WEIRD & WILD

Exclusive Video: First "Glowing" Sea Turtle Found

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By Jane J. Lee, National Geographic
PUBLISHED SEPTEMBER 28, 2015

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Biofluorescence is different from bioluminescence, in which animals either produce their own light through a series of chemical
reactions, or host bacteria that give off light.

Corals fluoresce, and recent research has found the ability in a number of fish, sharks, rays, tiny crustaceans called copepods, and mantis shrimp. But researchers never expected to find it in a marine reptile. (See pictures of other animals that glow.)

"I've been [studying turtles] for a long time and I don't think anyone's ever seen this," says Alexander Gaos, director of the Eastern Pacific Hawksbill Initiative, who was not involved in the find. "This is really quite amazing."

On Guard

Marine biologist David Gruber, of City University of New York, was in the Solomon Islands in late July to film biofluorescence in small sharks and coral reefs.

During one night dive, his team was on guard for crocodiles that frequent the area, "and there came out of nowhere this fluorescent turtle," says Gruber.

It looked like a big spaceship gliding into view, he recalls: An alien craft with a patchwork of neon green and red all over its head and body.

The marine biologist captured the turtle sighting on a video camera system, whose only artificial illumination was a blue light that matched the blue light of the surrounding ocean. A yellow filter on the camera allowed the scientists to pick up fluorescing organisms.

Gruber followed the turtle for a short while, but "after a few moments I let it go because I didn't want to harass it." The hawksbill proceeded to dive down into the pitch-black ocean.
Those stolen moments were the only ones Gruber could capture on his trip. But when he spoke with locals, the marine biologist discovered a nearby community that kept several captive young hawksbills.

When Gruber examined these animals for a biofluorescent ability, he found that they all glowed red.

**A Neon Universe Expands**

Gaos and Gruber think it’s too early to say for sure why these hawksbill sea turtles have the ability to fluoresce, or whether populations in other places do as well.

"[Biofluorescence is] usually used for finding and attracting prey or defense or some kind of communication," says Gaos. In this instance, it could be a kind of camouflage for the sea turtle. (See pictures of insects that are masters of camouflage.)

The hawksbill’s shell is very good at concealing the animal in a rocky reef habitat during the day, Gaos explains. "When we go out to catch them, sometimes they're really hard to spot."

The same could be true for a habitat rife with biofluorescing animals—like a coral reef.

In fact, Gruber pointed out that some of the red on the hawksbill he saw could have been because of algae on the shell that was fluorescing. The green is definitely from the turtle though, he says.

This find has opened up a whole universe of questions that Gruber is eager to explore. They include whether these turtles can see the biofluorescence, where they get the ability—do they take in compounds from their food that let them fluoresce, or do they make their own
compounds—how they're using it, and whether other sea turtle species possess a similar ability.

"It'd be fairly difficult to study this turtle because there are so few left and they're so protected," says Gruber. Worldwide, their population numbers have declined by nearly 90 percent in recent decades.

But he thinks he might be able to study the slightly more common—although still endangered—green sea turtle, which is closely related to the hawksbill. (See pictures of millions of sea turtles that might have been killed accidentally.)

Hawksbill sea turtles are one of the rarest species on our planet, Gruber says, yet for all their conservation importance, the animals remain a mystery.

*Follow Jane J. Lee on Twitter.*
Academics Win MacArthur 'Genius' Fellowships

Submitted by Scott Jaschik on September 29, 2015 - 4:28am

Faculty members are among the fortunate winners of this year's "genius" fellowships from the John D. and Catherine T. MacArthur Foundation. The no-strings fellowships are awarded to "individuals who show exceptional creativity in their work and the prospect for still more in the future." The winners receive $625,000 over five years, and people cannot apply for the fellowship. The foundation simply makes its selections.

This year's winners from academe are:

- LaToya Ruby Frazier, [5] assistant professor of photography at the School of the Art Institute of Chicago.
- Dimitri Nakassis, [7] associate professor of classics at the University of Toronto.
- Christopher Ré, [9] assistant professor of computer science at Stanford University.
- Heidi Williams, [12] assistant professor of economics at Massachusetts Institute of Technology.
Real-life adman hated ‘Mad Men’

By Richard Johnson

September 28, 2015 | 4:38 pm

Adman George Lois didn’t like “Mad Men,” but he was happy Jon Hamm won the Emmy for his portrayal of Don Draper.

“He’s a really nice kid,” Lois, 84, told me. “He genuflected when he met me.”

Lois’ 11th book — “Lois Logos,” about 300 of the corporate logos he’s designed, from MTV to New York magazine to Aunt Jemima syrup — is being launched Oct. 6 at City College of New York. “The most democratic school in the country,” he said, and the eventual recipient of his archives.

Jon Hamm and January Jones in “Mad Men”
Photo: Justina Mintz/AMC

MORE FROM RICHARD JOHNSON

The one person who didn’t like Tracy Morgan’s Emmy speech

Eat! Bat invades swanky dinner at Hearst Castle

Was James Dean bisexual?
As for "Mad Men," Lois said, "I hated that f---king show." Not so much for all the drinking and smoking, but because "they were all schtupping their secretaries."

Hamm realized the show didn't accurately portray Madison Avenue of the '60s, Lois said. "He understood they were doing a show about scumbags."
Med students squeezed amid wider competition for rotation space

Earlier this year, Gov. Andrew Cuomo announced that the Sophie Davis School of Biomedical Education would expand into the CUNY School of Medicine and become New York's newest four-year medical program. It will affiliate with St. Barnabas Health Center in the Bronx, a teaching hospital in one of the poorest and sickest counties in the United States.

