



Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

Black Lives Matter at The Rockefeller University

NATURAL SELECTIONS EDITORIAL BOARD

The appalling and tragic murder of George Floyd in Minneapolis during a pandemic that was already disproportionately affecting Black communities provoked a global re-awakening for justice for Black people. This seeking of justice has not excluded the realm of academia.

The [Rockefeller Inclusive Science Initiative](#) (RiSI) is a student-run organization formed in 2018 with the support of Erich Jarvis as the faculty advisor. [Dr. Jarvis](#), a Rockefeller alum himself, is the first and only Black full professor in the 119-year history of Rockefeller. RiSI's mission is "to unify diverse voices and improve our campus and broader scientific community" in terms of diversity and inclusion. In the two short years since its inception, RiSI's work and passion have already had an impact on the Rockefeller community and the broader scientific community, including their [advocacy](#) for contracted custodial workers at the beginning of the shutdown due to COVID-19.

So when no official statement came from Rockefeller for days after the murder of George Floyd and the beginning of protests, RiSI stepped up. On May 31, 2020, they sent an e-mail to the Rockefeller community acknowledging Floyd's murder and encouraging university members to show their support for the Black community (see RiSI e-mail, page 14).

Black Lives Matter signs were subsequently hung around the university, most prominently displayed to the public on the [north side of the Kravis Research Building along the East River](#) and in the halls of university housing (shown below). Unfortunately, the sign hung in university housing by Rockefeller graduate students Rachel Leicher and Donovan Phua was removed the next day, according to Leicher.

RiSI also followed up with an e-mail linking to [helpful resources](#) including fundraisers, petitions, literature, and organizations related to social justice and the Black Lives Matter movement. After sending a statement of solidarity to the community along with this list of resources, RiSI collaborated with Women in Science at Rockefeller

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(WiSeR) and People at Rockefeller Identifying as Sexual Minorities (PRISM), as well as a group of Rockefeller alumni to send concurrent e-mails to the Rockefeller administration addressing their silence.

RiSI, WiSeR, and PRISM sent a collaborative e-mail to the administration on the evening of June 1 (see RiSI, WiSeR, and PRISM e-mail, page 14). After collecting 116 signatures from alumni belonging to graduating classes ranging from 1969 to 2020, the alumni group sent their e-mail the following afternoon on June 2 (see Rockefeller alumni e-mail, pages 15-16).

On the afternoon of June 2, the Rockefeller administration broke their silence with an e-mail to the Rockefeller community. After additional prompting by RiSI and others within the Rockefeller community to stand publicly in solidarity with the Black com-

munity, the initial e-mail response was made [public](#) two days later.

The administration also acknowledged their receipt of the alumni letter and said that they would use their ideas as resources to consider how to move forward and improve the community at Rockefeller.

RiSI continued to have multiple meetings with the administration and followed up with an additional letter and [petition](#) for the administration to commit to taking actionable steps to address racism on campus (see RiSI petition e-mail and petition, pages 15-16).

Within twenty-four hours, the petition had garnered support from 350 members of the Rockefeller community. This continued effort led by RiSI resulted in the first racial equality Town Hall meeting of academic staff and students with the administration on June 10, which was also the date of [#shut-downSTEM](#), a day used by academia to pro-

test and reflect on social injustice in support of the Black community. As of June 25, RiSI's petition had the support of 444 members of the Rockefeller community, including sixteen Heads of Laboratory.

The Rockefeller administration is trying to respond to these cries for justice. To show their support, they have provided [free COVID-19 testing](#) for those wishing to participate in protests in the city. Statements of solidarity, like the one given by President Rick Lifton at the beginning of the [2020 Virtual Convocation Ceremony](#), are greatly appreciated as are [steps](#) (see page 16) that have already been taken to make the university inclusive. But a response to cries for justice predicates that there is an unmet need in the community and there is clear room for improvement. Continued, consistent, and intentional action and support are required. Our community needs to unequivocally say and show that Black Lives Matter. ■



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Photo Courtesy of Wolfram Kastl | GETTY IMAGES

Twenty-first Century Racism in America

TRACY ADAMS

For decades, four simple words have been the articulation of hope for people of color who, speaking out against never-ending violence and injustice in their communities, are simply fed up...“No Justice, No Peace!” These four words have been the rallying cry of every protest, march, and assembly of people who simply just want to be heard. [Martin Luther King Jr.](#) once said, “Injustice anywhere is a [threat](#) to justice everywhere.” Over the last several decades, countless police shootings of unarmed Black Americans have gone, and continue to go, unchallenged and unpunished by our nation’s law enforcement.

The Origins of Racism in America

To understand the current state of society, you would have to understand our beginnings as Black people in America. The foundational fabric of the United States of America has been rooted and grounded in slavery from the late 1500s until the passage of the [Thirteenth Amendment](#) in 1865, where it became unlawful to enslave, own, purchase, or trade another human being as you would commodities. Prior to the Thirteenth Amendment, property law was applied to every Black man, woman, and child—they were stripped of all dignities and human rights and viewed as property such as real estate or land. Black people were not viewed as people but



A demonstrator holds a No Justice No Peace sign at the rally for Philando Castile outside the Governor's residence in St Paul MN 7/7/2016

Photo Courtesy of Lorie Shauli

rather tangible things that could be manipulated and controlled. This mindset made it all too easy for captors, slave “owners,” and oppressors to disassociate themselves from the humanity of Black people. The elements of human nature did not apply to people of color and they were regarded as sub-human. Black people could not own property, could

not vote, and were denied education and basics of life that we sometimes take for granted. In the 2019 movie [“Harriet,”](#) the white plantation owner reprimanded the protagonist, Harriet Tubman, for requesting her freedom by “reminding her” that he *allowed* her to marry a free Black man even though he was denying her petition to also be free. This highlighted the inhumane circumstance that Black people were denied even basic human rights to decide who and when to marry.

In the years leading up to the drafting of the Constitution of the United States in 1789, the notion of slavery, although widely practiced, was a hotly debated topic to the point that the actual word “slavery” was not included anywhere in the official writings. Yet it was implied that slavery would be legally permitted. Legal sanctioning of slavery, in one form or another, has been a part of American culture since its origins.

The Changing Faces of Slavery

Often when people hear the word “slavery” they immediately imagine shackled, kidnapped, beaten Africans being brought over to the “new world” on ships by Europeans crossing the Atlantic. Although this is a true part of American history, this practice

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Poverty by Ethnicity

According to 2018 US Census Data, the highest poverty rate by race is found among Native Americans (25.4%), with Blacks (20.8%) having the second highest poverty rate, and Hispanics (of any race) having the third highest poverty rate (17.6%). Whites had a poverty rate of 10.1%, while Asians had a poverty rate at 10.1%.



The Economics of Poverty

Poverty thresholds are determined by the US government, and vary according to the size of a family, and the ages of its members. In 2018, the poverty threshold—also known as the poverty line—for an individual was \$12,784. For two people, the weighted average threshold was \$16,247.

Image Courtesy of Poverty USA

CONTINUED FROM P. 3

has been banned for over 200 years. Africans are no longer brought over in droves to work fields or gins from sunrise to sunset, but make no mistake, [modern-day slavery](#) is alive and well. Slavery takes on many forms in the modern-day world such as “debt bondage, child slavery, domestic servitude, forced labor,” and human trafficking. Over [forty million](#) people live in some form of slavery worldwide with 1 in 4 being children and 71% being women and girls. The many changing faces of slavery and social injustice today are far too often masked by political strategies and legislation that make it completely legal to oppress and even eradicate Black people. Some of these avenues of oppression are voter suppression, “justified police shootings,” income inequality, unemployment, and lack of affordable housing. In 2018, [the poverty rate](#) for Black people in America was 22% compared to 9% for white people and 19% Hispanic people.

