Roger Lehecka Double Discovery Center

Getting community youth to, through, and beyond college



In this February 2021 issue:

Spotlight On:

- Clementina A., DDC'21, competed in her first New York City Urban Debate tournament on February 6th. She placed 2nd in the High School Beginner's Policy Debate Division and 6th in the Individual Speakers' Award category. Clementina will attend Colgate University this fall.
- Khadijah Sharif-Drinkard, DDC'89, was appointed Senior Vice President for Business affairs at ABC News. Previously, she was SVP for Legal and Business Affairs at CBS Viacom for the BET Networks. Khadijah has a B.A. in political science from Columbia University and a J.D. Law from Fordham University.

Congratulations Clementina and Khadijah!

Comprehensive Guide to New York Climate Action
by Anna Beckmann, Daniel Levine-Suarez, Lisvanny Polanco, DDC'21

DDC Students Discuss COVID-19

Environmental Injustice

Comprehensive Guide to New York Climate Action

This *Comprehensive Guide to New York Climate Action* was developed by Lisvanny Polanco, DDC'21, Anna Beckmann and Daniel Levine-Suarez, as part of a Civic Action project for their *Participation in Government* high school history class. They had to select and research a specific public policy and develop an action plan.

We chose to focus on the impacts of climate change on New York City to increase awareness, says Lisvanny*, because even in the midst of a pandemic, this is an ongoing issue that is only getting worse.*

This e-resource offers a snapshot of the consequences of climate change on NYC including the impact on rising sea levels and the COVID epidemic, and lists easy-to-implement conservation activities. The brochure also provides links to local environmental organizations and step-by-step instructions for political engagement in the City.

T*his project really opened our eyes on the importance of civic engagement, where individuals and groups take action to address issues of public concern***,** adds Lisvanny. *Staying informed and increasing awareness is as necessary as engaging in direct action. This is why we decided to take the first step with the development of this informative brochure and we want to distribute it as widely as possible. We hope that others will learn from it and feel motivated to engage in the fight against climate change any way they can.*

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DDC Students Discuss COVID-19

DDC classes are such a terrific way to educate students. We do not teach for a standardized test, we cover current issues that impact students' lives, we show them how to separate facts from fiction and in the process we teach science! There is no better motivation today to learn science, says Dr. Sascha Russel, Ph.D**.** in Genetics from Harvard University and M.A. in Science Education from NYU-Steinhardt. *The purpose of science,* she adds, *is to help us solve this kind of crisis, and maybe some of these DDC students will become physicians or researchers and one day, they will take us through the next public health emergency!*

The COVID-19 class takes students beyond the headlines and dives into biology through the lens of the pandemic. They learn about the scientific method, conduct experiments - sometimes using a handheld 250x microscope provided by DDC - and experience first-hand the rigorous process of developing reliable and meaningful data. Dr. Russel discusses the latest technology on testing, prevention and vaccines. Students track virus mutations, examine the spike protein on the surface of the virus – the vaccine target - and learn about the different treatments available.

Quite an intensive syllabus, but the class always makes time to address different topics of particular interest to students. *Students are hungry to discuss current events but they do not have the opportunity in school* says Dr. Russel. *I think it is very valuable to address a*

variety of issues with them, this is how they enhance their problem-solving and critical thinking skills.

Each class includes a discussion of the latest news about the pandemic. For example, Miranda C., DDC'22, commented on *The origin of SARS-CoV-2,* an article from *The Lancet*. Miranda explained that the virus may have started in bats but acquired a mutation that made it compatible with humans, thereby gaining the ability to jump species. Scientists see this as a consequence of environmental degradation, which causes massive migration of people and shifts in animal habitats. This increases exposure between animals and humans and raises the risk of pandemics.

Miranda C. also indicated that some researchers have not completely eliminated another hypothesis: SARS CoV-2 may have escaped from the Wuhan Institute of Virology (WIV) through human error. WIV has been studying the wide variety of bat coronaviruses, estimated at over 3000, for years. *The goal is to find a hypothesis supported by facts*, emphasizes Dr. Russel.

I love biology and I am very interested in communicating science and empowering young students, says Dr. Russel. *DDC students are intellectually intrepid, they are willing to try out different things, different formats. These students are remarkable! They come to class every week and they tackle extra homework, not because they have to but because they want to,* adds Dr. Russel. *It is a joy to teach students who chose to do extra academic work to learn more about a subject.*

Environmental Injustice

The pandemic is shedding a bright light on environmental injustice especially in terms of air pollution, which is a major cause of respiratory illnesses. Redlined neighborhoods that have high poverty rates also have a concentration of polluting infrastructures such as highways, bus depots, and waste treatment plants because land in these areas tend to be cheaper and there is less likelihood of political opposition. Constant exposure to poor air quality has negative health impacts for residents.

I am passionate about issues of environmental injustice and how they affect communities, says Garima Raheja, Ph.D. candidate in Earth and Environmental Science at Columbia University, who designed the curriculum for this DDC class. *I lived in New Delhi, one of the world's most air polluted capitals, I know how pollution deteriorates living conditions. DDC students are very observant, they see the issues,* she adds*, this class deepens their awareness and shows them tools they can use to make a difference in their communities.*

Environmental classes typically focus on research techniques and ignore the social context. This class reviews the science of air, water, and land at the intersection of social issues such as race, gender, class and disability. Students learn to use the latest tools - data science, satellite technology, and open-source softwares - to design solutions for specific environmental problems. *DDC students are very proactive, they want to solve real world problems*, says Garima.

The class on air pollution introduced particulate matters – the mixture of solid particles in the air that we inhale. Student checked purpleair.com/map to find estimates of real time air quality data, based on EPA Air Quality Index scale, measured by Purple Air low cost sensors installed all over the world.

Wondering about the air quality in your neighborhood? *On February 19, 3pm, the Upper West Side's EPA air quality index was 41, particulate matters 2.5 micrometers and under. This means that the air quality was satisfactory and air pollution posed little or no risk.*

The class on water examined the 2014 public health crisis in Flint, Michigan, when the city decided to switch to a cheaper source of drinking water and started pumping from the Flint River. That water was corrosive and leached lead – a neurotoxin – from aging pipes and into homes, exposing some 100,000 residents, including young children, to lead poisoning.

DDC classes are different from what students experience in traditional schools, says Garima. *DDC encourages a class environment that is conducive to holistic learning. Students are open, they want to share their ideas and their experiences. Thinking critically is not just about observing carefully, it is about thinking of what comes before and after. At the end of the class, students often stay half an hour longer just to chat and connect the dots, this is very encouraging!*

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