

Natural Selections

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY

Photo Courtesy of Some Film Company

What Else Inside?

Click the Clock, While It's Ticking!



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Ten Minutes with...

Sohail Tavazoie

Senior Attending Physician, Leon Hess Associate Professor

FERNANDO BEJARANO

Imagine that you are just out of graduate school and about to embark on a biomedical science post doc in a world-renowned research institute. You have your Ph.D., you feel self-assured, confident, and certain of your path in life. You are excited about this next step and don't care how demanding it could be compared with your Ph.D. But in a moment of doubt, you pause to consider what it might mean to be an academic scientist: what have you gotten yourself into? Many thoughts and unanswered questions about your future career will run through your mind. "Will I be strong enough to withstand the pressure? Will the impact of my research be

high enough? Will I publish in good journals fast enough?" Faster, Higher, Stronger... And you dive in, that moment when the Olympic motto expresses the career aspirations of a well-driven scientist.

Most would agree if I said that many of us dreamt from the start of achieving greatness in our careers, and embraced this motto just as if we were getting ready to run the Olympic marathon. Science can be compared to endurance running, where the stamina of researchers is tested and culminates with the ultimate goal, a groundbreaking, game changing publica-

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Sohail Tavazoie, M.D., Ph.D.

Fernando Bejarano/NATURAL SELECTIONS

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tion that will help them secure a top academic position or that sought-after industry job.

Our guest, Dr. Sohail Tavazoie, is a great example of a top player achieving greatness in this scientific field, breaking records every step of the way. He received his Bachelor of Arts in Molecular and Cell Biology at the University of California, Berkeley. He also has an M.D. from Harvard Medical School and a Ph.D. in Neuroscience from Harvard University. Dr. Tavazoie then spent time as an oncology fellow at Memorial Sloan Kettering Cancer Center and conducted postdoctoral research in Joan Massague's lab. During this time, he changed fields from developmental to cancer biology where he began to focus on the control of breast cancer by microRNAs. This was a fortuitous transition, because shortly after, he crossed Manhattan's York Avenue to start his very own lab at The Rockefeller University. Dr. Tavazoie's lab has been trying to understand different cellular situations where cancer cells are being regulated by small RNAs. Every project in his lab poses a new challenge. As a result of his continued success, Dr. Tavazoie has received much recognition and many honors: ASCO Young Investigator Award, Emerald He Foundation Young Investigator Award, and the Pershing Square Sohn Prize among others.

I met Dr. Tavazoie at his office, and what was supposed to be a ten minute chat turned into an afternoon of riveting conversation. Whether it was because I also work in microRNAs and tumor progression, or perhaps it was because I enjoyed his fascinating responses to our questionnaire, or maybe even, because he mentioned a fondness for Madrid, my hometown, I sat there enthused by his passion for science and his wonderful achievements in such a short career.

NS: Who, or what, inspired you to enter your field of achievement?

ST: It happened during a science summer program when I was in high school. John Roth, who was a bacterial geneticist, exposed me to science for the first time and that was what hooked me. Later, when I was in college, I got a job in a lab washing the glassware to pay for my college tuition. While I was there, I made a deal with the scientist from the lab I was in, half the time I would wash the glasses and half the

time he would let me do research. That was great to do experimental science again during college, but looking back I would really say that it was my high school experience, when I was 16 and worked with John, who made bacterial genetics super exciting, that is what definitely got me hooked on science and I could never go back from that.

NS: Explain your work to a five-year-old.

ST: When people get cancer sometimes the cancer can spread to other organs in the body and that is called metastasis. When it is spread to other places, the cancer cells can grow in those organs destroying them and patients can die. The biological question is how is it that some of those cells that belong at the primary tumor site can colonize other tissues. Experiments have shown that out of every ten thousand cancer cells in circulation, roughly one is able to ultimately form a metastatic colony. We are trying to understand how this single cell is able to do that and how it can shift its gene expression program to be successful in colonizing other tissues. We have seen how those cells are able to change the lifespan of their RNAs. By increasing the stability of those RNAs of genes that promote growth and metastasis, and suppressing the genes that negatively impact on them, they are able to form the malignant colonies. We are interested in better understanding the process by which those cells are able to shift the level of those genes' RNAs and we have seen that this can be achieved post-transcriptionally by diverse small RNA types. We have observed that similar gene regulatory mechanisms also operate in normal cells to control the levels of gene expression normally. Probably not for a five year old kid though.

NS: If you could sum up the most important characteristics of a scientist in three words, what would they be?

ST: A scientist should be passionate, rigorous and hard working.

NS: How does creativity play a role in science?

ST: I think that creativity plays two roles. The first is that creativity is important in the initial inception of what you are going to study and what you want to pursue, the biological question that you are interested in. Creativity also comes into play by enabling you to utilize new technologies and creating new approaches in order to specifically address your ... ques-

Natural Selections
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selections.rockefeller.edu

nseeditors@rockefeller.edu

tions.

NS: Scientists are not only focused on science. They are usually passionate people devoted to other extra-curricular activities. Do you have any other passions besides science?

ST: I used to. Right now my free time goes to my children...I used to play sports, I love[d] to run track and field, played a lot of basketball, skiing, rock climbing. Once you have children, things change and kids become your hobby. Right now, the kids drain all my free time, but every now and then, my wife and I take some time for ourselves and enjoy this beautiful city.

NS: What would you be if you weren't a scientist?

ST: ... I trained as a physician, I am a medical oncologist and I am still seeing patients at MSKCC. If I wasn't a scientist I think I would do that full time. In my opinion, medicine has become ... more and more scientific, and medicine and science have a lot in common. We need more effective cancer therapies for patients and that motivates me to continue to understand how cancer behaves. I think being a scientist is the best job one can ... have, and being a physician would be the second best job.

NS: Did you have any big rejections in your life?

ST: Absolutely. As you grow up, there are things you aspire for that you don't achieve. In track and field, there was always someone faster than me. During high

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school and college there were rejections. When I applied for grants there have been many rejections. There have been rejections also in paper submissions. I think rejections are key, because you want to know that not everything is easy and you need to get a sense that you can't have everything you want. That you have to work hard for what you want. Life is many times not fair and you can work very hard and not get what you fought for. Rejection builds character and forces you to elevate your game. In science in particular, you need thick skin and can't let frustration take over.

NS: Who, of all the historic or current personalities, would you most want to meet and why?

ST: That's a good question. I would like to meet Oswald Avery of Avery-MacLeod-McCarty fame. He was a professor here ... and they were the first [group] to show that DNA constitutes the molecular basis of heredity. It is sad that he never got full recognition for that. From what you can read about him he seems to have been an outstanding scientist, an incredible thinker, and someone with tremendous integrity. I'd love to meet him and have a better understanding of his persona and how he could inspire the younger scientist[s] around him who transmitted his own approach.

NS: What's your idea of a perfect holiday/vacation?

ST: I would say ... in a Mediterranean beach resort with great food, enjoying time with my family and having time to read books about history and science that I am really into.

NS: Do you have any advice for young researchers?

ST: Take your time to find the question you are interested in. Talk to senior scientists who could be your role models and inspire you. Try to find out how they take their path in science. Try to push yourself into areas that are understudied. Find a good environment that allows you to grow and express yourself. One doesn't have to stay in academia, if you find it in biotech [biotechnology companies], just go for it. There's great science done in biotech, as it is in academia. Communication is a big part of science, so I would tell them to practice their teaching skills, it helps your lectures and your ability to write, and the better you communicate, the better scientist you will be. ■



Johannes Buheitei/NATURAL SELECTIONS

The New York Museum of Mathematics (MoMath) invited attendees of all ages to help build this huge geometric structure

NYU's "Street Science" Aims to Bridge the Gap Between STEM Fields and the Younger Generation

JOHANNES BUHEITEL

"Cool" and "Awesome" are just two of many joyous exclamations I hear while I am trying to squeeze through the crowd of children, parents and other interested individuals filling up the NYU Kimmel Center to the brim. On Sunday, June 5, citizens from all boroughs came to Washington Square Park to engage in "Street Science," a free educational experience, which concluded the World Science Festival hosted by NYU during the preceding week. The helpers and organizers were positively surprised by the huge interest in the event despite that it had to be relocat-

ed indoors due to an unfavorable weather forecast. At countless stations, helpers from NYU and other institutes inside and outside of the city demonstrated exciting experiments, interesting natural phenomena and brainteasing mathematical conundrums among other things designed to bridge the gap between STEM (Science, Technology, Engineering and Mathematics) disciplines/topics and the (mostly) young audience.