The murder of [George Floyd](#) on May 25, 2020 sent the Black community and people of all races into utter shock whilst enraging many to the point of action. The actions of four police officers brought feelings of frustration, anger, and fear to what is now an absolute boiling point. Martin Luther King Jr. said, “A riot is a language of the unheard.” What we are witnessing in our streets and cities is a collective body of people desiring to be heard, desiring policy changes, desiring people of all shades to be regarded as human beings equally. This desire manifests in the form of peaceful protests as well as lawless rioting and looting. For six years, after the murder of Trayvon Martin and the acquittal



Photo Courtesy of pedestrian.tv

of George Zimmerman, the [#BlackLivesMatter](#) (BLM) movement has been working tirelessly to bring acute awareness to the sufferings of Black people, to be that united voice of change...real, sustainable change. Healing and transformation is needed, not just for the Black community but for the world. Oppression and segregation have long-reaching effects and hurt every individual that has blood flowing in their veins. It is these social ills that poison and cripple cultural and economic potential.

The Global Experience

The [U.S. is recognized](#) as a world-class leader in power, innovation, entrepreneurship, commerce, immigration, and quality of life. After decades of police brutality, clashes

with ill-intended civilian vigilantes, and social injustice against Black people, the question remains: by whose standards is the U.S. a leader? The words of Abraham Lincoln’s [campaign speech](#), “A house divided against itself cannot stand,” still ring boisterously true today. However, we as a nation have somehow forgotten their true meaning. If we say (and believe) that we are world leaders whose actions spark and motivate global reactions, then we collectively have an inherent duty to protect our citizens—each and every one—from division and separatism. By calling uncomfortable matters as they really are and finding sustainable solutions, we can garner the praise that we so relish. As Lincoln

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United States Rankings

revealed, a nation cannot have two sets of differing ideals and expect to be whole. Moreover, it cannot be respected as a leading force if there is chaos within. The world has taken notice and is responding in kind. The [BLM movement](#) is sweeping the U.S. and the globe, for what has affected one is now affecting all. People of all races want change; the people want justice for all.

Let us remember:
[George Floyd](#)
[Sandra Bland](#)
[Freddie Gray](#)
[Breonna Taylor](#)
[Tamir Rice](#)
[Eric Garner](#)
[Philando Castile](#)
[Alton Sterling](#)
[Oscar Grant](#)
[Sean Bell](#)
and countless others... ■

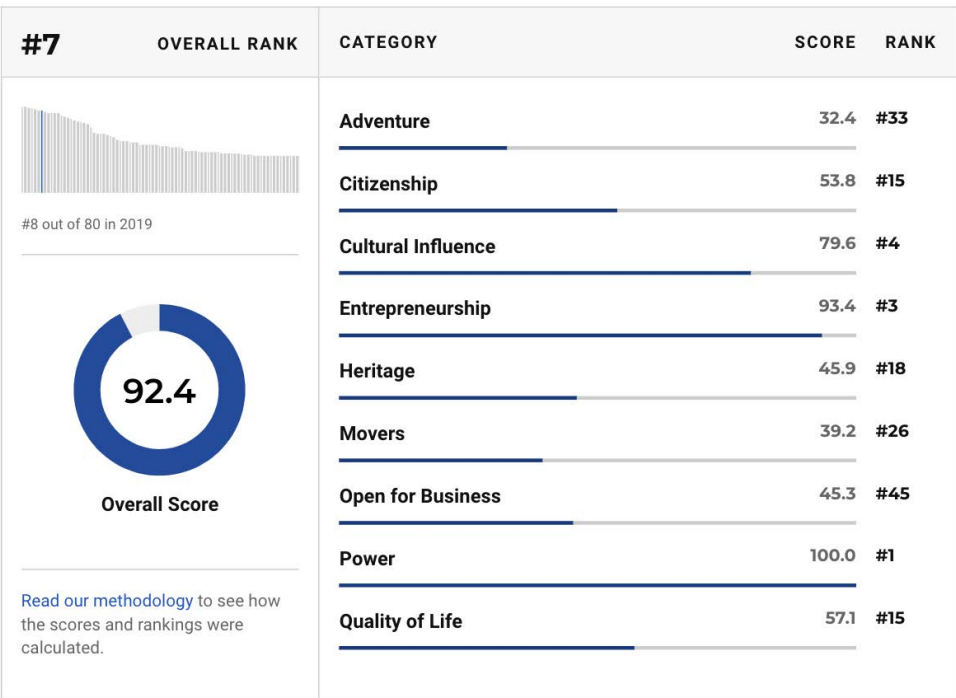


Photo Courtesy of US News



GRETCHEN M. MICHELFELD | NATURAL SELECTIONS

A Black Lives Matter Vigil in Travers Park, Queens

Talking to My White Child About White Privilege: A Work in Progress

GRETCHEN M. MICHELFELD

I am ashamed to say, my first attempt to explain white privilege to Beckett was only a few months ago. My son is almost twelve and I have been complacent, you see. I have practiced the complacency of a liberal urban mom who is reassured by the diversity of her neighborhood and schools, who has tried to teach anti-racist lessons from day one, who is pleased that her child has

a diverse group of friends, happily accompanies her to protests, and asks for birthday donations to the American Civil Liberties Union. I am aware of the virtue signaling in my opening paragraph. I am keenly aware of my white fragility: the defensive clinging to a belief in my fundamental goodness and fairness. I want to believe that I have taught

Beckett to be good and fair. But the shock of the recent racist violence in this country that has come into the foreground of white people's collective consciousness has forced many of us to realize that we cannot talk about the evils of racism without acknowledging the privileges

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we enjoy. These privileges are a direct result of the perverted notion of white supremacy that first justified the economic calculus of slavery and segregation, and which continues (consciously or not) to dominate the thinking behind countless political and economic decisions every day.

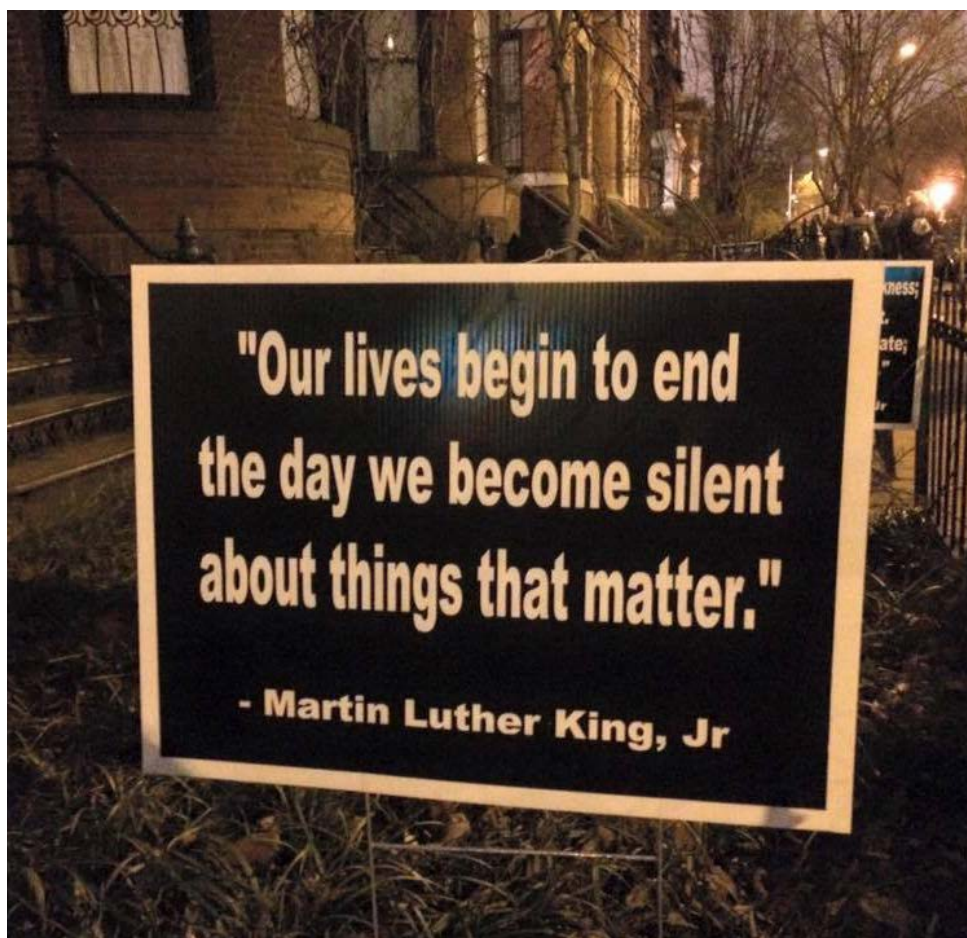
So, while my son and I were taking a masked and socially distanced walk last month, Beckett brought up the horrible murder of Ahmaud Arbery, the young man from Georgia who was out for a jog and was hunted down like an animal by two white men who claimed they thought he was a burglar. “I can’t even understand it, mom,” he said. “How could anyone be that racist and evil?”