St. Barnabas is an excellent place for medical school students to observe doctors in action, and offers students a chance to interact with patients who are in poorer health, face greater health challenges because of income, race and environment, and who are more likely to require regular care that the average New Yorker.

One reason Sophie Davis administrators sought the relationship with St. Barnabas is that it was becoming harder for the school to secure clinical rotation spots for its students.

Most medical schools have two years of classroom education followed by two years of clinical rotation in a hospital where students trail doctors and observe procedures. But competition from foreign medical schools, which often pay hospitals in New York and around the country for rotation spots in their hospitals, has been a challenge for New York medical schools for years.

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- POLITICO New York Energy: NY beating NJ in offshore wind

Though international medical school deans say there are enough rotation spots — also known as clinical clerkships — for everyone, the concern among U.S. medical school deans is
The Association of American Medical Colleges published a survey showing the number of schools reporting problems because of competition from offshore medical schools doubled between 2009 and 2013.

New York State has thousands of international students training at its hospitals.

In 2008, the city’s Health and Hospitals Corporation signed a ten-year contract worth up to $100 million from St. George’s University in Grenada. The deal gave St. George exclusive rights among international schools to HHC facilities, though about half of HHC’s clinical clerkship spots remain for U.S. students. So far, the perennially cash-strapped HHC has received $37 million from St. George’s. (The HHC board member who proposed the contract, Dr. Daniel Ricciardi, was also on St. George’s faculty. He resigned from HHC after the deal became public.)

The same year, American University of the Caribbean (AUC) on St. Maarten reached a 10-year, $19 million deal with Nassau University Medical Center.

Ross University has agreements with ten teaching hospitals in New York, including St. John’s in Far Rockaway, New York Methodist in Brooklyn and Jamaica Hospital.

In total, the New York State Education Department has approved 14 international medical schools, of which seven are located in the Caribbean.

Caribbean schools look to the U.S. because they don’t have the quantity or quality of hospitals that a state like New York or California has. The agreements also serve as a recruiting tool, enticing U.S. students who believe they need only spend two years abroad before they can train in the same hospitals where they might become residents.

“The students being trained in New York are being booted from where they had always gone,” said Barbara Ellman, associate director for policy for the Medical Society of the State of New York. “The deans are getting calls from the hospitals telling them they can no longer send them there.”

The problem of finding clinical rotation spots had become so severe that state officials felt Sophie Davis either needed to find a hospital partner or shut down its program.

And while Sophie Davis is now secure, many other medical schools in New York face a similar challenge, they say.

“I have MDs spending enormous amounts of time trying to find hospitals that will let students do rotations,” said Dr. Edward Halperin, chancellor and CEO of New York Medical College. “I thought the problems I’d be facing at this stage of my career would be how we use computers in the classroom, and instead I’m spending time worried I can’t get enough clinical spots.”

Some medical schools share a governance structure with a hospital (Icahn School of Medicine and Mount Sinai; NYU, Columbia and New York Presbyterian) and that allows them a preferred place to send students during their third and fourth years of medical
But many medical schools do not have their own hospital and are completely reliant on affiliation agreements with hospitals for rotation spots. That makes the competition all the more fierce.

Einstein used to send students to Bronx-Lebanon hospital until an offshore medical school bought their slots.

"The result was, we had to go hunting for an alternative option," said Dr. Michael Reichgott, the former senior associate dean for Graduate Medical Affairs at Einstein.

Competition doesn't only come from overseas. New York schools do this to one another as well. When Mount Sinai purchased Continuum, Columbia students were told they could no longer have clinical rotation spots at St. Luke's Hospital.

It isn't just about inconvenience or competition, Reichgott said. One large concern the New York deans have is that the quality of education at offshore schools is not on par with what local schools provide. Specifically, they worry that the clinical rotations are not supervised with the same rigor.

"There's no curriculum," he said. "No relationship between the [hospital] faculty and the school. Does anyone take attendance? Does anyone know if [the students] are present?"

New York State's Department of Education, which oversees medical education, is currently engaged in a review of all international medical schools that have been approved or are seeking approval to send students to New York State to complete long-term clinical clerkships.

The review began in 2014, Reichgott said. There is no timetable set for its completion, and its findings have not been made public.

That's left both the New York medical schools and the international schools in limbo.

Neal Simon, the president of the American University of Antigua (AUA), said he had an agreement with a hospital in Westchester County, but the New York education department told him that he was not allowed to send his students there. He was told there was a moratorium.

Charles Modica, chancellor of St. George's University in Grenada, said he was told by the state education department that his school was not allowed to expand its footprint in New York, meaning no new contracts could be signed with teaching hospitals.

"We are operating as if there is a moratorium," he said.

The Association of Medical Schools New York, which represents 16 medical schools, believes that existing clerkships may be renewed in New York but that foreign medical schools may not expand, though they are not aware of any regulation to that effect.

The state's education department did not respond to requests for clarification.

Despite, or perhaps because of, the opacity of the current rules, the local medical schools and Caribbean schools are each lobbying the state, making their case for why New York does or does not need more foreign medical students.

The New York school officials argue that paying for clerkships offers foreign schools a competitive advantage. They say that it keeps their students out, and allows for a lower
quality student, who was likely rejected by U.S. schools, to attend.

There is also a fear, which the international schools believe is unfounded, that New York's teaching hospitals will begin to demand cash payments from local schools as well, something New York deans say they cannot afford.