Even though the excitement and the light-hearted nature of events like "Street Science" is sincere, the apparent need for such events does highlight current issues in STEM education in the United States. According to the 2012 report of the President's Council of Advisors on Science and Technology (PCAST), which is rather fittingly titled "Engage to Excel," the US is facing a shortage of up to one million STEM professionals by the end of 2018. The country has a history of relying on foreign professionals to satisfy those work-force demands. Increasing education and job opportunities in the foreign job markets pose serious threats for the domestic STEM job sector and, ultimately, the US economy. Therefore, in their report for President Obama, the experts from PCAST (whose roster reads like a



Motivated helpers engaged kids in all sorts of experiments and projects

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Who's Who of science and technology, and includes minds such as Eric Lander of the Broad Institute of MIT and Harvard, as well as Google's Eric Schmidt) make it clear that in order to close one gap, one has to close another. Specifically, in order to produce enough STEM graduates, the younger generation of today (including K-12 and college students) must be engaged early and made aware of the wonders of science and technology, and the importance of STEM issues for our everyday lives. Public science education events like "Street Science" but also the rising number of afterschool STEM programs, are practical steps in the right direction, but it will require continuous effort from both the public and the private sectors to keep STEM careers looking "Cool" and "Awesome" in the eyes of the bright minds of tomorrow. ■



The Bowdoin College RoboCup Team demonstrated how programming can make robots spring to life, communicate with each other and even cooperate to play soccer



This well-mannered tarantula helped attendees to overcome their fear of the unknown



An array of blinking lights on strings illustrated how neutrinos travel through the detector at the IceCube Neutrino Observatory at the south pole

Natural Selections wants your ART!

Whether you can't stop drawing while waiting for the bus, or taking a walk around the city; if photography is your passion, or if you're more of a painter, this is your chance to share your art.

Beginning in 2016, Natural Selections will publish a picture of the art we receive every month. To take advantage of this opportunity, email us your work with a title, a brief description, and your name. We'll make sure to include it in a future issue. We hope to receive several images to create an open space for art!

We'll be delighted to receive your artwork, please email hi-res image or vector files to:

nselectors@rockefeller.edu

Twenty-four visits to Stockholm: a concise history of the Rockefeller Nobel Prizes

Part XX: Paul Greengard, 2000 Prize in Physiology or Medicine

JOSEPH LUNA

Of the 37.2 trillion cells in the human body (excluding microbes), there are about 100 billion, or about 0.2%, that are a breed apart. These supercharged cells are indeed just that, charged to carry electrical signals to communicate with one another. They are organized into a dense and almost unfathomably complex network that uses gobs of energy to act as a command center for everything humanly imaginable. These cells control your breathing, your ability to see, and initiate every movement you make. They are responsible for every idea you've ever had, every feeling you've ever felt, and every memory you've ever recalled.

I'm writing of course, of the neuron, the basic cellular unit of the brain. Because of their almost mystical properties, generations of scientists have dedicated entire careers toward understanding how neurons work. Nowadays, we call such devotees neuroscientists, but this wasn't always so. When our next future Stockholm visitor got started, the basic truths outlined above were known about neurons. But they remained a black box: so little was understood about neuronal insides that neuroscience wasn't yet a distinct field in the mid-1950s and early 1960s. For a newly minted PhD named Paul Greengard, this soon became an inspiring frontier.

Trained as a neurophysiologist at Johns Hopkins, Greengard was thoroughly grounded in the electrophysiological school that viewed neurons essentially as living electric cables. In other words, everything important about the brain could be explained through an electrical understanding of how neurons communicated with each other at short timescales. By understanding the biophysics of a firing neuron, it was believed that a largely complete understanding of the brain was possible. And yet, neurons weren't inert conduits: to the biochemists, they contained scores of unique enzymes and molecules that at first glance had little to do with the rapid electrical wizardry for which neurons were famous. As living entities, they were likely much more complicated than electrophysiologists believed. Not surprisingly in this situation, neither side took the other seriously.

One feature of neurons as cells caught and kept Greengard's attention: neurotransmitters. In the normal rapid communication between two neurons, an excited neu-

ron releases specific molecules to stimulate a neighboring neuron, a bit like passing a message with a direct handshake. This fast synaptic transmission as it was called, was carried out in milliseconds. But there were dozens of other neurotransmitters that appeared to act much slower, on the scale of dozens of milliseconds to seconds, sometimes minutes. This slow synaptic transmission presented a bit of a puzzle. No one knew how it worked, or largely what it was for.

Greengard's great insight was to pay attention to the biochemists. Starting from the premise that a neurotransmitter was a small chemical messenger between two cells, Greengard was encouraged by work with hormones, as a similar form of cellular communication. What made hormones remarkable was their ability to act at long distances, a hormone made in the pancreas could travel through the bloodstream and instruct a distant liver or muscle cell. Greengard hypothesized that neurons might be using similar principles, without the long distances. It was a bit like saying that in a world where quick handshakes were king, neurons were also using phones, fax and email to talk to one another.

The early neuroscience community was skeptical that any long distance communication was needed in a fast synaptic transmission world, but Greengard had a decisive edge. He knew from the biochemists that when a hormone reached its target cell, a specific enzyme called an adenylyl cyclase was activated to make a molecule called cyclic adenosine monophosphate (cAMP), and both the enzyme and cAMP could be reliably measured. Then at Yale, Greengard and his first postdocs tested to see if such an enzyme existed in the brain that could make cAMP. To their surprise, they found that the adenylyl cyclase levels were not only higher in the brain compared to other tissues, but that a slow acting neurotransmitter called dopamine was needed to activate



Paul Greengard, Ph.D.

Photo Courtesy of the Rockefeller University

the enzyme. This was a first peek inside neuronal machinery, and it confirmed that the signaling that went on inside of neurons was consistent with other cell types. Suddenly an entirely different layer of communication and regulation of neurons was on the table.

Starting with a dopamine-sensitive adenylyl cyclase, over the next three decades (and persisting to this day), Greengard and his laboratory, in no small part, created much of molecular and cellular neuroscience by charting the order of intracellular events triggered by a neuron engaging a neurotransmitter. First with biochemistry and neurophysiology, and later with molecular biology and mouse genetics, the Greengard lab showed that these slower signaling pathways didn't replace the fast communication between neurons, but rather they modulated them: they acted like the knobs and dial settings that enabled the brain to run smoothly. These discoveries had enormous implications for a variety of neurological and psychiatric diseases associated with abnormal dopamine signaling, from Parkinson's disease, schizophrenia, ADHD, and drug abuse. Molecular explanations of how drugs worked on the brain were now possible, not to mention inspiring whole new avenues of therapeutic intervention.

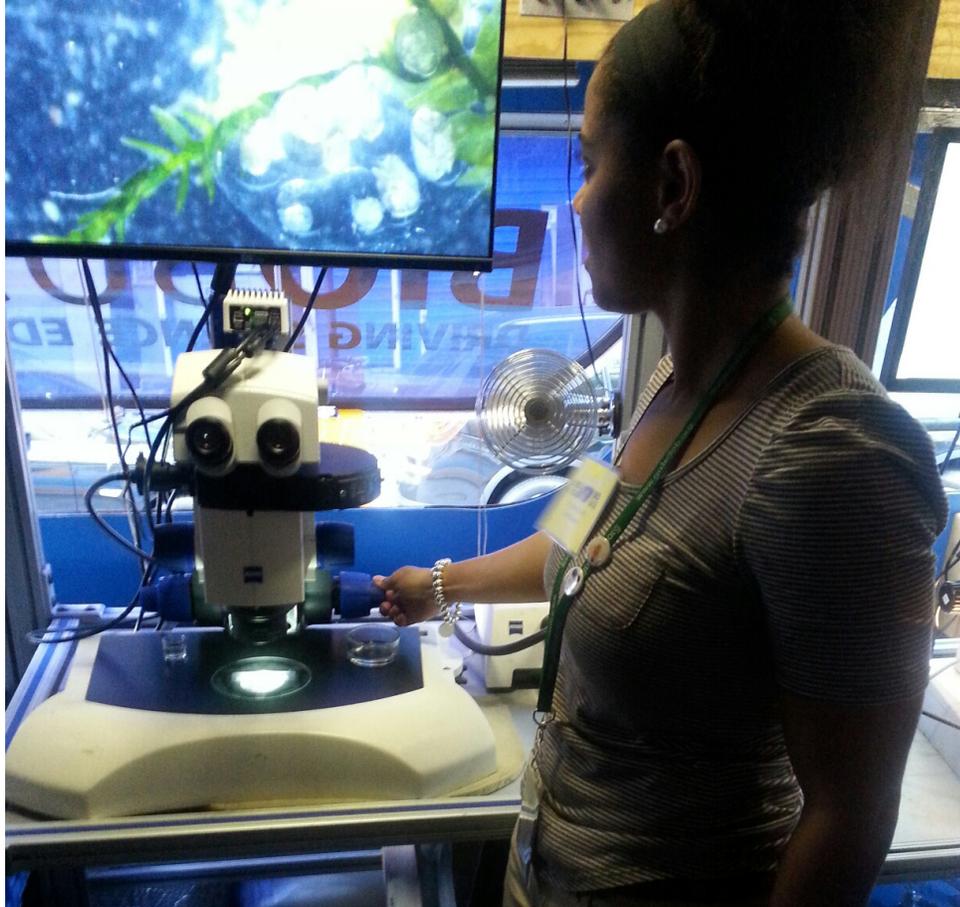
One might expect that as the neuron gave up many of its secrets, fewer would have been drawn to it. On the contrary; because of the efforts in Greengard's lab, the neuronal muse continues to inspire current and future generations of scientists. Mystery yields to awe. ■

All Aboard the BioBus

AILEEN MARSHALL

What were your science laboratory classes like when you were in grade school or high school? Did you ever get a chance to use a fluorescence microscope? Or sequence DNA? I never did. What if you had never been exposed to much laboratory science during your school years, would you have gone into the field? Probably not. This is the idea behind the BioBus. It's a 1974 public transit bus converted into a mobile lab, with research grade microscopes. The bus's staff and volunteer scientists travel to schools in New York City and all over the country, particularly to underprivileged areas. Using the microscopes, they give hands on laboratory lessons in areas such as development, ecology and evolution. This gives young students a chance to actually perform a science experiment, something they might not normally have a chance to do. It spurs their interest in science and hopefully will help to develop the scientists of the next generation.