My first thought was one of shock and surprise. Frankly, I did not even know he was aware of Arbery. That is some privilege right there—believing I have the luxury of shielding my young male child from the ultimate horrors of racism. My second thought was the realization that solely teaching our white children that racism is immoral and being proud that they do not understand how racist violence is possible, is not doing them or their black and brown peers any favors. While I recognize that being white has helped me in dozens of situations where I was in a jam and needed help from a stranger, it never occurred to me before that I am actually a complicit cog in the twisted wheel of systemic racism. How many lives has my complacency helped to destroy?

I looked him as much in the eye as I could, though our sweaty fabric masks fogged up our glasses, and I began a conversation about white privilege.

I told him about the time he was six and he pointed a toy gun at two policemen who laughed and pretended he’d shot them. Then I told him about Tamir Rice who was killed by cops the very same year as he also

played with a toy gun. I told him about the time I horrified my non-white friends when I opened a bottle of cold brew coffee and took a swig while we waited in the check-out line. “What’s the big deal?” I asked. “I’m gonna pay for it. Do you want some?” “Oh



A Sign Seen at the 2017 Women's March in Washington, DC

GRETCHEN M. MICHELFELD | NATURAL SELECTIONS

GOD no!” they answered, “We’re good.” I asked him to imagine being a young black man these days, needing to go to the store and needing to wear a mask. “But people know we all have to wear masks,” Beckett said, “they can’t assume someone is a criminal because he is wearing a mask.”

He had actually hit on an easy-to-explain aspect of white privilege—when you are white, people do not ascribe criminality to your everyday behavior or lethality to your resistance.

I told him that when I’m late for work and running for a bus, I know (if anyone even notices me) that people think, “Oh that poor lady is running late.”

I asked him to imagine the decision a black person must make if they are about to miss the bus. I told him about a black woman I know who was on her high school track team and was stopped by the cops almost every time she tried to go jogging. I told

him about a neighborhood mom he knows, who will not hang out on the corner and chat with friends unless there is at least one white woman in their group. “Why do you think that is?” I asked him. I told him about a political activist we know whose black husband does not feel comfortable accompanying her when she is knocking on doors to get petitions signed. This was before the cold-blooded murder of George Floyd, but I told him about Trayvon Martin, Breonna Taylor, Eric Garner, Stephon Clark...

“This is like the worst walk ever!” Beckett complained. He cried. He was angry with me. I apologized. I stopped talking.

I worry about overwhelming his already stressed-out-by-coronavirus brain. I worry that I will say exactly the wrong thing and he will tune out forever. I worry that I don’t understand what I’m talking about and that I will make things worse. But I must keep trying. We white people all do.

In an online school assignment last week, Beckett’s music teacher had the class watch five music videos about racism. He didn’t want to talk about them.

Today we are going to talk about them. Today might be too late, but it’s better than never. ■

“I looked him as much in the eye as I could, though our sweaty fabric masks fogged up our glasses, and I began a conversation about white privilege.”



Sarah Ackerman



Sarah Baker

"Graduate school has been a trek of self-discovery, a lesson in resilience, and a time to reflect on what I want my place in this world to be. I will forever be grateful to Rockefeller for the support, the friendships, and the unforgettable journey."

Mariel Bartley



Kate Bredbenner

Graduating Class of 2020

MEGAN E. KELLEY

On Thursday, June 11, The Rockefeller University held a [virtual convocation](#) for the conferring of doctorate degrees upon thirty graduate students. This streamed ceremony was the culmination of years of dedication, hard work, and perseverance by the honorees. Although we were not able to commemorate this occasion with our usual parade and after-party, this in no way diminishes our shared enthusiasm for the accomplishments of these new graduates. *Natural Selections* would like to acknowledge and celebrate these former students. Congratulations, doctors! We wish you well in your future endeavors.



Ian Andrew Eckardt Butler

Daniel Alberto Cabrera

James Chen

Brooke Conti Trousdale

Amelia Dunn

Nicholas Hernandez

Alexis Jaramillo Cartagena

Nathaniel Kastan

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Sean O'Connor

Benjamin Ostendorf

Luca Parolari



Rudolf Piša

Cristina Santarossa

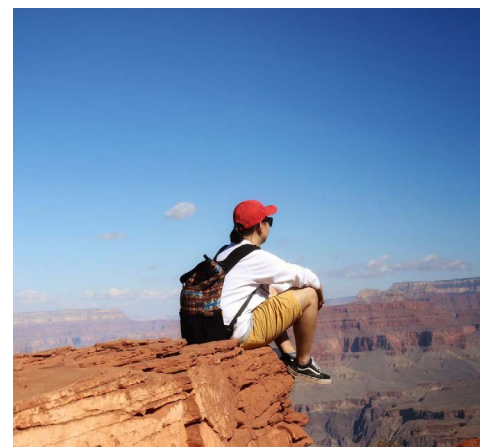
Stephanie Lena Sarbanes

Ayless Sordillo

Leonid Alexeevich Timashev



Waring "Buck" Tribble



Zikun Wang

Daniel Neil Weinberg

Anna Yoney

Murder Hornets, What's in a Name?

AILEEN MARSHALL

With so many more significant stories in the news recently, you may have only vaguely noticed stories about murder hornets. Is this yet another thing we should worry about? It turns out, not as much as the name would imply. While they might look very frightening, they aren't going around killing people. However, they may be a problem for our already threatened bee population.

The insects referred to as murder hornets in the media are officially called Asian giant hornets, or *Vespa mandarinia*. They are found all over Asia and far eastern Russia, but most commonly in Japan, where they are called giant sparrow bees. In 2008 the name murder hornet appeared in some Japanese news stories. That name was picked up by a *New York Times* article and has spread ever since.

The name probably evolved because of their formidable appearance. They can be up to two inches long with a wingspan of up to three inches and a stinger a quarter of an inch long. The thorax is dark brown and the abdomen has contrasting stripes of dark brown to black alternating with yellow to orange bands. The queens are larger than the males, also known as drones or workers. The males do not have a stinger. They can be distinguished from the common hornets found in the United States, *Vespa crabro*, not only by their size, and also by their different color patterns. A dark brown anterior abdomen and a yellow posterior abdomen with dark brown spots is found on our native hornets.

In September of 2019, a nest of Asian giant hornets was found on Vancouver Island, Canada. That December, there were four confirmed sightings in the state of Washington, with one dead specimen found. The nest in Vancouver was immediately destroyed by the Canadian Ministry of Agriculture. There were two more sightings, one each in Vancouver and Washington as of May 29. The United States Department of Agriculture (USDA) is telling Washington residents to report any sightings. DNA tests showed that the nest in Vancouver and the hornet in Washington came from two different colonies.

