Coastal Character

Aba Mbirika, unparalleled mathematician

by Pat Friedman
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He's not your average combinatorialist. He's also an algebra-artist and calculus-rapper, post-doctorate math instructor, and beloved local personality. Aba Mbirika is a Brunswick scholar who specializes in combinatorics which, in its briefest form, is the branch of math concerning finite or countable discrete structures.

Beaming with the genuine light of a youthful spirit, he offers an orange soda and a seat in his brightly colored, retro-bedecked office in the Searsles Building on the Bowdoin College campus.

“I pretty much live here,” he said with a smile.

The Bowdoin math teacher and researcher points to his latest writings and, springing to the blackboard, he gives a quick history and mini-lesson on methods of counting extremely large numbers quickly and easily. With deft, swift movements, he rapidly connects lines between several numbers into an exquisite and meaningful “web” graph of 10 vertices on the board. He is mesmerizing.

For someone who knows his way around mathematics, his interest in the subject came late. He gained valuable life experiences through his travels before attending college in San Francisco for two years.

"By then, I knew I loved math," he said, so it worked out well. "Living in San Francisco really taught me to let go of grudges and to love people. It's the kind of place that really allows you to express yourself. It's really important to trust people."

Scotland was the next place he would call "home" for a spell. He said he enjoyed living and working in a tiny northern Scottish town. He returned to San Francisco and completed his bachelor's degree, and then went on to the University of Iowa to earn his doctorate.

"I loved Iowa," he said. "Mine was a little tiny village - my kind of town!" Despite his uber-trendy sense of fashion and hip, urban style, Aba confesses to being "city-phobic."

"Here, I like knowing the mailman, recognizing and waving to the police, being treated like family," he said. "The folks at Pedro’s even invited me to their Easter dinner. This community took me in and made sure I'm not alone. Being a single person in a small town, a professional and academic, can be tough."

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A welcoming “SHALOM!” sign in his office confirms his open-arms approach to people. With genuine modesty, Mbirika reflects that “I prefer not being called ‘Professor.’ I teach, so people can call me ‘teacher.’”

Aba is now in his third year of a post-doctoral fellowship, which means that he studied eight years to get his PhD, and is still studying, so his teaching schedule is lighter to afford him the time to research.

“When I first visited Bowdoin,” said Aba, “I learned aspects of the school that are so admirable. The cultural diversity is amazing – 30 percent.” What’s more noble – and notable – is that Bowdoin is a needs-blind school whose admissions are not based on students’ family income. The no-loan policy (which few schools can afford), helps ensure that students will make it once they’re out in the workplace. If it costs $80,000 or more in education to get a teaching job that pays $30,000 a year, they’re not going to be able to feasibly pay it off. So I love that aspect of Bowdoin. They don’t want people having to graduate while owing lots of money. They make it more possible to succeed.”

And then, said Aba, there are the students themselves.

“I do have to say that I love the students here, even the ones I don’t teach.” Aba said he feels the same vibe in downtown Brunswick as he does on campus. So he does his best to bring the two together. “Whether it’s a stop with students at the ArtWalk, or taking a bunch of them to the St. John’s Bazaar, I just feel very comfortable here.”

To get a sense of just how comfortable Aba is in a classroom, you might want to take in Aba’s “Math Rap” series, which can be seen at www.bowdoin.edu/~ambirika. He’s written a number of captivating rap tunes for math students in high school and undergraduate students, and even raps for advanced scholars in master’s and doctorate classes. He wrote his first rap tune when he was an undergrad studying a concept that the book didn’t explain deeply. So he made a song out of it to help his classmates. Ten years later, that school still reads the rap to students.

“On one level, they feel it’s a gift,” Aba said, “like, ‘He’s going to write a song for us!’”

So what’s over the next hill for Aba Mbirika? “It’s a mystery,” he said with a chuckle. “I’m on a contract, so we will see what happens next. But Brunswick is my home, so I hope to stay on here. Of course, I will have to compete with the other mathematicians on planet Earth.”

Aba said the main reason he loves Bowdoin College so much is the size of the institution, which is much smaller than the University of Iowa where he got his PhD. There were 30,000 students there.

“Undergrads disappear and become nameless in that size class,” he said. “My first class I taught here had 30 students. I knew their names in the first week. I think students deserve to be known. If my students see my office light on at 10 p.m., they know they can still come by and talk to me. We can talk about mathematics, or about life. Many of their parents have gotten to know me, and I sometimes go out to lunch with them.”

But what if he had his druthers, and could go anywhere for vacation? “I’d go to Brunswick,” he said.