The BioBus was started in 2008 by Ben Dubin-Thaler, after getting his Ph.D. in Biology from Columbia University. The bus is retrofitted to use both solar power and biofuel. With the seats gutted, the bus has six different research grade microscopes, all with monitors, so that all the students can share their views with others. There is a light, a fluorescent, three dissecting and even an electron microscope, which only has a footprint of about two by three feet. In addition, there are two "MiScopes", a camera probe attached to the dissecting microscopes to let the students examine their own skin, eyes, or whatever material they have. BioBus staff scientist Robert Frawley, formally of Cornell, notes "kids really like woven things since you can see the thread very clearly." The scientists who conduct the labs are mostly volunteer, some from Rockefeller University and the other Tri-Institutions. They use fruit flies, snails, mollusks, skin cells, pollen grains and an organism called daphnia. It's a transparent, microscopic shrimp-like organism that naturally lives in ponds and waterways in the area. It's good for teaching anatomy since their anatomy is similar to human and visible. Under a microscope, one can see a daphnia's heart beating and food moving through their digestive tract. The children get a chance to identify whatever organism they are working on by its DNA. The students do the pipetting to isolate the DNA and run a Polymerase Chain Reaction (PCR), which replicates the DNA in order to make it visible on an electrophoretic gel. This gel is



Aileen Marshall/NATURAL SELECTIONS

a method of separating the DNA bases into bands in order to determine the sequence. The scientist teacher will then show them a gel that has already been run. With an onboard computer, the students compare the DNA sequence they have derived with online databases to identify their organism. The lessons typically run about forty-five minutes.

Besides the metropolitan area, the bus has been as far west as Colorado and New Mexico. Sixty-five percent of their visits are to schools in low income neighborhoods. The students are mostly African-American, Hispanic and female; groups that are underrepresented in science professions. Statistics from the BioBus show that a dramatic improvement in the students attitude towards science. The bus serves over 30,000 children a year, from grade school through high school. They have been visited by Bill Nye, "The Science Guy," and Nobel prize winner Martin Chalfie. He won the Nobel Prize in Chemistry in 2008, for the discovery of green fluorescent protein, which is used as a marker for gene expression.

On a typical day, a scientist will meet the bus early in the morning at the first location they are visiting that day. They set up the microscopes and prepare the samples for the lessons. The first students can come on the bus at 8 a.m. Frawley relates "We have major points we want to address in our lessons, however teachers on the BioBus love to let students push the conversation with their questions and comments." As they leave, the students

get worksheets and stickers that say "Biobus Scientist." The staff then has to clean up and set up for the next group. When the school day is done, they secure the microscopes and supplies and head back to the BioBase.

The BioBase is an extension of the Biobus opened in 2014. It is a bricks and mortar lab housed in The Girls Club on the Lower East Side. There they have after school, weekend and summer programs, too. A Regents class is offered in four one hour sessions. There is a small amphitheater for giving classes and presentations. The students will make posters from their work and present them. In the laboratory they have four dissecting scopes and two light microscopes, as well as two more MiScopes and a fluorescence microscope. There is some bench space, a sink, incubators, a table top centrifuge, and lab coats. In the fish tanks are organisms they collect from the East River, such as oysters and other crustaceans and many different microorganisms used in the lessons.

Most funding for the BioBus comes from private and corporate donors such as Regeneron, Lumenera and the Simmons Foundation. All of the microscopes are donated, which is equivalent to an amount in the six figures. There are plans to purchase a second bus. While there is a small staff, most of the scientists are volunteers. Rockefeller's own Jeanne Garbarino has worked with them. For more information, go to www.biobus.org. ■

CrossFit:

Everything You Need to Know About One of Our Current Fastest Growing Sports

FRANCESCA CAVALLO



Photo Courtesy of IRON BATTALION CROSSFIT

Starting any new exercise practice can be discouraging, and it's no different when entering into a CrossFit gym, which can be a nerve-wrecking experience. Although in the current sports environment everybody is talking about CrossFit, there are those who don't even know what kind of sport it is. CrossFit is a complete and efficient training package. Created by Greg Glassman in the USA in the seventies, CrossFit started gaining popularity when the first CrossFit gym (called Box) opened in 1995 in Santa Cruz (California), before reaching its height in popularity after 2008. Today, there are more than 8,000 gyms and fitness centers spread around the world where CrossFit is performed.

CrossFit is commonly advertised in four words as "the sport of fitness" with a combination of constantly varied, high-intensity functional movements. It can be thought of as a training philosophy that coaches people of all shapes and sizes to improve their lifestyle and cardiovascular fitness within an encouraging environment. A CrossFit gym is unlike a normal gym. There is only one work out, called "WOD" (described below), performed each day that is completely scalable based on your skill levels.

How is a CrossFit class organized?

1. Warm up/ Mobility

Usually it starts with a warm up and mobility phase, which is conducted as floor exercises to activate different muscular groups in preparation for the workout. It's important that this phase includes the use of small tools like foamrollers, elastic bands, and backballs for muscular massage. This phase is essential because it prevents injuries and makes the subsequent movements more fluid.

2. Skill/Strength

Within this phase different exercises that will be in the workout are explained then performed (see Table below), including instructions on the techniques underlying specific movements.

3. WOD

This phase represents the real workout. In this phase there is no time to sharpen your technique or to rest. Following the CrossFit principle of high intensity, athletes have to exert maximum effort in the given timeframe. Typically, this phase has different time periods of activity from five minutes up to 30 minutes. It's considered the metabolic part of the workout, often called Metcon.

4. Recovery/Flexibility

This phase is dedicated to exercise recov-

ery, muscular lengthening and cool down. Under coach guidance stretching exercises are conducted, with a general duration of about ten minutes.

What are the CrossFit exercises?

A fixed list of exercises does not exist, instead during the training sessions different disciplines are interchanged with different functions and characteristics (see below).

Gymnastic	Cardio	Weightlifting
Squat	Run	Deadlift
Pull-up	bike	Clean
Push-up	rowing	Press
Dip	Jump rope	Snatch
Rope climb		Clean and jerk
Muscle-up		Kettlebell swing
Sit-up		

In particular, CrossFit combines different sports and movements. You can move from weightlifting to gymnastic routines, or from cardio to running and climbing, amongst others. A variety of tools are used including barbells, medicine balls, rings, kettlebells, box jumps etc.