"To match them we'd have to raise our tuition significantly," said Robert Goldberg, executive dean of the Touro College of Osteopathic Medicine. "$20,400 per student in their clinical years."

The Caribbean schools counter that there is plenty of room for their students and that no U.S. student is pushed out because of them, that their cash helps pay for clerkships that benefit everyone, and that their students are more likely to enter primary care and work in lower-income neighborhoods.

"We're not taking any spots from their programs," Modica said. "In any case where they want spots, the hospital would ask our school to cut down on our students and allow a greater number of U.S. students."

Further, the international deans argue, they are supplying a physician pipeline at a time when most experts agree the nation, which has an aging population, is expecting a doctor shortage.

"The international medical school agreement with St. George's complements the valued relationships we have with U.S. based medical schools and supports the public healthcare system's mission in a number of ways," said Ana Marengo, a spokeswoman for HHC. "HHC values the diversity of our workforce and St. George's is a good pipeline of qualified physicians of diverse backgrounds, cultures, languages, who are also more likely to practice at HHC."

New York is one of several states where foreign medical schools are looking to send their students. California, Nevada, Florida and New Jersey have all seen a growing influx as well, and medical school deans across the country have voiced their concerns and lobbied their legislators with various levels of success.

The state of Texas recently passed a law prohibiting its state board of education from issuing certificates of authority to foreign schools offering professional degrees, ending any chance for overseas students to head to Texas for their clinical rotations.

Texas legislators said the foreign medical schools had an unfair advantage when competing with some of the state's public universities.

"[As] has been experienced in New York and New Jersey, these foreign, for-profit institutions charge a large amount of tuition and can afford to reimburse hospitals at a greater amount than state schools," the authors of the Texas legislation wrote. "As a result, when clinical rotation slots are in demand, hospitals contract with partners that offer the greatest reimbursement."

The issue has gained attention from federal lawmakers as well.

The bipartisan pairs of U.S. Senators Dick Durbin of Illinois and Bill Cassidy of Louisiana and Representatives Elijah Cummings of Maryland and Michael Burgess of Texas have
introduced The Foreign Medical School Accountability Fairness Act, which requires at least 60 percent of the enrollment to be non-U.S. citizens or permanent residents, and 75 percent of students to pass the U.S. Medical Licensing Exam if the schools accept students loans backed by U.S. taxpayers.

The idea behind that legislation is to limit the ability of for-profit schools to capitalize on desperate students who have no hope of becoming residents but still take out hundreds of thousands of dollars in loans to finance their dreams.

Many schools do prey on students like that, Modica acknowledged, but there are Caribbean schools that have high standards as well.

He says the fact that roughly half of international medical school students are not accepted to a U.S. residency program, compared with only 5 percent of U.S. medical students who fail to match, merely highlights the need for more residency slots. It's a point that has also been argued by the Association of American Medical Colleges and the American Academy of Family Physicians.

Most students who attend a Caribbean school failed to enroll in a U.S. school either because their college grades were subpar, their MCAT score was lacking or because they decided to become doctors later than the average student.

Both are imperfect indicators of candidates' potential, Modica says, pointing to the growth of allopathic and osteopathic schools that are filling their classrooms with many of the students that are turned down by MD programs.

"The arguments of those who maybe in organized medicine that the quality is not of the level it should be could easily be used against some of the U.S. based schools and, therefore, should be viewed as to what it really is — and that is nonsense," he said. "We believe of the 20,000 students unable to obtain admission, that three-quarters of them are easily qualified."

Halperin and Goldberg also make a moral argument.

"Medical education is a privilege, not a business," Halperin said. "What do I say to [hospital] administrators? You should be ashamed of yourself. You shouldn't be able to sleep at night."

It isn't so simple. Hospitals, particularly community hospitals, public hospitals and hospitals in poorer neighborhoods are strapped for cash. Margins are as tight as they've ever been, and a few million dollars can go a long way.

That's one reason states across the nation are reluctant to curtail the practice. Instead, there are efforts to standardize the curriculum so that state education departments and U.S. hospitals can say, with some degree of certainty, what kind of student they are receiving.

The New York education department's efforts may not be public but they are rigorous, international deans say.

The Educational Commission for Foreign Medical Graduates (ECFMG) announced that beginning in 2023, physicians applying for ECFMG Certification, a prerequisite to entering the U.S. health care system, will be required to graduate from a medical school that has been accredited using criteria comparable to those established for U.S. medical schools by the LCME.
That should help allay concerns over quality but it will do little to address the fear over competition, which is only likely to become more intense. Already, more than one quarter of physicians in the United States trained at a medical school outside the country and that number is expected to grow.

And both the New York schools and the Caribbean schools are looking to expand their class size even as hospitals in New York and across the country close, consolidate and see declining inpatient rates, which only serves to exacerbate the problem of finding clinical clerkship spots.

At the same time, there has been a large increase in the number of students attending allopathic schools across the country, which have grown by about 30 percent over the last decade. Those students need clerkship spots as well.

Between 2006 and 2014, 17 new U.S. medical schools opened up, and enrollment at the nation's medical schools reached an all-time high last fall, with 20,343 students entering medical school in 2014. And there are now 66 medical schools in the Caribbean, up from 54 in 2007.

Something has got to give, Halperin believes.

"The gravy train is going to end I think eventually," he said. "This is not sustainable."

This article appears in the new issue of POLITICO New York magazine.
NASA to reveal ‘major scientific finding’ about Mars

By Sophia Rosenbaum

The world will get some answers on the Mars mystery Wednesday — as NASA is expected to reveal a "major scientific finding."

