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Making contact: A kid from Harlem reaches toward extraterrestrials, and science reaches for another recruit

By Chris Colin, Special to SF Gate

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Kamau Hamilton on a recent visit to the SETI Institute, in Mountain View.

The other day, in a beige cubicle at the SETI Institute in Mountain View, a scientist named Kamau Hamilton tapped some numbers into a computer. A giant radio telescope 300 miles away swiveled clockwise in response -- the better to detect a possible extraterrestrial transmission. Kamau watched the telescope on a video feed for a moment. Then he pushed back from the desk, pulled up his jeans, ran over to the other side of the room and began playing with some other cool SETI stuff.

Kamau is 11. This was not a field trip, or Take Your Child to Work Day. The sixth grader from Harlem had been flown out to help the venerable astrobiology institute communicate with aliens.

"My idea was to send sounds of nature into space. Thunder, lightning, the ocean, rain. I thought aliens might hear them and recognize them," he said. Kamau also made other recordings he thought would offer little glimpses of our world: a man grilling chicken on the street, a crow's caw being drowned out by an airplane overhead and so on.

Kamau was one of six winners of the Kids' Science Challenge, a new nationwide competition funded by the National Science Foundation in which third through sixth graders submit experiments and problems for working scientists and engineers to solve. Kamau posed the question, "How can we communicate with extraterrestrials if we don't know if they have a language similar to ours and if we do not know their communication system?"

As a winner, he got to spend several days with actual SETI scientists, who chew on queries like that for a living. Kamau gave a presentation, played the recordings he'd made and generally caught a first-hand glimpse of what a career in science looks like. His visit coincided with a new effort by SETI to gather messages from the general population for a potential transmission to whoever might be listening out there. Doug Vakoch, director of interstellar message composition, said the project was a particularly good fit for someone like Kamau.

"Kids have a natural tendency to want to understand things, and that's the foundation of science," Vakoch said. "The challenge facing educators and parents is to tap into that inherent curiosity, allowing children to be active guides to their own learning."

At a moment when SETI is trying to figure out how to communicate with beings from other planets, it's also working to communicate with beings from this one -- younger beings, in particular, a segment of the population of great concern to the science community and business leaders alike in this country. Decades ago, American children scored significantly better in standardized science tests than today, and went on to careers in science far more often. In a way, a larger question hovered over Kamau's time at SETI: How, in an era of budget cuts and No Child Left Behind, is enthusiasm and talent like this to be nurtured and sustained?

Missy Norquist handles global staffing for National Semiconductor. It's a job that puts her face to face with America's shrinking pool of scientists.

"It's not that there aren't [new PhDs] out there. There are -- but they're not Americans," she said. "There's a lot of noise out there about giving away American jobs, but it's because we can't find Americans to do those jobs. Here in the semiconductor industry, we need to hire the best and the brightest. These days, sadly, the best and the brightest were born somewhere else."

Norquist, a former elementary school teacher, has become an advocate for improving science education in American schools -- indeed, for producing more Kamaus, and keeping those Kamaus hooked.

"There are definitely a lot of great programs out there. But we've got to move away from scattershot approaches that are well-intentioned but don't really move the needle," she said. "Teachers are overwhelmed just getting kids up to speed with the basics. Science is always one of those 'Oops, we ran out of time' subjects."

Last week at SETI, Kamau did not run out of time. On the contrary, he found himself in a collegial, respectful and patient intellectual embrace. It looked like, well, science -- Hamilton tossing out thoughts and Vakoch listening intently, challenging him now and then to elaborate on an idea.

"If our planet needed to be evacuated, maybe they'd let us move in with them," Kamau suggested at one point, when asked what we stood to gain from contact with other beings.

"Maybe they're looking for us," he offered at another. "Maybe that's why there are so many UFO sightings."

(Here the conversation took a brief detour into the irresistible subject of alien abductions. Vakoch was not dismissive, though he noted the consistent lack of hard evidence from these encounters. "If you get abducted, bring us an ashtray," he advised.)

By Kamau's palpable excitement at being on the SETI premises, one might infer that all of this was happening for his sake. But as Vakoch says, SETI benefited, too. In thinking about what we'd say to another civilization, he wrote to me, we might learn more about ourselves.

"At the end of the day, there may be no extraterrestrials out there to talk with, and the only intelligence we make contact with through SETI may be other humans," Vakoch said. "After spending a couple days learning a bit better to hear the world as Kamau experiences it, I'd say that's enough."

A couple days after Kamau returned to New York, I asked Orundun DaCosta-Johnson, his teacher and the director of the Central Harlem Montessori School, to describe the young man. DaCosta-Johnston laughed and called Kamau "the picture of the absent-minded professor."

"He's not interested in remembering his shoes, or his lunch, but when it comes to science, his memory is fantastic. Ask him the distance between the sun and the moon and he'll tell you," she told me. "No matter where we go -- an art show, a museum -- he knows something about it. He's a fascinating child. These are the kinds of people that might change the world."

Kamau's mother, Karimu Hamilton, says her son has been a scientist since the age of three, when he began reporting back every fact he could gather on insects and dinosaurs and rocks. A few years ago, he turned his sights on space.

"Kamau was completely inspired," Hamilton said of Kamau's trip to SETI. "He's so happy now -- he's in bliss."

To hear Norquist describe it, that bliss is a special and delicate thing. According to statistics, Kamau is nearing a critical point in the development of young scientists in this country.

"Middle school level is a pivotal time, where kids lose interest entirely, or there's not enough of a program in place to support their interest, and get them at the level they need to be, so they're prepared at the college level -- instead of getting there and dropping out," she said.

Kamau would seem to be in good shape. DaCosta-Johnson, Kamau's teacher, says science is woven into the fabric of her school's curriculum, not just an occasional unit.

"We start out by saying, 'What is science?' A lot of times kids think science is a big experiment in a laboratory, but really it can just start with just a leaf, or a penny. By the time some of the children leave me, they've done five or six good science projects," she said.

As for helping Kamau hold his interest over the crucial hump of middle school, Vakoch says the most important thing is taking a budding scientist seriously.

"When I was 15, I did a science fair project on interstellar communication. I wrote to different scientists, and they really took me seriously," he said. "I remember [SETI scientist] John Billingham wrote me a two-page, single-spaced reply."

Kamau's mother hopes Kamau will spend more time at SETI in the future -- maybe an internship at some point, she said, anything to stay in the company of real scientists engaging the kinds of questions Kamau asks. As Vakoch can attest, those relationships are sometimes particularly meaningful. Two decades after that science fair project of his own, the same John Billingham ended up helping him get hired at SETI.

At one point the conversation last week turned toward that other kind of contact, and why an 11-year-old might be particularly well-suited to interstellar communication. Vakoch reminded us of how long such a transmission might take.

"Of all of us, Kamau's the most likely to actually get a response," he said.

Chris Colin is the author of "What Really Happened to the Class of '93" and co-author of "The Blue Pages," a directory of companies rated by their politics and social practices. He has written for the New York Times, Mother Jones, Smithsonian, McSweeney's Quarterly and other publications, and works out of the San Francisco Writers' Grotto.