It's important to remember that CrossFit's goal is not aesthetic, like bodybuilding, but rather aims to achieve a good health performance base. The improvement seen in the body is a pleasant consequence of CrossFit and not the sole purpose. ■

FREE SUMMER PARK EVENTS

IN

NYC

SUSAN RUSSO

Park rules for ALL parks: NO glass containers (baby bottles OK); alcohol; smoking; drugs; dogs off leashes YES blankets or towels (but NO plastic or tarps); rest-rooms; food vendors/stands

MOVIES

MANHATTAN

Bennett Park (Fort Washington Avenue and West 183rd Street, Pinehurst Avenue) Thursday, July 21 Show starts at 8:30pm. - *Ray*

St. Nicholas Park – Historic Harlem Parks Film Festival (St. Nicholas Plaza at St. Nicholas Avenue and West 135th Street) Shows start at sundown; seating area opens at 6:00pm.
Monday, July 18 - *Within Our Gates* (“earliest surviving feature by an African-American director”)
Wednesday, July 27 - *The Wiz* (1978)

Rodgers Amphitheater, Marcus Garvey Park (East 120th to 124th Streets and Madison Avenue)
Show starts at sundown; seating area opens at 6:00pm.
Monday, Aug 1 – *Purple Rain*

Morningside Park (114th Street at Morningside Drive)
Show starts at sundown; seating area opens at 6:00pm.
Monday July 25 - *Mavis Staples and the Staples Singers*

Thomas Jefferson Park (First Avenue between 111th and 114th Streets)
Show starts at 8:30pm.
Thursday, July 28 – *Annie* (2014)

Sherman Kreek Peninsula Park (10th Avenue, between Academy Street and the Harlem River)
Shows start at sundown; seating area opens at 6:30pm.
Wednesday, July 13 - *Inside Out*
Tuesday, August 9 - *Fly Away Home*

Randall’s Island Park (“at Touchdown of

the 103rd Street Footbridge”)
Shows start at 8:00pm.
Sunday, July 31 - *The Goonies*
Sunday, Aug 28 - *Inside Out* (at Randall’s Island Connector)
Show starts at 8:00pm.
Sunday, Aug 14 - *The Good Dinosaur*

103rd Street Community Garden (103rd Street east of Park Avenue)
Show starts at 7:45pm.
Tuesday, Aug 30 - *The Incredibles*

Pier I Picture Show (Riverside Park South - enter at 66th Street at the Hudson River)
Shows start at 8:30pm; seating starts at 6:30pm.
Wednesday, July 13 - *Basquiat*
Friday, July 15 – *Un Flic* (film noir in French)
Wednesday, July 20 - *Arthur* (1981)
Wednesday, July 27 - *Dog Day Afternoon*
Wednesday, Aug 3 - *The Royal Tenenbaums*
Wednesday, Aug 10 - “Audience vote” - *Mary and Max* or *Carol* or *The Warriors*
Wednesday, Aug 17 - *Auntie Mame*

Bryant Park (behind the 42nd St. Main Library) (42nd to 40th Streets, between Fifth and Sixth Avenues)
Shows start at sundown; gravel areas around the lawn open at 5:00pm (chairs and bench seating available); the lawn area opens at 6:00pm.
Mondays,
July 18 - *The Omen*
July 25 - *Three Days of the Condor*
Aug 1 - *Harvey*
Aug 8 - *High Plains Drifter*
Aug 15 - *The Big Chill*
Aug 22 - *Star Trek II: The Wrath of Khan*

At this park only - BAG CHECKS are made before entering. So you should know, seats and lawn spaces are taken fast; it’s best to send a friend to hold space with a blanket EARLY.

Bellevue South Park (East 26th to 28th Streets at Second Avenue)

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Show starts at 8:30pm.

Friday, July 29 – *Forbidden Planet (1956)*

Hudson River Park – Pier 63 (enter at 24th or 22nd Streets and 12th Avenue)

Free popcorn (while it lasts)

Shows start at 8:30pm.

Wednesdays,

July 13 - *Jurassic World*

July 20 - *Train Wreck*

July 27 - *The Big Short*

Aug 3 - *Creed*

Aug 10 - *Hunger Games Part II*

Aug 17 - *The Martian*

Thursday, July 21 - *Grease (1978)* – “SING-ALONG”

Fridays,

July 15 - *The Peanuts Movie*

July 22 - *Shaun the Sheep*

July 29 - *Kung Fu Panda*

Aug 5 - *Penguins of Madagascar*

Aug 12 - *Goosebumps*

Aug 19 - *The Princess Bride*

Union Square Park, North Plaza (17th Street between Broadway and Fourth Avenue)

Shows start at 8:00pm.

Thursdays,

Aug 4 - *The Goonies*

Aug 11 - *Grease*

Stuyvesant Square (North Lawn, East 15th and 17th Streets, Rutherford Place to Perlman Place)

Shows start at 8:00pm.

Thursdays, July 14 - *North by Northwest*

July 21 - *Maleficent*

July 28 - *The Birds*

Tompkins Square Park (Old Bandshell Lawn, Tenth Street between Avenues A and B)

Shows start at 8:30pm.

Fridays,

July 22 - *Cleo From 5 to 7* (in French)

July 29 - *Boyfriends and Girlfriends* (in French)

Tony Dapolito Recreation Center (Clarkson Street and Seventh Avenue South)

Shows start at 8:30pm.

Monday, July 12 - *Adventures in Babysitting*

Tuesday, July 26 - *Ferris Bueller's Day Off*

Show starts at 8:30pm.

Thursday, July 14 - *The Girls in the Band*

Crotona Park Amphitheater

Show starts at 8:30pm; seating starts at 7:30pm.

Saturday, July 16 - *Star Wars VII – The Force Awakens*

Bathgate Community Garden (1818-1836 Bathgate Avenue)

Shows start at 8:35pm.

Tuesdays,

July 19 - *The Book of Life*

Aug 16 - *The Land Before Time*

QUEENS

Socrates Sculpture Park

Shows start at sundown; seating starts at 7:00pm.

Wednesdays,

July 13 - *L'Atlante* (in French)

July 20 - *Sonita* (Iran/Germany)

July 27 - *Rivers and Tides* (UK/Germany)

Aug 3 - *Girl Asleep* (Australia)

Aug 10 - *Suzhou River* (China)

Aug 17 - *Aguirre, Wrath of God* (Germany)

Aug 24 - *Embrace of the Serpent* (Colombia)

Unisphere (Flushing Meadows Corona Park)

Show starts at 8:00pm.

Wednesday, Aug 3 - *Jurassic World*

Mauro Playground (Flushing Meadows Corona Park)

Show starts at 8:00pm.

Sunday, July 31 - *The Good Dinosaur*

Virgilio Playground (Flushing Meadows Corona Park)

Show starts at 8:30pm.

Wednesday, July 13 - *Back to the Future*

Show starts at 8:00pm.

Sunday, Aug 14 – *The Land Before Time*

111th Street Parking Lot (Flushing Meadows Corona Park)

Show starts at 8:00pm.

Tuesday, Aug 23 – *Norm of the North*

LIC Landing Events Space (Hunter's Point South Park)

Shows start at 8:30pm.

Thursdays,

July 14 - *Spider-Man*

Aug 11 – *August Rush*

Show starts at 8:00pm.

Aug 25 - *Zootopia*

Rainey Park

Shows start at 8:30pm.

Thursday, July 14 - *The Muppets Take Manhattan*

Saturday, July 16 - *Shaolin Soccer*

George U. Harvey Park Hockey Rink

Show starts at 8:30pm.

Friday, July 15 - *Monsters, Inc.*

Athens Square

Shows start at 8:30pm.

Sundays,

July 17 - *Mary Poppins*

July 24 - *The Wizard of Oz*

Katzman Playground (in Yellowstone Park)

Show starts at 8:30pm.

Thursday, July 21 - *Finding Nemo*

Juniper Valley Park

Show starts at 8:30pm.

Friday, July 22 - *Teenage Mutant Ninja Turtles*

Waylanda Park

Show starts at 8:30pm.

Saturday, July 23 - *The Avengers*

Highland Park (Elton Street and Jamaica Avenue)

Shows start at 7:30pm.

Friday, July 22 - *The Incredibles*

Monday, Aug 8 - *Goosebumps*

Astoria Park Lawn

Shows start at 8:30pm.

Mondays,

July 25 - *Big Hero 6*

Aug 2 - *Mary Poppins*

Aug 8 - *Minions*

Aug 15 - *Ferris Bueller's Day Off*

Aug 22 – *Jaws*

ARROW Field House (Astoria)

Shows start at 8:15pm.

Wednesdays,

July 13 - *Jaws*

July 27 - *Indiana Jones and the Kingdom of the Crystal Skull*

Police Officer Edward Byrne Park

Show starts at 8:30pm.

Thursday, July 28 - *Monsters University*

Crocheron Park (At 35th Avenue and Cross Island Parkway)

Shows start at 8:00pm.