The space agency tweeted a photo of the planet teasing, "Mars mystery solved? Find out Monday at 11:50am ET at a live briefing on NASA TV."

Twitter erupted with speculation that the revelation may provide insight into water discovered on Mars' surface.

"It changes everything. Because it means that this liquid water can be used for, perhaps, irrigation, drinking water, and even rocket fuel," Michio Kaku, a CUNY physics professor told CBS News.

Kaku added that if free-flowing water exists, it's likely that microbial life and possibly other kinds of living creatures live on the planet.
What to See at Archtober 2015

Bring on Archtober 2015. New York’s annual Architecture and Design Month, now in its fifth year, is a celebration of all things architectural. Running October 1 through October 31, this year’s festival features over 150 events, from lectures to activities to exhibitions. Out of this bounty of offerings, we’ve selected some events that are sure to please, along with a few tips for making the most of Archtober 2015 in New York City.

Make your first stop the Archtober Lounge or the brand-new Archtober Hall, located at the Center for Architecture (536 LaGuardia Place) and the South Street Seaport Culture District (159 John Street) respectively. These are your hubs for all things Archtober. Pick up guides and program information, have a look around, and circle a couple of dates for the month.

Archtober is probably best known for its informative and innovative “Building of the Day” series. The program fête NYC’s contemporary and iconic architecture with on-site tours led by architects. On Thursday, October 1st, do not miss the tour of the Collaborative Research Center at The Rockefeller University. If you’re unfamiliar with the institution itself, it’s a world leader in
biomedical research, centered at adjacent halls that were built in 1917 and 1930. In 2005, the halls were completely renovated and reconfigured, and close to a third of the laboratory space was replaced. The result is astonishing: a rare confederacy of the stately aged and the fluidly modern, of efficiency and aesthetics—open space for cloistered scientific labors.

On **Saturday, October 3rd** and **Sunday the 4th**, trek to the outer boroughs. You might not think that **Bronx Community College** is worth a visit, but that thought will change. At dusk, stand on the lawn facing the **North Hall** and Library, and you’ll think you’ve been painted into a De Chirico.
NYC Media Lab Launches Program to Fund Notable Media Startups

NYC Media Lab (http://nycmedialab.org), a consortium of New York City university and major media and tech companies, announced the launch of a new program called Combine (http://thecombine.nyc) – an initiative aimed at supporting and
growing high-potential media startups from faculty and students at the city’s universities. A grant pool of $250,000 will be made available in the program’s first year (2016) and is provided by funds from the New York City Economic Development Corporation, the Mayor’s Office of Media and Entertainment, and through NYC Media Lab’s various corporate members.

Applications for NYC Media Lab’s Combine program are now open (http://thecombine.nyc) and will remain open until 11:59 ET on Tuesday, December 1st 2015. Teams made up of 2-4 people are expected to apply, with a specific focus on products, services, or technologies that will advance the future of media and communications. Whether that’s through the application of artificial intelligence or machine learning, to renewed approaches to video and social media, the Combine program looks to advance initiatives aimed at the future of media.

“The mission of NYC Media Lab remains the same as at its inception: to build a program of engagements between institutions of higher education and the digital media and communications industry to encourage the next generation of talent and technology innovation in New York City,” said NYC Media Lab executive director, Justin Hendrix, in a statement. “The Combine will match entrepreneurs and technologists from the City’s universities with expertise from NYC Media Lab’s member companies to build companies that will change the way media is produced, distributed, consumed and monetized.”

The unique media startup incubator will take participants on a three-month program that will include an entrepreneurship curriculum (with an introduction to lean startup methodology), customer discovery and market validation model formulation, and a demo showcase featuring NYC Media Lab member company advisors and potential investors. The program seeks to accept an initial cohort of 5 to 10 companies, each supported by an initial grant up to $25,000 from the Lab.

The NYC Media Lab’s membership includes the city’s top colleges including New York University, Columbia University, CUNY, The New School, and Pratt Institute, as well as top media companies, such as the AP, Bloomberg, the Hearst Corporation, Viacom, NBC Universal, and Time Warner Cable. Participation in the Combine program will expose startup teams with industry mentors from these different institutions to help ensure their projects are prepped for success.

Find out more about NYC Media Lab’s Combine program (http://www.thecombine.nyc/about/).
"The value of my education is priceless, but the value of my education is also not $140,000 in debt."

That was the statement of a Hunter College graduate with a master's degree, as quoted in the documentary Ivory Tower. And a new national poll suggests that thousands of graduates, especially younger graduates, agree with her.

For the second year in a row, the Gallup Organization, along with Purdue University, surveyed around 30,000 graduates of four-year colleges in the U.S. The survey asked about how their college experience influenced their happiness in life and at work, years or decades later.
The researchers say their broader goal is to develop a measure of college performance that focuses on what matters most to students themselves.

Just as they did last year, the pollsters this year found that private and/or prestigious colleges had no advantage over public and open-access schools when it comes to turning out alumni who thrive.

And, the poll again found a significant positive impact in later life for students who really threw themselves into their educations: who took part in experiential learning, internships, long-term projects, bonded closely with professors and engaged heavily in extracurriculars.

This year, though, Gallup asked more pointed questions about whether college was worth the cost. Overall, half of all alumni "strongly agreed" that it was.

Among recent graduates who received their degrees in 2006 or later, the picture was darker. Only 38 percent "strongly agreed" that college was worth it.

And for those who took out big student loans?