While the sting from an Asian giant hornet can be very painful, it is very rarely fatal. Only about forty people a year die from



Asian giant hornet.

these hornet stings in all of Asia, always from multiple stings. In contrast, sixty to eighty people die from bee stings in this country alone. These hornets are not aggressive and only sting if their nest is threatened. What makes their sting so painful is that a peptide in the venom, mastoparan, stimulates the enzyme phospholipase, which degrades tissue. It also contains mandaratoxin, a neurotoxin. It takes a high volume for this venom to be fatal. It has a lethal dose measurement (LD₅₀) of 4 mg/kg, while the venom of our southern yellowjacket has an LD₅₀ of 3.5 mg/kg. In Asia, people who have died had an average of fifty-nine stings, while most have survived with an average twenty-eight stings.

These hornets have a life cycle similar to other hornet species. Over the winter, queens hibernate and all the male hornets in the nest die. In the spring, fertilized queens will leave the old nest and start looking for a new spot to build. Asian giant hornets almost always build their nest underground, often in abandoned rodent tunnels. They also like to nest under tree roots, or in the bottom of a hollow of a dead tree. In contrast, our native hornets build their nests well above ground, in tree branches or under roof eaves. After the queen establishes a spot, unfertilized females build the cells in the nest and raise the workers. Then the workers go out and get tree sap to feed to the queens. There is a hierarchy among queens and the alpha queens get fed first. Around July, the unfertilized females stop leaving the nest and die, and the workers continue to go out and get food. By August the nest is usually at its peak of about one hundred workers.

From August through October, the workers switch to hunting other insects for food, as a source of protein: bees, other hornets, and mantises. A worker will find a beehive and release a pheromone to attract other workers. Japanese bees have evolved a defense mechanism. They will let the hornet in, then many bees will surround it, beating their wings. This generates heat and CO₂, which suffocates the hornet. European honeybees that have been introduced into Japan do not have this defense. A single bee will attack the hornet outside the hive, but because of the difference in size, it does not have a chance. The Asian giant hornet will take apart the bee, only carrying its protein-rich thorax back to its nest. If more than one hornet attacks a hive, they go into what is called a slaughter phase. They will keep killing the bees instead of returning to their nest, until all the bees are dead. Then they enter the occupation phase, where they go inside the hive and prey on the larvae. They can kill a whole hive in one to two days. It is not known how bees in this country would react since they have not encountered Asian giant hornets before.

In the fall the fertilized queens produce both male and female larvae and care for them. From October to November males and new queens leave the nest and mate. This is their most active time. Their colors get more intense and queens grow an average of twenty percent larger. Workers then change their food source from proteins to carbohydrates.

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There are two main ways to get rid of these hornets. One way is to burn or apply pesticide to the nests at night when they are asleep. The other way is to set bait traps. These traps have a sweet solution to attract the hornets, but the hornets can't exit the trap. These are often used by beekeepers to help prevent loss of their colonies.

There is no need for people to worry about being attacked and killed by these insects. The USDA is vigilant about not letting them become a new invasive species. However if they do take hold in North America, they could be a [threat to our bee population](#), which is already threatened by neonicotinamides and colony collapse disorder. ■



Japanese honeybees (*Apis cerana japonica*) form a "bee ball" in which two hornets (*Vespa simillima xanthoptera*) are engulfed and heated. Yokohama, Kanagawa prefecture, Honshu Island, Japan.

What It's Like to Get a COVID-19 Antibody Test in NYC

ANNA AMELIANCHIK

Antibody testing for COVID-19 is now widely available in New York City. Unlike the polymerase chain reaction test used to detect coronavirus from the infamous nasal and throat swab, the antibody test does not determine whether you currently have the disease. Instead, it can detect antibodies against COVID-19 present in blood and determine whether you had COVID-19 in the past. The body produces antibodies to facilitate the destruction of invading pathogens, such as SARS-CoV-2, by immune cells. Antibody tests are designed to detect two specific types of antibodies, IgG and/or IgM. Patients with COVID-19 develop IgM antibodies shortly after the virus attacks. IgM antibodies are then replaced with IgG antibodies which become detectable in the blood of COVID-19 patients approximately ten days after they become symptomatic. While all patients recovering from COVID-19 develop antibodies against SARS-CoV-2, scientists and health authorities are debating whether the presence of antibodies protects people from reinfection. In addition, antibody levels may wane over time effectively erasing any acquired immunity. For instance, [a 2006 study](#) showed that antibodies against SARS-CoV, a coronavirus closely related to the virus that ravaged the world in the past months, lasted for several months to two years, although all study participants had low antibody levels after about fifteen months. While the longitudinal profile of antibodies against SARS-CoV-2 is still unclear, a predictive modeling [study](#) showed that, in the absence of recurrent vaccination, short-

term immunity (~ten months) against SARS-CoV-2 would lead to annual outbreaks of the novel coronavirus, while long-term immunity (~two years) would cause biennial outbreaks. However, it is critically important to conduct antibody tests to better understand the impact of the novel coronavirus on communities that are heavily affected by it.

Over a two-week period in May, the NYC Department of Health conducted a citywide antibody survey and tested approximately 70,000 NYC residents for the presence of antibodies against SARS-CoV-2. Launched in partnership with BioReference Laboratories, the study was designed to help health authorities better understand the spread of COVID-19, how the body responds to the virus that causes it, how often the virus causes an infection with symptoms, the frequency of specific symptoms, and risk factors for this disease. "For New York, a city that has been seriously impacted by the COVID-19 pandemic, this type of information will be of great value in helping healthcare professionals to analyze the presence and progression of the disease in order to identify at risk populations for possible early intervention," said Jon R. Cohen, M.D., the Executive Chairman of BioReference Laboratories, in a press release posted on the BioReference website on May 7. The antibody test was offered to NYC residents for free with testing sites available in all five boroughs. Several members of our editorial board participated in this antibody survey at the testing site closest to The Rockefeller University campus in Long Island City,

Queens. Located inside a repurposed warehouse, the testing site prioritized the safety of study participants with temperature scans at the entrance and free personal protective equipment (PPE). Several blood draw stations were spaced out to allow for a distance of at least six feet between them. Colorful tape on the floor indicated the direction of foot traffic and prevented crowding. The nurses, in full PPE, drew blood through vein puncture and collected one tube of blood per participant. For those who filled out the screening survey online, the entire process could take less than ten minutes. To determine the presence of antibodies in blood samples, BioReference used the Roche Elecsys test with 99.8% specificity and 100% sensitivity. The results of the test were available online on the BioReference portal 24-48 hours after the test was administered. As of this writing, the NYC Department of Health paused the recruitment of new participants for this survey. However, you can still access antibody testing in NYC, often with \$0 co-pay for those with private health insurance, Medicaid, or Medicare. Some testing sites might also provide free antibody tests for those without health insurance. For example, Mount Sinai is looking for volunteers to donate convalescent plasma used to treat patients with COVID-19. They are screening the members of the public who have previously had the symptoms of COVID-19 and waiving fees for antibody tests. To participate, fill out [this survey](#). For the full list of testing sites available near you, visit the [New York State Department of Health website](#). ■

Culture Corner | *And the Alternative Oscar Goes To...*

BERNIE LANGS

You obviously cannot hand out Academy Awards for every superlative acting performance and deliver a statuette to all deserving movies every year. That said, here is a commercial-free presentation of Honorary Oscars for a handful of overlooked actors, actresses, musicians, films, and filmmakers that doesn't take three prime time hours to get through and has absolutely no Geico commercials.