Fridays,

THE BRONX

St. Mary's Park Recreation Center

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July 29 - *Jurassic World*
Aug 5 - *Minions*
Aug 12 - *The Avengers*

Tudor Park

(Addabbo Memorial Park)
Show starts at 8:30pm.
Saturday, July 30 - *Grease*
(Buddy Monument)
Show starts at 8:30pm.
Saturday, July 30 - *Grease*
Show starts at 7:30pm.
Mondays,
Aug 1 - *Hotel Transylvania*
Aug 15 - *Finding Nemo*
Aug 29 - *Guardians of the Galaxy*

Baisley Pond Park (155th Street and Baisley Boulevard)
Show starts at 8:00pm.
Friday, July 29 - *Jurassic World*

Rockaways

(Beach 17th Street and Seagirt Boulevard)
Shows starts at 8:00pm.
Friday, July 29 - *Goosebumps*
Saturday, Aug 27 - *Star Wars: The Force Awakens*
(Beach 59th Street and Seagirt Boardwalk)
Show starts at 8:00pm.
Friday, July 29 - *Goosebumps*
(Broad Channel Park)
Show starts at 8:00pm.
Saturday, Aug 13 - *Zootopia*

Forest Park, George Seuffert Bandshell

Show starts at 7:30pm.
Monday, Aug 22 - *The Good Dinosaur*

BROOKLYN

Brooklyn Bridge Park, Pier 1 (at entrance to Park)
Shows start at 7:00pm; seating at 6:00pm.
Thursdays,
July 14 - *Harold and Kumar Go To White Castle*
July 21 - *Purple Rain*
July 28 - *It Happened One Night*
Aug 4 - *American Graffiti*
Aug 11 - *Selma*
Aug 18 - *A League of Their Own*
Aug 25 - "Public Vote" *The Sandlot* or *Milk* or *La Bamba*

Target Brooklyn Community Garden

Shows start at 8:00pm.
Wednesdays,

Aug 10 - *Strange Love of Martha Ivers*
Aug 17 - *Young Man with a Horn* (1950)

Jane Bailey Memorial Garden

(Fort Greene)
Shows start at 8:00pm.
Wednesdays,
Aug 24 - *Buck and the Preacher* (1972)
(Sidney Poitier)
Aug 31 - *Paris Blues* (1961)

STATEN ISLAND

Timoshenko Soccer Field (FDR Boardwalk/Beach)
Show starts at 8:30pm.
Tuesday, July 12 - *Teenage Mutant Ninja Turtles* (1990)

Conference House Park (Hyland Boulevard/Satterlee Street)
Show starts at 8:30pm.
Wednesday, July 13 - *Wreck It Ralph*

Greenbelt Recreation Center (Blood Root Valley)
Wednesdays
July 20 - *Rear Window* (starts at 8:20pm)
Aug 3 - *Vertigo* (starts at 8:00pm)
Aug 17 - *North by Northwest* (at 7:50pm)
Aug 31 - *Notorious* (starts at 7:30pm)
Sunday, July 31 - *The Girls in the Band* (at 8:00pm)

Westervelt Community Garden (St. George)
Show starts at 7:55pm.
Tuesday Aug 23 - *An American Tail: Fievel Goes West*

FREE PLAYS AND OTHER SPECIAL EVENTS

(If you're too tired to handle LONG waits online for Central Park's Shakespeare *Troilus and Cressida*)

MANHATTAN

Broadway in Bryant Park 12:30-1:30pm.
Thursdays July 14, 21, 28 and August 4 and 11

Hudson Warehouse Summer Stage (at the Soldiers' and Sailors' Monument Plaza at 89th Street and Riverside Park)
Performances at 6:30pm Thursdays through Sundays only
"Pay what you can"
Now playing, through July 24 *Lysisarah "Let's Make America Great Again"* [adapted and 'updated' from]

Aristophanes' *Lysistrata*
July 24 - Aug 21 *Othello* [Shakespeare's]

New York Euripides Summer Festival
(At the East River Park, from Avenue C, walk towards the East River to the East River Amphitheater)

Friday July 29, and Saturday, July 30
Performances from 6:00-7:30pm of Euripides' *Cyclops*
(At the Marcus Garvey Park, Rodgers Auditorium)
Tuesday August 2 and Wednesday August 3
Performances from 12:30-1:30pm of Euripides' *Cyclops*

THE BRONX

Van Cortlandt Park Classical Playground
Thursday, July 14, 10-11:30am - Chinese Acrobat Li Liu

QUEENS

Unisphere (Flushing Meadows Corona Park)
From 6:30-10:00pm.
Wednesdays,
July 27 - Shakespeare's *As You Like It*
Aug 10 - Shakespeare's *Julius Caesar*

Crocheron Park (At 35th Avenue and Cross Island Parkway) From 6:30-10:00pm
Thursdays,
July 28 - Shakespeare's *Julius Caesar*
Aug 25 - Shakespeare's *As You Like It*

Highland Park (Elton Street and Jamaica Avenue)
From 6:00-7:30pm Wednesday, July 27 - *You're a Good Man, Charlie Brown*
From 6:00-7:00pm Wednesday, Aug 3 - *Patty Cake Theater - Mr. Amoeba and the Geos*

111th Street Parking Lot (at 53rd Avenue, Flushing Meadows Corona Park)
From 11:00am to 12:00pm
Tuesday, Aug 16 - PuppetMobile - *Puss in Boots*

Alley Pond Park (76th Avenue/Springfield Boulevard)
From 10:30 to 11:30am
Tuesday, Aug 23 - PuppetMobile - *Puss in Boots*

COMPILER'S NOTE: PLEASE check online for dates and/or times of the events, as there may be changes in schedules for reasons other than for inclement weather! - Susan Russo

Culture Corner

The Violent Brilliance of Peaky Blinders

BERNIE LANGS

It isn't often that a television series completely engages me, and I am able to watch entire seasons without losing interest. *Peaky Blinders* comes to Netflix from the BBC and centers on a gangster family with their many schemes and adventures in post-World War I Birmingham, England. I've watched the first two seasons and am half-way through the third and most current season. The show has been renewed for two more years.

Peaky Blinders focuses on the three brothers and a sister of the Shelby family, their aunt and her recently discovered teenage son, and various other characters, such as an Irish Major trying to stop the family's efforts, but later secretly recruits them for business in service of the Crown. There are times of graphic and disturbing violence portrayed on the show that are often cringe-worthy. What makes this first-rate television is that the characters have complex personalities and are portrayed by a cast of actors that display incredible depth. In addition, the show utilizes loud, in-your-face contemporary rock music at times, that lends an acoustic parallel to the physical violence or the inner torments of the tortured souls being depicted. *Peaky Blinders* boasts beautiful sets and the cinematography and direction is full-length film worthy.

The Shelby family is led by Tommy, a decorated World War I veteran played by Cillian Murphy. For the first two seasons he was hounded by Major Chester Campbell, portrayed with vehemence by Sam Neill. Their chess match, even the one that took place when Shelby and Campbell were allies, was a wonder to watch unfold. Murphy's Tommy Shelby has multiple layers of personality conflicts as he tries, mostly in vain, to take the ever-growing success and wealth of the family into legitimacy, echoing Al Pacino's *Godfather* lament "They keep drawing me back!" Murphy is sometimes shown onscreen for long periods where he is thinking or staring someone down. The viewer is taken deep inside his psyche and the actor displays an uncanny and frightening ability to show a man shutting down any sense of human emotion or decency when it is necessary. Series creator, Steven Knight, makes use of Murphy's rich eye color to allow us to see inside his very soul.

The rest of the cast play their roles with equal depth. Tommy's elder brother, Arthur,



Photo Courtesy of BBC

portrayed by Paul Anderson, provides many of the show's most violent outbursts. Yet his moments of silent suffering and intense inner turmoil make what could have been a clichéd role into a memorable characterization of a shell-shocked veteran who is both out-of-control yet fully self-aware and thus in the throes of a deep-set, unique suffering. Annabelle Wallis plays Grace Burgess, recruited by the love-struck Major Campbell to go undercover to infiltrate the Shelby gang and whom subsequently falls hard in love with Tommy. She too could have been written in standard television language, but the actress exploits her beauty as a tool for displays of complex emotions in the face of conflict and ruinous life decisions.

The final episode of season two was one of the best written dramatic television shows I've ever seen. Taking place in 1922 at the Epsom racecourse, Tommy Shelby has timed a Winston Churchill and Major Campbell-sanctioned political murder down to the second, and as things go wrong and he has to adjust his playbook, the viewer is riveted by the fast on screen action. Various characters that have appeared on the show come together beautifully during this climactic play of circumstance.

The complexities of the Shelby clan as gangsters reminds me of HBO's *The Sopranos*. James Gandolfini's acting as crime boss Tony Soprano was awe-inspiring. There was so much to Tony's character that it was riveting to just watch him fidget with his pasta with a fork. The violence on that show was also unheard of at the time for a television

series and much of *Peaky Blinder's* harshness is in a similar manner. Gandolfini's character was always on the verge of seeing himself for what he was, but he never could quite reach that moment of realizing the monster within. Late in the series, his long-time psychiatrist cuts him loose, unable, she tells him, to treat him since he is a sociopath. There was also a fantastic scene where Tony takes a hallucinatory drug and when viewing a beautiful landscape yells out in a Eureka fit of joy, "I get it!" But the thing is, he never did.

Cillian Murphy's Tommy Shelby "gets it" however and is at war with himself about what he must do to maintain his family's businesses and integrity as he strives for legitimacy. He won't deny his inner violence in that pursuit. Even the slow-witted Arthur gets it more than he wants to and chooses to altruistically kill at times to spare his beloved brother Tommy from having to do so.