Just 18 percent of recent grads with $50,000 or more in student loan debt "strongly agreed" that their education was worth what they paid for it. An equal percentage, 18 percent, "strongly disagreed."

Bear in mind, $50K is a lot of loans. About 15 percent of respondents in the survey borrowed that much — not insignificant, but a small minority. The pollsters also found that any borrowing at all dampened recent graduates' perceptions of their college experience.

It's also worth noting that perception is not necessarily reality. On average, this group of bachelor's degree recipients will see that $50K outlay ($60K to $90K with interest) repaid many times over, thanks to better earnings and lower unemployment compared with high school graduates.

So why the negative reviews? Maybe these newer grads are still feeling the impact of the recession on their early careers, maybe they've absorbed the gloom-and-doom media messages, or maybe they are too callow to appreciate the long-term benefits conferred by that degree.

But it can be hard to persuade someone who is struggling today to take a long-term view. And perceptions matter, says Brandon Busteed, who oversaw the poll for Gallup.
"This is the alumni themselves," he said. "And what we know is that less than 20 percent who took out $50K or more feel that it was worth it. That's a big eye opener. If we can't get over that, I fear we risk the tidal wave of higher ed demand crashing down on us."
New York’s Southern Tier, Once a Home for Big Business, Is Struggling

By SUSANNE CRAIG  SEPT. 29, 2015

CONKLIN, N.Y. — The only bank here pulled up stakes a few years ago; the main grocery store was replaced by a Family Dollar store, already faded. The historic front of the town hall, a castle no less, is crumbling, and donations are being solicited. The funds earmarked to strip off the lead paint from the castle’s exterior went instead to clear mold from the basement.

This town of roughly 5,500 residents looks alarmingly like dozens of other towns and cities in New York’s Southern Tier, a vast part of the state that runs parallel to Pennsylvania. Years ago, the region was a manufacturing powerhouse, a place where firms like General Electric and Westinghouse thrived. But over time companies have downsized, or left altogether, lured abroad or to states with lower taxes and fewer regulations.

Conklin’s population is aging and shrinking, troubled by job loss and even floods. There never seems to be enough money to pay for basic services, like water and sewage. “It feels hopeless and I don’t know how you correct it,” said the town supervisor, James Finch, a Republican.

The town’s woes are evident even in the simplest of forms: When Mr. Finch was elected to his current position, he decided not to order new business cards. Instead he
opted to scribble out the word “deputy” from his old title.

Residents refer to their home as the “Forgotten Tier.” In late August, hundreds of people in this heavily Republican area turned up in Bainbridge, N.Y., in support of secession. Some carried signs that read “#upstatelivesmatter.”

The state has pumped tens of millions of dollars of economic aid into the Southern Tier, hoping private-sector money would follow. In 2015, for example, the state’s Southern Tier Regional Economic Development Council awarded $80.8 million to area projects. Still, the state’s commitment to the area, both in dollars and in rhetoric, has lagged other regions. In western New York, for example, Gov. Andrew M. Cuomo, a Democrat, pledged $1 billion in 2012 to support economic development. Since then, he has poured hundreds of millions of dollars into numerous Buffalo-area projects.

The Southern Tier has proved to be a harder fix. It is predominantly rural and lacks a significant population core that typically attracts the private sector.

The region is resource rich, but landowners are angry the government will not let them capitalize on it. Many had pinned their hopes of an economic revival on the prospect of the state’s authorizing hydraulic fracturing, known as fracking. Almost every landowner can recite the payment formula gas companies were proposing: $500 a month per acre.

But the Cuomo administration decided last year to ban the practice, leaving some farmers contemplating logging the timber on their land, a move that could destroy swaths of pristine forest.

Another potential economic engine was the prospect of a local casino. But in December 2014, the same day fracking was rejected by Mr. Cuomo, a state gambling board bypassed the Southern Tier in its recommendation of licenses for three casino projects. (The state is now revisiting whether to allow a racino in the region — a harness track that has slotlike video lottery terminals — to become a full-fledged casino.)

This month, when asked about the supporters of secession, Mr. Cuomo acknowledged that spurring significant economic development in the Southern Tier
had been challenging. “I will be the first to admit it: Parts of the Southern Tier, we have more work to do, more work in bringing back jobs,” he said. “There is no doubt about it.”

The governor also partially placed the burden on the Southern Tier. “The state can only do so much,” Mr. Cuomo said. “Then it’s up to the localities to also come up with a business plan.”

The story of the decline of upstate New York, and particularly the Southern Tier, is hardly new. Manufacturing plants and steel mills have been closing for decades.

The demographics are also pointing in an unfavorable direction, according to an analysis for The New York Times by Andrew A. Beveridge, a sociologist at Queens College. The analysis compared United States Census Bureau data from 2000 to the bureau’s 2009-2013 American Community Survey estimates.

Since 2000, the number of people younger than 18 in the region has declined significantly, while the number of people older than 65 has increased. The median family income is down, and the number of people living in poverty is up. The number of people unemployed over the age of 16 has climbed 2.1 percentage points. The number of people not in the work force has increased by eight percent.

Unemployment rates in the Southern Tier have declined since the 2008 recession, but the trend is misleading. The declines in the job force and the population have artificially driven unemployment figures down in some areas, according to the New York Federal Reserve. Unemployment remains above 6 percent in some counties, according to the New York State Department of Labor, topping the state’s rate of 5.2 percent.

“Upstate New York is in an economic crisis; it has been for years,” Mr. Cuomo said in early 2011 at an event in Watertown, N.Y., not far from the Canadian border.