For goodness sake, give Amy Adams her due with a career award for **Best Consistently Awesome Display of the Depth of the Emotional Dictionary**. Adams has failed to earn an Oscar five times for supporting roles and once in the Best Actress category. She is gifted with an uncanny ability to dive deep into an oceanic expression of diverse emotions. She is a fearless explorer of uncharted feelings and personality traits expressed to perfection in the diverse characters she creates. As a brilliant linguistics academic in 2016's sci-fi thriller, *Arrival*, she raises the film's power and intensity to unexpected intellectual heights. Adams presents to her audience a study in disastrous life choices in romance and love in her role as Susan Morrow, a wealthy Los Angeles-based art gallery owner, in Tom Ford's deeply disturbing and violent tragedy, *Nocturnal Animals* (2016). In David O. Russell's dark comedic take on the Federal Bureau of Investigation's ABSCAM sting, *American Hustle* (2013), Adams and Christian Bale shine as a pair of con artists conscripted by federal agents to entrap mobsters and crooked politicians in exchange for a reduction of their criminal charges. Adams is also no stranger to outright comedy, portraying famed pilot Amelia Earhart in spunky overdrive in one of the *Night at the Museum* franchise films, and as a fairyland, songstress princess brought magically to New York City in 2007's *Enchanted*. How much more does she need to give us on celluloid before the Academy recognizes her extraordinary talent?

The Oscar for **Most Overlooked Soundtrack Artist** goes to Jimmy Cliff for his acting and musicianship in the 1973 film *The Harder They Come*. Set on the island of Jamaica, Cliff's story about a young man in poverty trying to beat the oppressive system stacked against him as a musician and outlaw literally brought reggae music to the international community. The title tune is a joy-filled social statement and Cliff rises again to the moment with *You Can Get It If You Really Want*. A lesser known gem on the soundtrack is *Johnny Too Bad*, a sublimely catchy bit of island sound performed

by The Slickers. Hunt that song and the rest of the album down on Spotify and you will not be disappointed.

Best Badass Performance in a Futuristic Non-Superhero Role is a tie with the award going to Emily Blunt in *Edge of Tomorrow* (2014) for her portrayal of Sergeant Rita Vrataski, the "Angel of Verdun," and Charlize Theron in *Mad Max: Fury Road* (2015) as Imperator Furiosa, a warrior bent on moral vengeance in a post-apocalyptic world surviving in a desolate desert landscape amid a grotesque, fascist society. Both films are fueled by high-octane action, which may turn off many viewers until they realize that Blunt and Theron's characters have layer upon layer of complexity. Blunt acts in tandem with Tom Cruise while Theron performs alongside the marvelous Tom Hardy. The audience holds tight as the partners in both films ride nonstop through choreographed mayhem of ever-increasing ferocity. Furiosa accomplishes more in the name of justice (and feminism) as a one-armed, brute-strength crafty soldier dressed in drab fatigues than the newly branded Wonder Woman achieves with her multitude of superpowers.

Best Underappreciated Performance in a Supporting Role is presented to Robert DeNiro for his role as Pat Solitano Sr. in another dark comedy directed by David O. Russell, *Silver Linings Playbook*. Released to great acclaim in 2012, the cast is led by Jennifer Lawrence (Tiffany) and Bradley Cooper (Pat Jr.) as two emotionally damaged people recovering from difficult life traumas concerning their spouses. The entire supporting cast is incredible, including Chris Tucker as Pat Jr.'s manic former mental hospital friend and Jacki Weaver as Pat Jr.'s snack-baking mom who's left bewildered by the unfolding events. DeNiro, who was nominated in the Supporting category (and lost), gives a masterful depiction and study of a father confused by his son's mental illness. Ironically, the audience realizes that although Pat Sr.'s obsessive compulsive disorder may not be on the destructive level of his son's violent flare-ups, this imbalance was most likely inherited by Pat Jr. As Pat Jr. heals himself through Tiffany's endearingly quirky and odd wooing, DeNiro's recovery and revelations are more subtly played out. In a powerfully emotional scene, Pat Sr. transforms himself in a matter of minutes from raging anger towards his son and Tiffany into a complete (and humorous) acceptance and understanding for what she has been doing for his family. The se-

quence morphs from a position of seemingly irreversible tragedy to a plot shifting moment of hope and redemption.

Best Performance in a Mob Movie More Realistic Than *The Sopranos* goes to both James Gandolfini (who played Tony Soprano in the HBO series) for his role as Uncle Marv, a bar owner in Brooklyn, and Tom Hardy for his role as bartender, Bob Saginowsky, in 2014's *The Drop*. In the final role of Gandolfini's career (he died suddenly in 2013 just prior to the movie's release), he plays a bitter man angry with the world about his life and situation, taking his frustrations out on the seemingly slow-witted employee portrayed by Hardy. The bar, now owned by local Chechen gangsters, is being used with Marv's blessing by the criminals to move their illegal nightly cash take. When the bar is robbed of the mob's nightly take, the hunt by the ruthless, yet oddly savvy, Chechens devolves into tragedy for Marv and Bob along with many other characters caught in their web of revenge. Bob has long accepted his basic lot in life, but Marv unrealistically holds fast to a fantasy that his patrons still respect the power and aura he once had in better days. In an effort to save him from his own worst instincts, Bob is forced to confront Marv with the uncomfortable truth that he has to move on and understand that he has always been and will never be more than the owner of a small local bar. It is very sad to think about what future roles Gandolfini may have excelled in, had he lived. Hardy remains an actor of fabulous and rare talent, and although he chooses most of his roles selectively, at times his fans must admit that he takes some parts "for the paycheck."

Best Film Depicting Unwavering Political Courage in an Era of Existential Crisis goes to Steven Spielberg's *Lincoln* (2012) starring Daniel-Day Lewis, which follows the iconic Civil War President as he desperately seeks to secure Congressional votes to ban slavery in the United States, and *Darkest Hour* (2017) with Gary Oldham as Winston Churchill on the eve of Britain's entry into World War II. Both Lewis and Oldham deservedly took home the Best Actor statuette for their respective roles. Each film is an exciting tutorial on courageous leaders facing the pressing reality of the potential destruction of their nations. Lincoln and Churchill both remain steadfast with their plans for victory and national survival. They

CONTINUED TO P. 11 

refuse to waver or cave to the many calls put forth by friend and foe alike for ill-advised, half-baked compromises that would leave their countries as empty shells of their historic selves and betray the core values on which their national identities and foundations are grounded. Holding firm to an ideal of freedom for all and staying a moral course during crisis—these are timeless ethical bedrocks so rarely taken to heart by politicians in our own era. Too often we are witnessing an embarrassing international dearth of character in our leaders that would appear as nothing less than shameful in the eyes of those who crafted and refined the living definition of public service for the good of all souls.

We hope you have enjoyed the First Annual presentation of Honorary Oscars! And now...a message from Geico! ■

Natural Expressions

Digital

Myles Marshall, Lab Manager in Alipasha Vaziri's laboratory at The Rockefeller University, would like to announce the release of a music video for "[Capital T](#)" by Chaos Chaos. Marshall acted as creator and animator for the music video, using a combination of scientific graphic design and animation from his studio, [Secret Molecule](#). By interweaving familiar scientific forms with abstract imagery, Marshall's animation complements the complex and ethereal nature of the song,

This month, Bernie Langs of The Rockefeller University Development Office announces the digital release of his song "Two Paths." For this pop ballad featuring the vocal talents of opera singer [Gretchen Farrar](#), Langs not only acted as musician, but also as composer. Langs' collaboration with Farrar for "Two Paths" can be heard here on [Langs' SoundCloud page](#).

E-mail Megan E. Kelley at mkelley@rockefeller.edu to submit your art/music/performance/sporting/other event for next month's "Natural Expressions" and follow [@NatSelections](#) on Twitter for more events. Digital and online events/releases are welcome! ■

THIS TIME

KONSTANTINA THEOFANOPOULOU

THIS TIME

This is a time
That poetry gets stiff and broken
That history books will write
poetry was not poetic this time.

This is a time that poetry
serves
black lives
revives
black lives
on paper
and arrives
on time.

Strives for the time lost, this time, writes with no verse or rhyme, thrives
on black paper, arrives on time.