Smaller roles in *Peaky Blinders* include one played by the great actor Tom Hardy as the leader of a Jewish gangster clan. Hardy steals his scenes with his fast-talking and scheming and his own brand of violence. Those of us who have marveled at Hardy's movie career can only imagine the joy he is taking, in being part of this terrific television ensemble. It is also amusing that he appeared with Murphy in the heady film *Inception*. The press has made much of the fact that the late rock star David Bowie contacted the show's creator towards the end of his life, offering his music for inclusion in the soundtrack. Those of us who are fans of this great series are in excellent company. ■

For Your Consideration Ones to Watch, Vol. 1 Edition

JIM KELLER

It's that time of year again! This first in a four-part series, focused on the leading ladies of the Best Actress race, will take us to January 2017 when Oscar nominations are announced. This year's Best Actress selection was as stark white as last year's, prompting many to have another heyday with #OscarsSoWhite. In the spirit of effecting change, several women of color are included here, even if it's uncertain whether all of their films will have an Oscar-qualifying run. Also, it appears that the gap between films led by men versus women has further narrowed. Some of this year's potential Best Actress contenders have already received high marks; can they hold on through the season? Last Oscar season saw two young actresses (Brie Larson vs. Saoirse Ronan) duke it out until the bitter end, but if you paid attention to the precursor awards, the winner was no surprise. Unlike the previous year, the category featured only true leads (not supporting roles masquerading as leads), perhaps another sign of the changing times. What will this year's story be? Will our top five continue to be true leads? We'll look to answer these questions in the next couple of months, but let's first examine last year's Best Actress nomination results.

Of the seven roles that were discussed here, only three secured Best Actress nominations: the aforementioned Ronan who was defeated by Larson, Jennifer Lawrence for *Joy*, and Cate Blanchett for *Carol*. Some Oscar favorites Meryl Streep (*Ricki and the Flash*), Kate Winslet (*The Dressmaker*) and Marion Cotillard (*Macbeth*) failed to land nominations. The only snubbed performance worthy of a nomination was from Carey Mulligan whose film, *Suffragette*, was maligned early on when T-shirts worn by the cast (including Streep) were misinterpreted by the public as depicting a racial slur. The last nominee was Charlotte Rampling (*45 Years*).

THE QUEEN BEE: Meryl Streep – *Florence Foster Jenkins* (director: Stephen Frears):

FYC: This British biographical comedy drama tells the story of the titular character (Streep), a New York heiress who aspires to become an opera singer, despite essentially being unable to carry a tune. Streep con-



Florence Foster Jenkins

tinues to be discussed every year in this column. She has racked up 16 Oscar nominations and three Oscar wins—two in lead (*Sophie's Choice* in 1983 and *The Iron Lady* in 2011), and one in supporting (*Kramer vs. Kramer* in 1980). Early reviews of the film, set to open in the U.S. on August 12, have praised Streep's performance, so it is a safe bet to pencil her in for now.

THE NEWCOMER: Ruth Negga – *Loving* (director: Jeff Nichols):
FYC: The British-American drama tells the true story of Richard and Mildred Loving (Joel Edgerton and Negga), an interracial couple who were sentenced to prison in Virginia in 1958 for getting married. The film received a standing ovation when it screened in competition for the Palme d'Or at this year's Cannes Film Festival and will campaign in several major categories this awards season, including Best Actress and Best Picture. Ethiopian-born Negga is a newcomer having just appeared on American television in AMC's *Preacher*. She has previously been recognized by the Irish Television and Film Awards in her home country. Given the state of racial affairs at the Oscars and her performance's Cannes reception, Negga stands a good chance of being nominated, unless she is bested by another woman of color (see below).

THE LOVER: Marion Cotillard – *Allied* (director: Robert Zemeckis):

FYC: A romantic World War II thriller based on the true story of a French-Canadian spy (Brad Pitt) who investigates

his wife, a French agent (Cotillard), after learning that she may be a Nazi spy. Cotillard has been on track for a second Oscar after her Best Actress win in 2008 for *La Vie en Rose* and last year's nomination for *Two Days, One Night*. While thrillers are not often the stuff that Oscar dreams are made of, Cotillard shines in most everything she does and may be able to muscle her way into a nomination.

THE PERENNIAL: Jennifer Lawrence – *Passengers* (director: Morten Tyldum):
FYC: A sci-fi adventure revolving around two of thousands of spacecraft passengers, traveling to a distant colony planet, who are awakened 90 years early from hyper sleep due to a malfunction in their sleep chambers. In 2012, Lawrence won the Best Actress Oscar for *Silver Linings Playbook* after earning her first Best Actress nomination in 2011 for *Winter's Bone*. She went on to net a Best Supporting Actress nomination for *American Hustle* (2014), and her third Best Actress nomination this year for *Joy*. If anyone can match Sigourney Weaver by getting a Best Actress nomination for a sci-fi film, it's Lawrence. Further, being directed by 2015's Best Director nominee for *The Imitation Game* and a December release bodes well for her chances.

THE MOTHER: Alicia Vikander – *The Light Between Oceans* (director: Derek Cianfrance):

FYC: In this drama, based on M. L. Sted-

Photo Courtesy of Paramount Pictures

CONTINUED TO P.13

*The Girl on the Train***CONTINUED FROM P.12**

man's novel of the same name, a lighthouse keeper and his wife, living off the coast of Western Australia in post World War I, rescue a baby from an adrift rowboat and raise her as their own. As the baby grows older, the couple encounters a woman (Rachel Weisz) who threatens to break up their family. Vikander won the Best Supporting Actress Oscar this year for *The Danish Girl* and also earned Golden Globe and British Academy of Film and Television Arts (BAFTA) nominations for that role as well as for her supporting role in *Ex Machina*. The actress was also recognized by a slew of critics' bodies throughout the last awards season. With her career on the uptick, back-to-back nominations wouldn't be out of the question.

THE MATH WIZ: Taraji P. Henson – *Hidden Figures* (director: Theodore Melfi):

FYC: Based on Margot Lee Shetterly's non-fiction book of the same name, this drama film adaptation follows a team of African-American women who helped NASA catch up in the Space Race by providing the mathematical data needed to launch the program's first successful missions, including American John Glenn's historic orbit of earth. Henson was nominated for Best Supporting Actress for 2008's *The Curious Case of Benjamin Button*, a role that also netted her a Screen Actors Guild (SAG) nomination, and won this year's Golden Globe for Best Performance by an Actress

in a Television Series - Drama for her role in Fox's *Empire*. While the film has an early 2017 release date, it seems likely that an Oscar-qualifying run in December could bring it into the mix. Henson is the second actress discussed here who could benefit from being a woman of color as the Academy tries to overcome two years of #OscarsSoWhite.

THE VOYEUR: Emily Blunt – *The Girl on the Train* (director: Tate Taylor):

FYC: A mystery thriller, based on Paula Hawkins' 2015 debut novel of the same name, that follows Rachel Watson (Blunt) in her post-divorce life of passing by her old house, now inhabited by her ex-hus-

band and his new family, every day during her work commute. To cope with her pain, she takes to watching a couple who live nearby and imagines their perfect family. But the monotony is interrupted by a shocking sight, followed by a blackout (coupled with a horrible hangover the next morning), various wounds and bruises, and a feeling that something bad has happened. Indeed it has: the woman she had been watching, Megan, has gone missing. This prompts Rachel to try to piece together what happened during her blackout, both to Megan and to herself. In 2007, Blunt received BAFTA nominations for Best Supporting Actress and the Rising Star Award for her role in *The Devil Wears Prada*. The same year she won the Golden Globe for Best Performance by an Actress in a Supporting Role in a Series, Miniseries or Motion Picture Made for Television for *Gideon's Daughter*. In 2010, she secured a Golden Globe nomination for Best Performance by an Actress in a Motion Picture – Drama and a Best Actress Broadcast Film Critics Association (BFCA) nomination for *The Young Victoria*, followed by two nominations for Best Performance by an Actress in a Motion Picture - Comedy or Musical: *Salmon Fishing in the Yemen* (2013) and *Into the Woods* (2015). There appears to be a push to get Blunt a nomination, as evidenced by her name being in the mix for last year's *Sicario*. While I disagree with the acclaim she received for that role, she seems well suited for this one in a story somewhat reminiscent of 2014's *Gone Girl*,

CONTINUED TO P.14*Hidden Figures*

CONTINUED FROM P.13

which earned Rosamund Pike a Best Actress nomination.

THE THESPIAN: Viola Davis – *Fences* (director: Denzel Washington):

FYC: This American drama, based on August Wilson's play of the same name, follows an African American father Troy Maxson (Washington) who struggles with race relations while trying to raise his family in the 1950s and come to terms with the events of his life. Davis was nominated for Best Supporting Actress for 2008's *Doubt* and famously lost a Best Actress win for *The Help* in 2012 to Streep. Davis received Golden Globe nominations for both roles and won the SAG award for *The Help*. She found more success on television, receiving back-to-back nominations for Best Performance by an Actress in a Television Series – Drama for her role in ABC's *How to Get Away with Murder*. This same role netted her a Primetime Emmy last year. Davis is overdue for an Oscar win in a year where the Academy seeks to correct past wrongs. She also won a Best Actress Tony award for her portrayal of Maxson's wife Rose in the revival of the play in 2011. This makes her a strong frontrunner, sight unseen.