Mr. Cuomo was elected in 2010 and quickly focused his attention to turning around Buffalo in western New York, another struggling part of the state. His interest in Buffalo can appear to border on obsession. He has visited the city and the surrounding region dozens of times in recent years.
In many parts of the Southern Tier, the governor’s presence is measured largely by his absence. State Senator Thomas F. O’Mara, a Republican who represents five counties in the Southern Tier and Finger Lakes regions, said the governor has not visited large sections of his district, including Steuben County, which alone is larger than Rhode Island. In the case of Chemung County, he drove through Elmira to get to the local airport.

Last month, Mr. O’Mara chided the governor for his decision to visit Puerto Rico. “Gov doesn’t need to go that far south to see a ‘dire economic situation’; try the Southern Tier of his own state,” he wrote on Twitter.

James C. Johnson, executive director of the Steuben County Industrial Development Agency, which facilitates economic development, said, “I think you could say we have significant challenges.”

He does not have to go far to see the region’s plight. When his office moved to its current location in Bath, N.Y., it overlooked a bustling Philips Lighting Factory. In 2014, the factory closed, putting roughly 300 people out of work. It remains empty.

There are bright spots. Corning, the company and the city, are thriving. Corning Inc. is perhaps best known for its toughened glass material used in many smartphones, including those made by Apple.

Twenty miles away, Thomas J. Santulli, the Chemung County executive, is a glass-half-full Republican. His office in Elmira, N.Y., is near a “deluxe” adult video store and a row of vacant buildings. Yet, he says he sees only opportunity.

“We are working on changing all this,” he said. In recent years he has refurbished the facade of the county’s offices. “First appearances matter,” he explained.

Still, some of the problems in Chemung County, with a population of about 87,800, seem somewhat more intractable.
Scientists Discover First Ever Glowing Sea Turtle

The critically endangered sea turtle is the first reptile observed with biofluorescence.

Marine biologists working in the Solomon Islands, in the south Pacific Ocean, captured video footage of a sea turtle exhibiting biofluorescence—glowing in the dark—the first reptile science has identified that exhibits the trait.

David Gruber, a scientist with the City University of New York, was in the Solomon Islands in July conducting research on biofluorescence in sharks and coral reefs, species in which it has been observed previously. National Geographic reports.

Biofluorescence, in which an animal reflects the blue light of the ocean as a different color, is different from bioluminescence, in which an animal emits light through chemical reactions.

Gruber was running a camera outfitted with special technology to pick up biofluorescence when the turtle swam into view.

Watch video of Gruber's groundbreaking find here.
New York Today: Our Feathered Friends

By TATIANA SCHLOSSBERG  SEPTEMBER 29, 2015

Updated 8:45 a.m.

COMING UP TODAY

• Find some inner peace during “Grand Zentral,” an all-day yoga event at Grand Central Terminal. Classes are sold out, but you can join the wait-list. [Free]

• A celebration of Latino heritage and culture at Brooklyn Borough Hall. 5:30 p.m. [Free]

• Take a tour of the restored wetlands of the Little Hell Gate Salt Marsh on Randalls Island. 6 p.m. [Free]

• Erica Jong speaks about her new novel, “Fear of Dying,” at the CUNY Graduate Center. 6:30 p.m. [Free with R.S.V.P.]
First ‘Glowing’ Sea Turtle Discovered in South Pacific

BY DOUGLAS MAIN 9/28/15 AT 6:11 PM

Scientists have found the first biofluorescent, or “glowing” reptile: the hawksbill sea turtle.

Marine biologist David Gruber, of City University of New York, was filming fluorescent corals near the Solomon Islands in the South Pacific when “out of the blue, it almost looks like a bright red-and-green spaceship came underneath my camera,” he tells National Geographic.

It wasn’t an alien, but rather a hawksbill sea turtle, which is listed by the International Union for Conservation of Nature as critically endangered, meaning it is close to extinction.

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Biofluorescence is different from bioluminescence, in which animals produce and emit their own light. Fluorescence happens when a material, like the exterior of this turtle’s shell, absorb light at one wavelength and emits it at another; this effect makes it look like the animals are "glowing."

Gruber says he doesn’t know what chemical makeup allows the turtles’ shell to glow, or what function it might serve, but he hopes to find out.

Fluorescence is found in many other animals, such as corals, fish and insects, although Gruber says that most only fluoresce in one color, whereas the turtle boasts a beautiful pattern of both red and green lights.
Scientists Discover A Sea Turtle That Glows In the Dark

Allie Wilkinson

I write about the 71 percent of our planet covered by ocean.

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Opinions expressed by Forbes Contributors are their own.

FULL BIO ▼

While on a recent night dive in the Solomon Islands, marine biologist David Gruber made an interesting discovery: a glowing sea turtle. The City University of New York researcher was filming biofluorescence in small
sharks and coral reefs
when a hawksbill sea turtle
swam by, its shell emitting
light in a psychedelic
kaleidoscope of green and
red.

Biofluorescence—the
ability of an organism to
absorb light, transform it,
and re-emit it in a different
color—has been observed in
a number of animals, such
as fish, sharks, corals,
jellyfish, and mantis
shrimp. But Gruber's find
is first record of
biofluorescence in a
reptile.

The phenomenon is used
for camouflage, mating, or
finding or attracting prey.
But Gruber says it’s too
early to say why hawksbills
fluoresce or whether
populations in other
place, reports National
Geographic.
In this instance, it could be a kind of camouflage for the sea turtle.