By Konstantina



This is a time to amplify black voices and black poets. Tagged on my poem on Instagram and on my stories daily (@newyork _ rhymes) are black writers who have inspired me. Read their poetry, support them, and thank them. ■

Poetry: Dr. Konstantina Theofanopoulou (instagram: @newyork _ rhymes)
One line art: Mikaella Theofanopoulou (instagram: @m _ theta _ art)

Pets of Tri-I

POOJA VISWANATHAN

In this issue, we return with a pet interview. I have had my eye on this little puppy for a while and due to social distancing measures, I have been keeping a respectful distance, but in this time he's already grown so much that I must introduce him to all of you without delay. Today, I interview **Otto**, the beautiful dog who has come to live with Tatiane Kanno (postdoc, The Rockefeller University).

Pooja Viswanathan: How old are you? In human years?

Otto: I just turned six months old. In human years I am ten years old. I am a happy little boy!

PV: Is there a story behind your name?

O: My mommy said she likes unusual Brazilian names; Otto is actually short for Otacilio.

PV: How did you first meet your mommy?

O: I was living in a foster home for a week when my mom started looking for a puppy. I went to visit her house and she could not say no to my cuteness, so she adopted me right then and there. I met my big brother Watson the same day. He is my best friend! He is teaching me how to be a good boy and how to outsmart the hoomans with puppy eyes!

PV: What is your first memory?

O: I was rescued in Texas with two other siblings, but I do not remember much about it. My best memories are from the day I met my new family!

PV: Where do you live?

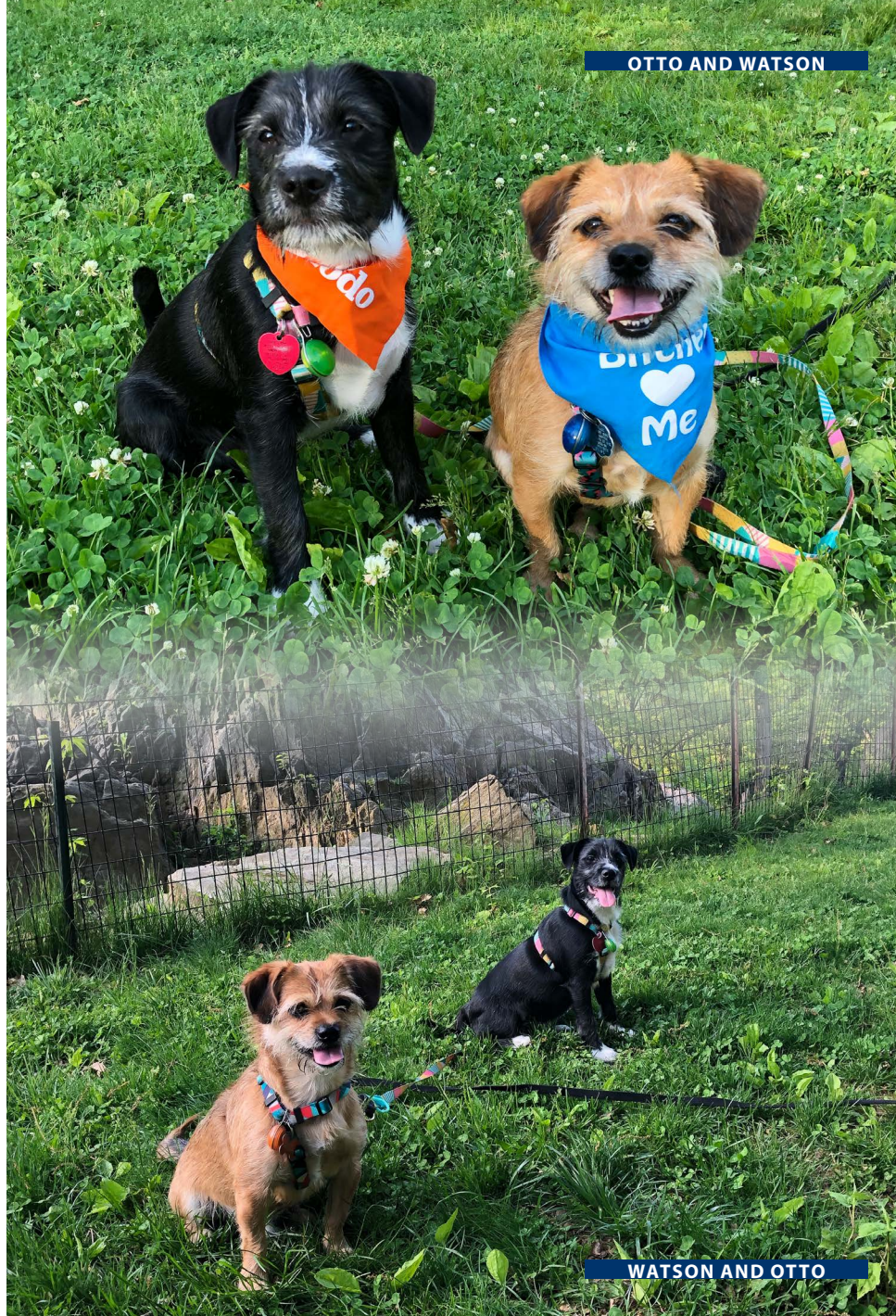
O: I live on the Upper East Side in Manhattan.

PV: What are your favorite smells of NYC?

O: NYC has such a diversity of smells; I am still exploring so I don't have a favorite smell, I think. Every day I find something new.

PV: What are your favorite neighborhoods in NYC?

O: I haven't had the chance to explore much in the city. My hooman said I am not allowed to go out because we are in quarantine. I don't really know what that means, but hooman is home all the time



Photos Courtesy of Tatiane Kanno

and I love it! For now, I can say I like walking by the river, and I went to Central Park a couple of times. Central Park is so much fun, a bunch of new things to explore and see. I am looking forward to going back there and chasing squirrels with my brother, Watson.

PV: If you could live anywhere else in the world, where would you live?

O: I would be happy living anywhere else as long as my mommy is with me. I don't like to be left alone; I cry when she goes out without me. Mommy also said she will take me to Brazil for the holidays, I wonder what it's like there.

PV: What are your favorite foods?

O: Hooman food of course! Every time she eats, I get very excited and want to eat as well, but mommy said I cannot have much of it. Besides hooman food, I love eating peanut butter and banana treats.

PV: What is your favorite weekend activity in NYC?

O: I like walking outside and playing with my big brother Watson. But, what is a weekend? Hooman said every day is a weekend nowadays.

PV: Besides your human roomie, who is your favorite human in the Tri-I community?

CONTINUED TO P. 13

O: Watson! Wait, Watson is not a hooman. Hmm, I like Watson's dad Kevin as well. He likes bullying me all the time, but I know he loves me very much. We used to share the same name. When I was living in my foster home, my name was Kevin as well. Uncle Kevin helped my mommy with the whole adoption process and when he saw my name he told my mom: it is meant to be, it is fate! Adopt him! So, I guess I like him because he helped me find a home!

PV: Do you have a funny story to share with us?

O: One night I had a playdate with my big brother Watson, we had so much fun and I got very thirsty after running all over the place with him. I went to drink water, and the tiny water bowl was empty. Then, I started exploring the house in search of water. When I entered the bathroom, I saw a huge white bowl of water. I was so happy that I had found water, but when I started drinking my mommy came yelling at me and gave me a stink-eye. I still don't know why; I was just thirsty. Hmm, maybe that was not such a funny story, I got scolded in the end!

PV: Is there some way we can see more pictures of you on the interwebs?

O: Yes, [@watson_otto](#) on instagram! I share the account with my big brother, Watson.

PV: If you could have any human ability, what would it be?

O: To talk because every time my hooman leaves me alone, I scold her, but she doesn't understand what I am saying. She thinks I'm joking and laughs!

PV: What do you miss the most about pre-COVID times?

O: I'm a COVID baby. I don't know anything before COVID. But I wish it would go away so I can go to the dog park. Watson told me it's so much fun there!