THE READER: Amy Adams – *Nocturnal Animals* (director: Tom Ford):

FYC: A thriller based on Austin Wright's 1993 novel *Tony and Susan*, which follows Susan Morrow (Adams) as she plunges into the pages of her ex-husband's violent novel and is drawn into the fictional life of professor Tony Hastings (Jake Gyllenhaal). She interprets the novel as a veiled threat and a symbolic revenge tale, which causes her to revisit the past to confront an inner darkness and the fear that threatens her future. Adams is another actress that is overdue for an Oscar. Beginning in 2006 with a supporting role in *Junebug*, she amassed three more nominations in that category for *Doubt*, *The Fighter* and *The Master* in 2009, 2011, and 2013, respectively. Adams went on to secure her first Best Actress nomination for *American Hustle* in 2014. She won the Golden Globe for Best Performance by an Actress in a Motion Picture – Comedy or Musical for *Big Eyes*, a BAFTA-nominated role the Academy, SAG, and BFCAs snubbed her for. Given Adams's talent and that Ford's debut film, *A Single Man*, wowed critics and earned Colin Firth a Best Actor nomination, getting a nomi-



Photo Courtesy of Focus Features

The Zookeeper's Wife

nation should be a cakewalk.

THE WIFE: Jessica Chastain – *The Zookeeper's Wife* (director: Niki Caro):

FYC: The British-American World War II drama, based on Diane Ackerman's non-fiction book of the same name, is an account of how Warsaw zookeepers Jan and Antonina Zabinski helped to save hundreds of human and animal lives during the Nazi invasion. Chastain, also overdue for a win, has received two nominations: supporting for *The Help* and lead for 2012's *Zero Dark Thirty*. With a late March 2017 release, it's highly plausible that the film will not receive an Oscar-qualifying run this year. But, as Oscar loves a good Holocaust story, it's likely that, if released, this role could land her a third nomination. To be on the safe side, we'll keep it in the discussion.

THE FIRST LADY: Rosamund Pike – *A United Kingdom* (director: Amma Asante):

FYC: The final performance comes from a British period biopic based on the true-life romance between Botswanan prince Seretse Khama (David Oyelowo) and his wife Ruth Williams Khama (Pike) whose interracial marriage caused an international stir in the late 1940s. Pike was nominated for Best Actress for *Gone Girl* in 2015 after being plucked from relative obscurity with a small role in the 2010 Best Picture nominee *An Education*. On paper, she has a lot going for her, Asante is a woman of color and Pike has a substantial role in this year's potential contender *HhHH*, giving her more

visibility. But the film stands to be heavily compared to the aforementioned *Loving* thereby dampening her chances. Since it hasn't been given an official 2016 release date, it's likely we won't see it this year. But we'll keep her in on the off chance.

The women discussed here are some of those with the pedigrees to earn nominations. Others include Rooney Mara in *My Left Foot* director Jim Sheridan's drama *The Secret Scripture*. The film is based on Sebastian Barry's 2008 novel of the same name in which a woman keeps a diary of her extended stay at a mental hospital. It could be a heavy hitter in the major categories. There's also another shot for Adams in prolific director and it-boy Denis Villeneuve's latest *Arrival*. It's a sci-fi drama, based on Ted Chiang's short story of the same name that takes place after aliens land, wherein an expert linguist is recruited by the military to assess whether they are a threat. There are also a few veterans who haven't yet won: Annette Bening (*The Seagull*), not to be confused with Michelle Pfeiffer (*Beat-Up Little Seagull*), and, a young newcomer Royalty Hightower (*The Fits*), courtesy of the 2016 Sundance Film Festival. The Oscar race is constantly evolving; the next preview will come via the Venice International Film Festival August 31 - September 10, 2016 and the Telluride Film Festival September 2-5, 2016. As these festivals often set the stage for the season to come, expect the September installment about the leading men of the Best Actor race to be an eye-opener. ■



NEW YORK STATE OF MIND

This Month Natural Selections Features Brian Fabella, Research Technician in the Hudspeth lab

INTERVIEW BY GUADALUPE ASTORGA



How long have you been living in the New York area?

17 years in July.

Where do you currently live? Which is your favorite neighborhood?

I currently live in Woodside, Queens, and my favorite neighborhood right now is Long Island City. I like going to Gantry State Park. The kids and I have fun and there are good restaurants and bars.

What do you think is the most overrated thing in the city? And underrated?

I think the most overrated is the Statue of Liberty. It is beautiful for sure, but visitors go there and completely overlook the underrated Ellis Island, which I think offers a good snapshot of America's immigrant history.

What do you miss most when you are out of town?

I miss the bacon, egg and cheese sandwich from my local bodega, I can't really find the

same type of sandwich when I leave the city.

Has anything (negative or positive) changed about you since you became one of us "New Yorkers?"

Living in NY has forced me to become more assertive, so I think that is positive, but at the same time it has caused me to become less patient.

If you could change one thing about NYC, what would that be?

I would like to decrease the rent everywhere since it's becoming harder and harder for people to find a place that is close to the city and relatively affordable. You have luxury skyscrapers going up everywhere that the majority of New Yorkers can't even come close to affording.

What is your favorite weekend activity in NYC?

In the summer I love to get on the East River Ferry and take it down to Governors Island, and then bike around and explore the island with my family. We would end the day by drinking a few beers and eating some tasty but overpriced food.

What is the most memorable experience you have had in NYC?

Other than 9/11 and the blackout in August 2003, the most memorable experience is when I met my wife in 2001 at a party. We were from completely different social circles

and we had no mutual friends, but we found ourselves at the same party and we started talking. Eventually I got her number and put it in my cell phone, but at the end of the night I lost the phone. And since this was before the age of social media, I was worried that I wouldn't be able to find her, but luckily she gave me her business card. I called her, we started dating, we got married, and now we have two kids. So I often think back: if our friends hadn't separately invited us to that party and if she hadn't given me her business card, none of that would have happened.

Bike, MTA or WALK IT???

Bike! I've been commuting to Rockefeller ever since I started and it's much faster and less stressful than any other way.

If you could live anywhere else, where [would] might that be?

My wife's family lives in Long Island and my family lives in Las Vegas, so if I were to move it would be either to Las Vegas or Long Island.

Do you think of yourself as a New Yorker?

Since I've lived here for almost half my life, I do for the most part. However, I grew up saying "go get in line to buy the tickets," while born and raised New Yorkers, like my kids, say "go get on line...". This still sounds so strange to me, so I don't think I will be a true New Yorker until that changes.

QUOTABLE QUOTE

"Impossible is just a big word thrown around by small men who find it easier to live in the world they've been given than to explore the power they have to change it. Impossible is not a fact. It's an opinion. Impossible is not a declaration. It's a dare. Impossible is potential. Impossible is temporary. Impossible is nothing."