The hawksbill’s shell is very good at concealing the animal in a rocky reef habitat during the day, [Alexander Gaos, director of the Eastern Pacific Hawksbill Initiative] explains. “When we go out to catch them, sometimes they’re really hard to spot.”

The same could be true for a habitat rife with biofluorescing animals—like a coral reef.
Ecstatic discovery: a glowing sea turtle

Scientists have discovered an intriguing but wonderful characteristic about the hawksbill sea turtle – they glow.

Discovered by biologist and National Geographic explorer David Gruber from City University of New York, the incredibly rare turtle was caught on camera glowing neon red and green under a blue light.

The turtle gives off an attractive array of alien colours when blue light hits its surface and is emitted as greens and oranges.
Geographic that the glowing turtle emits red color which could be caused by algae on the shell but neon green color is without a doubt from the turtle. "We are finding biofluorescent marine life to be much more widespread that we ever imagined". It's different from bioluminescence, which occurs when creatures create their own light through a chemical reaction.

Yes, this sea turtle is glowing neon green and red. But he suggested that they might be able to study biofluorescence in the slightly more common, and closely related green sea turtle. A wide number of animals are capable of biofluorescence, including some fish, sharks, rays, copepods, and mantis shrimp.

“I’ve been [studying turtles] for a long time and I don’t think anyone’s ever seen this”, Alexander Gaos, director of the Eastern Pacific Hawksbill Initiative, who wasn’t involved in the discovery, told Jane Lee over at National Geographic. Gruber and his team said that they saw the biofluorescent turtle “out of nowhere” during a night dive. The animals were examined for its biofluorescent ability, and Gruber found that all of the hawksbills were glowing red. A yellow filter on the camera was used to detect any fluorescence.

After spotting the fluorescent hawksbill, Gruber spoke with local residents and was introduced to several captive turtles of the same species.

No one knows why these turtles have this ability. Gruber said. It's the ideal light environment that would fuel the biofluorescent quality in hawksbill sea turtles. The population of the hawksbill overall across the globe has declined by almost 90 percent in the recent decades.

It’s not entirely certain why the turtles have the ability to fluoresce, but it could be a form of camouflage.

Due to the unfortunate fact that the hawksbill sea turtle is endangered, extensive studies are near impossible.
The list of 24 MacArthur Foundation 'genius grant' award winners for 2015

Associated Press | Sept. 29, 2015 | 8:56 a.m. EDT

By The Associated Press

CHICAGO (AP) — Twenty-four people from the arts and sciences have won this year's "genius grant" awards from the John D. and Catherine T. MacArthur Foundation. The prize comes with $625,000 over the next five years that can be used any way the recipient likes.

The winners are:

__Patrick Awuah, 50, Accra, Ghana. An educator and entrepreneur who founded a university in Ghana that teaches ethical principles and skills needed in contemporary Africa.

__Kartik Chandran, 41, New York. Columbia University environmental engineer integrating microbial ecology, molecular biology and engineering to transform wastewater into useful resources such as fertilizers, energy sources and clean water.

__Ta-Nehisi Coates, 39, Washington, D.C. Journalist and blogger who writes about issues such as racial identity, urban policing and racial bias.

__Gary Cohen, 59, Reston, Virginia. Environmental health advocate and co-founder of Health Care Without Harm who has worked to reduce the amount of pollutants and hazardous waste produced and released into the environment by American hospitals.

__Matthew Desmond, 35, Cambridge, Massachusetts. An urban sociologist at Harvard University, Desmond's work has revealed the impact of eviction on the urban poor and how eviction is not just a symptom of poverty, but a cause.

__William Dichtel, 37, Ithaca, New York. A Cornell University chemist working to bring a new class of nanostructured materials out of laboratories and into daily use.

__Michelle Dorrance, 36, New York. A dancer and choreographer reinvigorating tap dancing by combining its musicality with the intricacies of contemporary dance.
Nicole Eisenman, 50, New York. An artist whose paintings, sculptures and drawings explore such themes as gender and sexuality, family dynamics and the inequities of power and wealth.

LaToya Ruby Frazier, 33, Chicago. Photographer and video artist at the School of the Art Institute of Chicago who uses visual autobiographies to capture the impact of economic decline and environmental degradation.

Ben Lerner, 36, New York. An English professor at Brooklyn College of the City College of New York. Lerner also is a novelist, poet and critic who has explored the relevance of the artist to modern culture.

Mimi Lien, 39, New York. A set designer for theater, opera and dance who has created performance space to establish relationships between the characters on stage as well as between the actors and the audience.

Lin-Manuel Miranda, 35, New York. A playwright, composer and performer whose work fuses traditional storytelling with contemporary musical styles and whose most recent play, "Hamilton," is a Broadway sensation.

Dimitri Nakassis, 40, Toronto, Canada. A classicist at the University of Toronto, whose work is transforming the understanding of prehistoric Greek societies.

John Novembre, 37, Chicago. A computational biologist at the University of Chicago, Novembre’s work has shed new light on the study of human evolution, migration and the cause of the genetic diseases.

Christopher Re, 36, Stanford, California. Stanford University computer scientist, who has created an inference engine, DeepDive, that can analyze data in a way that is beyond the capabilities of traditional databases.

Marina Rustow, 46, Princeton, New Jersey. Princeton University historian whose work has shed new light on lives of Jews and the broader society of the medieval Middle East.

Juan Salgado, 46, Chicago. President and CEO of Instituto del Progresso Latino, Salado has pioneered an education helps immigrants learn the skills they need for higher paying manufacturing and health career jobs.