PV: How have you helped your human get through these times?

O: I give her lots of cuddles and kisses! I don't give her any space to sleep on the bed and I like to share her pillow. This way, I'm sure she isn't lonely! I also like following her everywhere in the house, even when she is in the shower, I keep peeking to see if she's okay. She might get stuck indoors, so I make sure she always has company! ■



OTTO



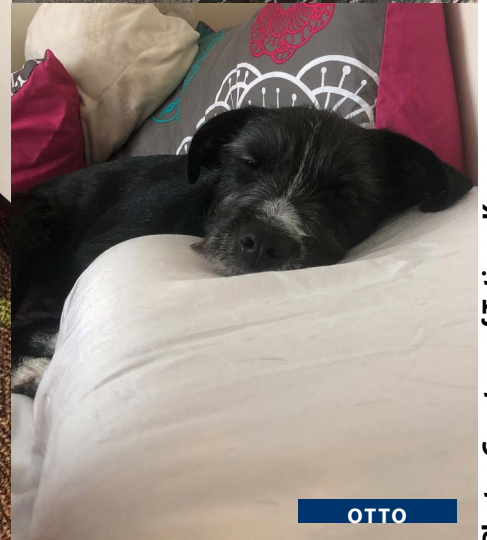
WATSON AND OTTO



OTTO



OTTO



OTTO

BLM: E-mails and Petition

RiSI e-mail:

Last Monday's horrific scene in Minneapolis, in which police officer Derek Chauvin kept his knee planted on George Floyd's neck until his death, has sent shockwaves throughout the US. The frustration and anger towards Mr. Floyd's death and staggering frequency of injustices on the Black community has culminated in nationwide protests in at least 48 cities. People are tired of the silence and frustrated at the lack of meaningful response to previous movements calling for social change.

Now is the time to show our support to the Black community in any way that we can at Rockefeller University. Though many may take comfort in the claim that science is apolitical, our Black community members are not afforded this privilege. The excellent work of several laboratories and departments at Rockefeller (lab safety, custodial, food, animal facility, etc) are led by people from communities hit the most by police brutality and racism. As Rockefeller begins to reopen, more people from these communities will be on campus and it will be important for their presence to be recognized.

One simple way to do this is by posting signs that reflect our support for the Black Lives Matter movement around the laboratory and other areas on campus that are heavily trafficked. Please refer to the signs in the dropbox link for examples to easily print out and put on windows and doors. If other laboratories/facilities nearby are interested as well please coordinate with each other to make something more visible.

Please ensure that your Head of Laboratory is comfortable and supportive of posting signs prior to doing so.

RiSI, WISeR, and PRISM e-mail:

Dear Members of the Rockefeller Administration,

Last Monday's horrific scene in Minneapolis, in which police officer Derek Chauvin kept his knee planted on George Floyd's neck until his death, has sent shockwaves throughout the US and the world. The frustration and anger towards Mr. Floyd's death, and the staggering frequency of injustices on the Black community, has culminated in nationwide protests in at least 48 cities. People across the country are tired of the silence, and frustrated at the lack of meaningful responses to previous movements calling for social change.

Though many may take comfort in the claim that science is apolitical, many in the Black community, and other communities of color, are not afforded this privilege. Science and medicine have a long, unfortunate history of exploiting marginalized communities, particularly those of color. Some of the most infamous examples include the Tuskegee Syphilis experiments, the acquisition of HeLa cells from Henrietta Lacks, and the erroneous justification of racism through genetic studies.

Black individuals and communities most affected by police brutality and racism are an integral part of the Rockefeller community, leading much of the excellent and vital work in several laboratories and departments (lab safety, custodial, food, animal facility, etc.). As Rockefeller begins to reopen, more individuals from these communities will be on campus and it is imperative that their presence be recognized.

This past weekend, we, the Rockefeller Inclusive Science Initiative (RiSI),

sent out a call for students and postdocs to speak to their HOLs about posting Black Lives Matter signs around the laboratory. Additionally, we sent a list of funds, organizations, and media to support the cause further. Our emails were met with enthusiasm from both students and the HOLs they've contacted. The Rockefeller community is coming together during this time to show that movements for equality can be, and should be, advocated for by scientists.

As leaders of the University, your voice speaks volumes to our community, and those watching us. It would be meaningful to Black members of our Rockefeller community, and the community at large, for the administration to directly address the systemic racism brought to the forefront by recent tragedies, including George Floyd's death. We ask that you consider joining [many universities](#) in expressing support for the Black Lives Matter movement, principles of equity and inclusion, and condemnation of police brutality and systematic racism in our nation. We also ask for your support in a community effort to hang Black Lives Matter signs in places where we can most powerfully show our stance, such as on the pedestrian bridge over 63rd St and Kravis Research Building windows facing the river.

Best,

*César Vargas and Josue Regalado
Rockefeller Inclusive Student Initiative
www.rurisi.com*

*Stephanie Marcus and Audrey Harnagel
Women in Science at Rockefeller (WISeR)
www.wiseratrockefeller.com*

*The PRISM Board
People at Rockefeller Identifying as Sexual Minorities (PRISM)
www.ruprism.org*

Rockefeller alumni e-mail:
June 2, 2020

Dear Members of the Rockefeller Administration,

We are writing as alumni of Rockefeller University to express our support for the recent call to action from the graduate community to address racial justice and anti-racism. As you're aware, there has been a large and appropriate response to the murder of Black Americans across the country. George Floyd, Breonna Taylor, and Tony McDade's names have all been added to a long list of Black lives lost at the hands of those sworn to protect and serve. We must recognize that our Black colleagues live with the knowledge that it could be them.

Rockefeller's motto — science for the benefit of humanity — is a fundamentally political statement implying that science has a duty to serve society. Embedded within that motto are political questions, such as: for the benefit of whose humanity? Who is allowed to steer the science for that benefit? Throughout our history, we have seen the biomedical research community make research choices driven by politics and value judgments. When we run a Fisher's Exact Test, we cannot forget that Ronald Fisher was a pioneer of eugenics. When we pull out a culture of HeLa cells, we cannot forget those cells were extracted from Henrietta

CONTINUED TO P. 15 

Lacks without her consent. When confronted with the devastating statistics surrounding COVID-19, we cannot forget that this virus has taken disproportionately more Black lives because of systemic inequities in healthcare.

As leaders, you have a responsibility to Black trainees, faculty, and staff to openly and loudly affirm that you are aware of our history and that this legacy stops here. Your voice is essential in asserting you are working to ensure that Black members of our community are safe at work from racism and discrimination — that you commit to working for the benefit of their humanity, as well.

Universities and institutions across the country, including [Harvard School of Public Health](#) and [Johns Hopkins School of Public Health](#), have issued statements echoing their commitment to racial justice and anti-racism, as well as concrete actions they can take to ensure their words carry weight. Actions Rockefeller can take, in addition to supporting the community effort to hang a #BlackLivesMatter sign along the pedestrian bridge, include:

- Join leaders in the biomedical research community and publicly denounce racial injustice and anti-Black racism;
- Pledge not to call the police for non-violent crimes, while ensuring campus security are trained in methods of de-escalation;
- Require bystander intervention training;
- Hire anti-racist educators to educate faculty, staff, postdocs, and trainees on meaningful strategies to dismantle systemic racism;
- Convene a committee to draft an explicit anti-racism policy for the campus community, bringing in scholars of anti-racism and compensating them appropriately for their time;
- Hire independent diversity, equity, and inclusion consultants to assess the current atmosphere and university practices and serve as change management officers to transform the workplace culture;
- Create an anonymous system for members of the Rockefeller community to report acts of discrimination and bias;
- Recruit and retain students and faculty of color, particularly those who have been historically underrepresented;
- Create a policy that explicitly describes how faculty will be rewarded for mentorship and outreach in decisions of tenure and promotion, as these responsibilities often fall disproportionately on underrepresented faculty.