Muhammad Ali, 1942-2016



A Piece of Our Mind

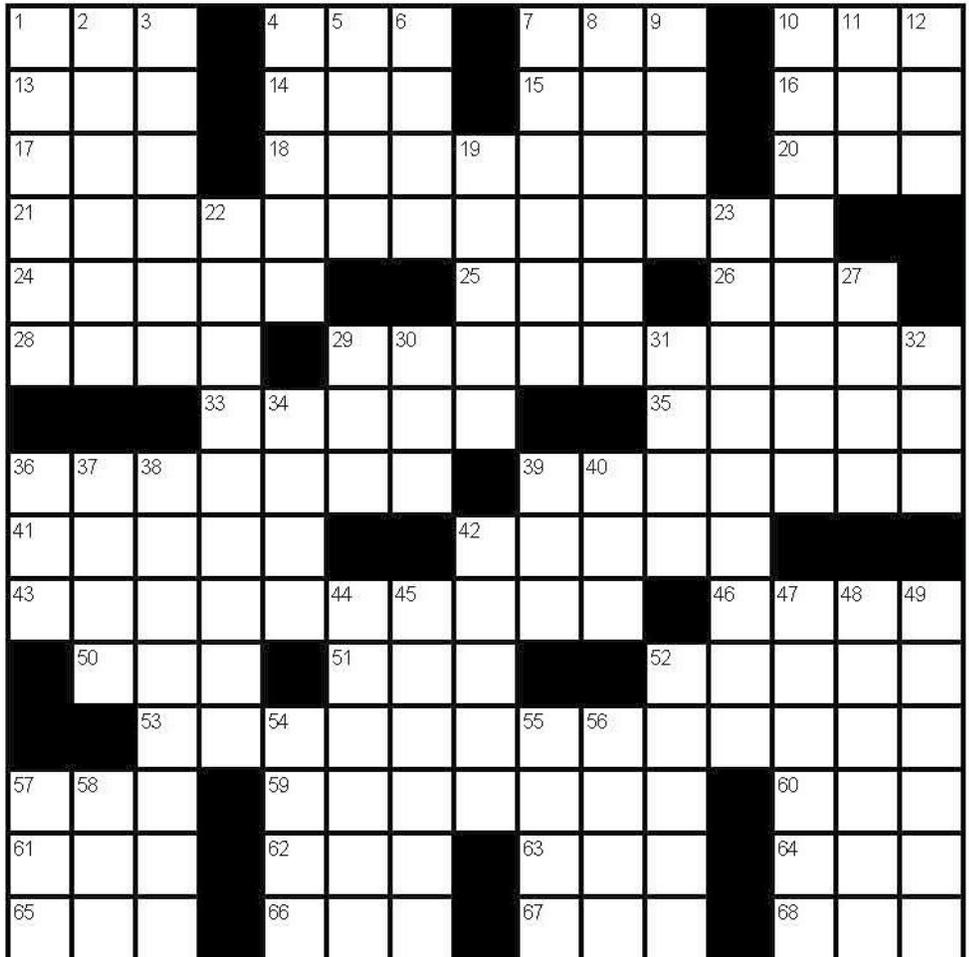
GEORGE BARANY AND CHRISTOPHER ADAMS

George Barany is a Rockefeller alum (1977) currently on the Chemistry faculty of the University of Minnesota–Twin Cities and Christopher Adams is a graduate student in mathematics at the University of Iowa. This puzzle was created with the utmost respect for the victims of senseless violence and terror. Some aspects will enrage you, and others will break your heart. For more information, including a link to the answer, visit [here](#). More Barany and Friends crosswords can be found [here](#).



Across

1. Summer term at UCLA?
4. Down in the dumps
7. FICA funds it
10. ___ anthem, like “I Will Survive” or “Y.M.C.A.”
13. Hem and ___ (be indecisive)
14. Reproductive cells
15. Perfect score, or half a score
16. Poetic paean
17. Brest friend
18. One found on the Rod of Asclepius
20. Rug rat
21. California, 12/2/2015 (14 dead, 22 injured)
24. Pop-Tarts cousins
25. Singer Zadora
26. Bit of work
28. It may be caught in the headlights
29. Virginia, 4/16/2007 (33 dead, 17 injured)
33. Corporals or sergeants, very informally
35. Frequently used font
36. Connecticut, 12/14/2012 (28 dead, 2 injured)
39. Florida, 6/12/2016 (50 dead, 53 injured)
41. 1959 Medicine Nobel laureate Severo who was honored on a USPS stamp in 2011
42. In bars, these are better to throw down than to ring out
43. South Carolina, 6/17/2015 (9 dead, 1 injured)
46. “Ain’t That a ___ in the Head?”
50. “___, Palermo!” (Procida’s aria from “I Vespri Siciliani”) (anagram of OUT)
51. Evolutionary ancestor
52. Chocolate source
53. Plea in response to 21-, 29-, 36-, 39-, and 43-Across, and too many others to list here
57. Start and end of the Three Musketeers’ motto
59. More like an oboe
60. ___-jongg
61. Daily ___ (liberal political blog)
62. “A” of ETA
63. Welcome sign on B’way
64. Honest ___, the first Republican President
65. Bunyan’s blade
66. “The Waste Land” poet’s monogram
67. Actor Hanks
68. GRF’s VP (and a mixed-up org. opposed to gun control)



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Down

1. Done in stages
2. Harm
3. Pang
4. Fails to win
5. Superior to
6. Raise red flags
7. ___ hindrance (important concept in organic chemistry)
8. “Where the Wild Things Are” author/illustrator Maurice
9. Pro’s foe
10. Fall apart
11. Commotion
12. Even so
19. Half of the “Dedicated to the One I Love” group
22. Springsteen song that references the American dream
23. William Jennings Bryan, for one
27. Sheepskin holder
29. Yo-Yo Ma might use one or take one
30. K-O knockout?

31. NaCl
32. Shine, in ad-speak
34. Fossil fuel advocated by fossils such as Mitch McConnell
36. Chief ___-A-Homa (onetime Braves mascot; anagram of CON)
37. ___ chamber (apt metaphor for news and social media)
38. “So ___ is new?”
39. Cry of surprise
40. Politico Paul
42. Knight mare
44. Lotus-___ (race encountered by Odysseus)
45. Area of influence
47. Mutant who came out in comics in 2015
48. Fruit named for a Turkish town
49. Legit
52. Storage medium
54. “Darn!”
55. Atomizer output
56. Prefix with dynamic or nautical
57. Alias, for short
58. It is often served with cream cheese, on a bagel

Wobegon

ROBERT MARK AND GEORGE BARANY

George Barany is a Rockefeller alum (1977) currently on the Chemistry faculty of the University of Minnesota–Twin Cities and Robert Mark is a native New Yorker currently teaching English at the British International School Phuket, in Thailand. For more information, including a link to the answer, visit [here](#). More Barany and Friends crosswords can be found [here](#).



Across

- 1 Prefix with gon or gram
- 6 Record
- 10 Flight from Israel?
- 14 Rig
- 15 ___-friendly
- 16 Baking ___ (NaHCO₃)
- 17 Applies a spell checker?
- 20 Thanksgiving staple
- 21 They may be crunched
- 22 Brooks from Brooklyn
- 23 Do a slow burn
- 25 These may be conducted on board the Calypso?
- 31 They can get bruised or massaged
- 33 Jodie's eponymous film role (1994)
- 34 Word in seven of the ten commandments
- 35 Extinct big bird
- 37 Sought direction (from)
- 40 Keep a spring farm journal?
- 44 Mesmerize
- 45 Rimsky-Korsakov's opera "Le Coq ___"
- 46 A in Aachen
- 47 Rubber trees
- 49 Miniature sci-fi vehicles
- 52 Absent-minded conductor?
- 56 Very, to Wilhelm
- 58 Sine qua ___
- 59 Average name?
- 61 "There's ___ in team"
- 62 Desperate for firewood?
- 68 Caspian feeder
- 69 Clarinet's cousin
- 70 Winged
- 71 Tends the lawn
- 72 Pantheon members
- 73 78/100, e.g., ... and a hint to this puzzle's theme

1	2	3	4	5		6	7	8	9		10	11	12	13
14						15					16			
17						18					19			
20					21						22			
23			24		25		26	27	28				29	30
	31				32		33					34		
				35		36		37			38	39		
40	41	42					43							
44									45					
46						47		48		49		50	51	
52			53	54					55		56			57
			58						59		60		61	
62	63					64	65	66				67		
68						69					70			
71						72					73			

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Down

- 1 Great Fire of London chronicler Samuel
- 2 Consider the same
- 3 Béchamel sauce component
- 4 McCourt sequel
- 5 Samoan capital
- 6 University of Arizona location
- 7 Bat wood
- 8 Mendel subject
- 9 Be on the side of caution?

- 10 "___ House" overlooking Central Park, site of a famous signage malfunction
- 11 Where Dylan's 'sad-eyed lady' hails from
- 12 Lovelace of computer lore
- 13 Put (down)
- 18 US Olympic airer for at least the first third of the 21st century
- 19 Mrs., in Montreux
- 24 George Eliot or George Sand, e.g.
- 26 Chills
- 27 Oodles
- 28 Frank ___ Wright (Guggenheim Museum architect)
- 29 Sleuth played by Lorre
- 30 Put away
- 32 Soaks, with "up"
- 36 Two thumbs down
- 38 Reagan-era Surgeon General
- 39 Continental capital
- 40 Hwys.
- 41 Pop music's Burdon or Clapton
- 42 Vatican dogma
- 43 Hawaii's "Orchid Capital"
- 48 Rushlike aquapants
- 50 First stage of grief
- 51 It's in put, but not in computer
- 53 Stirs the pot
- 54 Med. specialty
- 55 Mythical big bird
- 57 Soars
- 60 ___-a-mole
- 62 Total
- 63 Met, Jet, or Net
- 64 Get dressed (up)
- 65 Nigerian native
- 66 Affirmative action
- 67 Swiss peak



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Life on a Roll

QIONG WANG

My first visit to Venice was around this time last year. It brought back so many good memories just to browse through the photos. The city is one of a kind. Even though I had heard and read a decent amount about it before my visit, I still felt embarrassed for being so ignorant about the depth and richness of its art and history. I wish I knew the story of every bridge in Venice; I wish I had more knowledge about the work and life of Titian so that I could have an enhanced spiritual exchange with the talented artist in the Frari church. I wish I knew more about the Venetian Republic so that I could envision the prosperity of the medieval powerhouse as the motor sound of vaporettos synthesized into the sound of waves in the grand canal. However, I was not so impressed by the vibrant Burano island although it is a cute spot for photography. Spero di visitare di nuovo! ■



All Photos by QIONG WANG