Beth Stevens, 45, Boston. A neuroscientist at Harvard Medical School, Stevens' research has triggered a major shift in thinking about neuron communication in the healthy brain and the origins of adult neurological diseases.
Who are this year's MacArthur 'genius' grant winners?

The 24 winners of this year’s MacArthur "genius grants" each get $625,000 over five years to spend any way he or she wants, no strings attached.

By Dan Balin, Associated Press | SEPTEMBER 29, 2015

CHICAGO — A tap dancer who has spent her life demanding respect for an overlooked art form. A writer at the center of the national conversation about race. A sociologist who lived in a trailer park to study evictions.

They are among the 24 winners of this year’s “genius grants,” each to receive $625,000 over five years to spend any way he or she wants, no strings attached, thanks to the Chicago-based John D. and Catherine T. MacArthur Foundation (www.macfound.org). Each of them found out in recent weeks through a phone call out of the blue.

“You think it's a prank until you hear everyone on the (conference) call describing your work,” said Matthew Desmond, the sociologist, who works at Harvard University.

Recommended: What kind of giver are you? Take the quiz (/World /Making-a-difference/2013/0627/What-kind-of-giver-are-you-Take-the-quiz/Pay-it-forward)

The 2015 winners have studied everything from the brain to prehistoric Greek societies. One created a university in Africa, another a community organization in Chicago.
Some have gained fame and fortune for work that, in the case of Ta-Nehisi Coates, landed him on best-seller lists for what he has written about race.


“Coates, a national correspondent at The Atlantic, has, in ‘Between the World and Me,’ crafted a highly provocative, thoughtfully presented, and beautifully written narrative concerning his own misgivings about the ongoing racial struggle in America. In this slender (176 pages) volume Coates is also, like Baldwin before him, set on revealing similar “uncomfortable truths” to 21st-century America. Coates’s prose is addressed to his 15-year-old son Samori. In the wake of all the recent tragedies involving black men and boys at the hands of police—Michael Brown’s death in Ferguson, Missouri in particular—Coates says he cannot help but fear for Samori’s life.

Another winner is playwright Lin-Manuel Miranda, whose play, “Hamilton” has been a hit on Broadway. He wrote the book, the lyrics, the music and starred in the production (http://www.csmonitor.com/The-Culture/Arts/2015/0509/Hamilton-The-well-reviewed-hip-hop-musical-is-coming-to-Broadway-video).

“The show is a retelling of the 18th-century story of America’s birth by a nontraditional cast using rap and song. It stresses the orphan, immigrant roots of ‘the $10 Founding Father without a father,’ his vices and ambition, and his almost Greek tragedy of death. It’s narrated by Aaron Burr, the man who would kill Hamilton.

Others come from worlds little understood outside their fields. For them, the award is a reminder that what they are doing is important—and the money may just help keep what they do alive.

“I can finally pay off the house I have to create what I have created,” said Michelle Dorrance, a tap dancer and choreographer. “But what is so much more important is this will turn heads toward this art form.”

Kartik Chandran said he sees his grant as validation for something bigger than his work as an environmental engineer at Columbia University turning wastewater from a pollutant into a valuable resource. It is recognition, he said, that something must be done about the many millions of people without clean water.
In 2011, Chandran won a $1.5 million grant from [http://www.csmonitor.com/World/Making-a-difference/Change-Agent/2011/0615/Human-waste-could-be-biofuel] (the Bill & Melinda Gates Foundation [http://www.csmonitor.com/World/Making-a-difference/Change-Agent/2011/0615/Human-waste-could-be-biofuel]) for his work. At the time, Chandran said, the world is experiencing a "sea change" in the way human waste is regarded and used. "In fact, the term 'wastewater' is already archaic," he says. "Wastewater is, after all, just water with a different chemical and biological composition."

Maybe, said Matthew Desmond, the Harvard sociologist, the work he's done can remind people that there are human beings behind statistics and quiet tragedies going on around them.

His work, according to the MacArthur site, reveals "the impact of eviction on the lives of the urban poor and its role in perpetuating racial and economic inequality. In his investigations of the low-income rental market and eviction in privately owned housing in Milwaukee, Desmond argues persuasively that eviction is a cause, rather than merely a symptom, of poverty."

Evictions "used to be so rare that they used to draw crowds," he said. "Now families have grown used to the rumble of moving trucks early in the morning."

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Beth Stevens, 45, Boston. A neuroscientist at Harvard Medical School, Stevens' research has triggered a major shift in thinking about neuron communication in the brain and the origins of adult neurological diseases.

Lorenz Studer, 49, New York. A stem cell biologist at Memorial Sloan-Kettering Cancer Center, Studer has pioneered research that could provide treatment for Parkinson's disease and perhaps other neurodegenerative diseases.
Alex Truesdell, 50, New York. An adaptive designer and fabricator, Truesdell has created low-tech and affordable tools and furniture out of such materials as cardboard and glue for children with disabilities.

Basil Twist, 46, New York. A puppeteer and theater artist recognized for his innovative work that has helped revitalize puppetry as a serious and sophisticated art form.

Ellen Bryant Voigt, 72, Cabot, Vermont. A poet whose work is known for its distinctive musical quality, Voigt explores will, fate, and life cycles of the natural world.

Heidi Williams, 34, Cambridge, Massachusetts. An economist at the Massachusetts Institute of Technology, Williams has explored the causes and consequences of innovation in health care markets.

Fokdong Yang, 44, Berkeley, California. An inorganic chemist at the University of California, Berkeley, Yang is seeking to transform the field of semiconductor nanowires and nanowire photonics.