We sincerely hope that you use your position to combat the history of racism and violence — both within and outside of science — and stand with the Black community. Supporting Black lives follows in John D Rockefeller's commitment to the abolition of slavery and his founding of Spelman College, America's oldest private historically black liberal arts college for women. We must commit to do the learning and transformation necessary to be part of the solution and to develop robust anti-racist practices in science and society.

Until then, we are left with George Floyd's last words to fill the silence: 'I can't breathe.'

Sincerely,

The Rockefeller Alumni

RiSI petition e-mail:

Dear Rockefeller community,

In response to the global outrage at continued systemic racism and police brutality against members of the Black community, President Lifton's statement last week called for "the beginnings of efforts to bring about lasting change" and a "rigorous inquiry to evaluate our own biases". We hope that this statement only marks the start of campus-wide steps to address institutionalized racism on our campus. In efforts towards this cause, we at the Rockefeller Inclusive Student Initiative (RiSI) have been working with the Dean's Office and administration to develop actionable plans for lasting change.

While we continue this dialogue, we want to ensure that all in our community are heard and that progress be transparent. We ask that everyone respond to a survey/petition to assess which changes are most needed and desired at Rockefeller. This survey also serves the dual role of a petition where everyone's voices will be collected and sent to the administration as evidence that the broader Rockefeller community stands behind these actions. The longer this list of names is, the more significantly we can push for institutional change.

Within the survey, there is also a field for individual comments which we strongly encourage all to fill out to strengthen our petition with personal testimonies. There is a [national movement](#) for science and academia to #Strike4BlackLives planned for tomorrow, Wednesday, June 10th. We ask that on this day of pause, each of you take a moment to complete the survey and submit any personal accounts you feel comfortable sharing of institutionalized racism in education or science and reasons why institutional support for Black and underrepresented scientists is important. These will be collected and presented to the administration (with the option of remaining anonymous). Please respond by 11:59pm Wednesday, June 10th.

SURVEY/PETITION HERE: <https://socialchangeatrockefeller.wordpress.com/>

We are also currently asking the administration to conduct a campus-wide town-hall on racial equality issues present at Rockefeller. The responses provided in the survey will be an opportunity for you to draft what you'd like to see discussed at a town-hall, with the possibility of either reading it out yourself or by a member of RiSI on your behalf.

Finally, we encourage discussion within your labs and departments, and we ask that heads of labs and departments make space for difficult conversations concerning diversity and inclusion in science. We want to foster serious, empathetic conversations about racial discrimination and its effects on our scientific community campus-wide to show that these issues involve us all. Together we can take the anger, shock, and frustration that so many of us have rightfully felt these past days to take a stand for a campus that listens to and supports our Black and underrepresented minority members.

We owe it to George Floyd, Breonna Taylor, Ahmaud Arbery, Tony McDade, and countless others whose lives have been taken at the hands of institutionalized racism to fight for a more just and equal future. This begins by calling on the leaders of Rockefeller University to listen to our collective voice and fight with us. This movement will continue to press on because this is how change happens. We thank you for your passion.

In solidarity,

The Rockefeller Inclusive Science Initiative

RiSI petition:

June 9, 2020

We are disappointed in the administration's tepid response to the Black Lives Matter movement and a lack of commitment to institutional changes to make the University a more diverse AND inclusive place. We demand that the administration immediately design, circulate, and implement an action plan to make Rockefeller University a supportive environment for all our members of Black and underrepresented minority communities, among our students, postdocs, faculty, and staff.

This is our opportunity as a community to communicate that issues of diversity and inclusion are fundamentally important and need to be addressed by Rockefeller University's administration. We ask that you stand with us in our efforts to make Rockefeller University more inclusive by becoming a model for these efforts across academia, and sign this petition by the end of the day on Wednesday.

IN ADDITION to the action items requested in the alumni petition, we demand that the University commit to:

1. **Administrative position dedicated to diversity and inclusion:** Hire a diversity/inclusion officer or similar position that reports to the president. We wholeheartedly agree that promoting diversity and inclusion should be in everyone's job description, and we will continue championing that goal, but coordinating these long-term efforts takes a significant time commitment. We strongly feel that having a professional solely dedicated to the administrative side of these efforts will shift some of the burden from trainees.
2. **Public statement on recruiting underrepresented faculty and trainees:** Publicly make a commitment to recruit trainees and faculty from communities underrepresented in science on the university website (appropriate locations would be in the Faculty Recruitment and Graduate Program in Biosciences pages).
3. **Town hall:** Organize a town hall (or series of town halls) for community members to discuss incidents of institutional racism experienced at Rockefeller, to brainstorm ways to address these inequities, and for the administration to be transparent with details on how they are enacting institutional change. Recent examples have occurred at other institutions including Weill Cornell, UCSD, Caltech, and an upcoming vigil hosted by Columbia University Medical Center (this Wednesday at 6:30pm over Zoom).
4. **Climate survey:** Administer and publicly disseminate the results of a new, anonymous campus-wide climate survey that specifically addresses issues of racial inclusivity, discrimination, and bias on campus.
5. **Inviting speakers from diverse backgrounds:** Commit to increase the number of invited speakers for lectures and seminars who are from underrepresented backgrounds. Here, we propose to also create an annual Friday lecture that is centered on the issues surrounding diversity and inclusion in science.
6. **Annual reporting on HOL mentorship:** Require HOLs to complete an annual report on mentorship practices and undergo additional training if they do not actively work toward creating a diverse and inclusive work environment.
7. **Research relationships with minority-serving institutions:** Develop a research training relationship with medical schools,

Historically Black Colleges and Universities (HBCUs), and other minority-serving institutions (as defined by the Higher Education Act of 1965) across the country. We aim to provide research experiences at Rockefeller laboratories to Black and Native American MD and MD/PhD students, and additionally, retain at least one spot in the SURF program for undergraduate students from HBCUs or other minority-serving institutions.

8. **Anti-racism, anti-bias in science training:** Require a module or class on the implications of race, gender, sexuality, gender identity, and disability on the history and future of bioscience. This could be incorporated as an extension of the Responsible Conduct of Research course.
9. **Diversity statements from faculty candidates:** Require faculty candidates to provide statements on their past, present, and future contributions to promoting equity, inclusion, and diversity in their professional career.
10. **Increased diversity in executive team:** Development of an institutional plan (with milestones) to increase diversity within Rockefeller's executive leadership and board of trustees. Increasing diversity amongst the administration will push for decisions to be more inclusive on campus. Current executive leadership and board of trustees are listed here.

Excerpt from Rockefeller's Response:

- Rockefeller does not have a diversity/inclusion officer. We commit to evaluating the models utilized by different institutions to promote diversity and inclusion, concluding with our own plan no later than the end of August.
- The University has long published our encouragement for applications from communities underrepresented in science for graduate school and faculty appointments. We will immediately put these statements on display on our public web sites as well.
- We will provide forums and mechanisms to report and discuss incidents of discrimination, bias, and institutional racism at the University and determine actions to address inequities and prevent bias.
- We will administer and disseminate results of an anonymous campus climate survey regarding issues of racial inclusivity, discrimination, and bias.
- We commit to increase the number of invited speakers and seminars from underrepresented backgrounds, and will host a featured annual Friday lecture focused on promoting diversity and inclusion in science.
- Working with the Academic Council of the faculty, we will establish guidelines for annual reporting on HOL mentorship practices and provide further training as warranted.
- We will seek to establish relationships with minority-serving institutions and expand research experiences at Rockefeller labs to BIPOC students from minority-serving institutions.
- We will require training on anti-racism and anti-bias in science through the Responsible Conduct of Research course and evaluate anti-racism and anti-bias training for the broader campus community, including training and interventions tailored to units on campus in which specific problems are identified.
- By the end of August, we will develop a plan to increase diversity at all administrative levels including the executive team and board of trustees.