

## The Poop-Eating Bug Doctor

By Tony Martinelli

Everyone poops. This well documented fact does not escape the wastewater treatment specialists who work around the country to keep our water clean. While most of us simply hunker down over our thrones of porcelain and flush all of our worries away when we are finished, a select few have made our waste their livelihood. Studying every facet of feces and documenting every oddity in our water systems. They look through microscopes for hours noting each and every string of bacteria to ensure that the next time we take a drink of water we won't gag.



Who then would undertake such an unsavory position? Ask Auralene "Toni" Glymph who typically refers to herself as a "short, black, poop-eating bug doctor." Toni's dedication to the field has caused her to become a nationally recognized leader in wastewater treatment. In 2001 she won the John Brogan Award, the highest honor given annually for those in environmental service to the State of Wisconsin, and the following year she received the EPA's Spark Plug award, given for her efforts in improving national water treatment.

Growing up in a slum in Detroit, Toni would regularly trek down to a local hospital and pester doctors until they handed over any old or used medical journals in their possession. When she was done at the hospital she would go downtown to the library and pick up as many science books as she could carry and spend the rest of the night awake, reading. She also liked to catch and study the insects and spiders that she happened to come across in her home and at school. A self proclaimed science nerd, Toni went on to receive a full scholarship to Tennessee State

University where she would gain a background in microbiology. She became so dominant in her field of study that her professors took to allowing her to teach the labs and write the exams. Following this she received another full scholarship, this time to medical school.

Toni's mother, a single parent because of her husband's death some years earlier, was incredibly supportive throughout Toni's childhood, and when she heard Toni was going to medical school she could not have been prouder. She told everyone within earshot, "My daughter is going to be a doctor!" But it wasn't meant to be. After only a few semesters of medical school, Toni dropped out, deciding that "It simply didn't fit right." Fortunately, a water treatment plant near her home in Michigan was not only hiring, but also was offering incredibly generous salaries for anyone with a microbiology background and Toni leapt at the chance to finally apply some of what she had learned in college.

Breaking into the field of wastewater management was more difficult than she had originally imagined. In a work environment dominated by middle class, suburban white males, most of whom apparently sported a nice pot belly and a comb-over to boot, it was difficult for the black woman to find respect among her peers. Initially she was assigned to a small research group at the plant; her male co-workers, however, confident that she could not participate effectively, would often give her mundane, presumably meaningless tasks such as studying water samples from the watershed. Seizing this opportunity, no matter how small, Toni began documenting what she saw in the water samples and eventually was able to predict when and why problems would occur in the water treatment plant. As her predictions came true one by one, her reputation steadily grew at the plant, becoming one of Michigan's up and coming experts in the field. In addition, Toni co-authored a number of scientific articles during this period, though her name was often removed from the papers before they were submitted to the

scientific community by her associates. As a result, she learned not to share her discoveries with anyone, least of all with her supervisor at the plant.

On one occasion, Toni's explorations had yielded an innovation that would help revolutionize the way wastewater is treated, and she wrote a paper to that effect which was to be presented to the press. The day before her findings were to be made public, Toni's supervisor informed her that the press conference had been cancelled. The next day, however, Toni was stopped by one of her friends at the plant and told that she had better hurry, because her press conference had already started. Bewildered by the sudden turn of events, Toni staggered into the back of the press conference where she found her supervisor atop *her* stage and addressing the press. While she watched, the supervisor was unable to answer the press's scrutinizing questions concerning the discovery. Toni took her chance and leapt into action, raising her hand amongst the chaos. She stole the floor, proudly attending to the press's concerns. Before long the press began to ignore Toni's supervisor entirely and posed their questions directly to Toni. While she had managed to turn the tables on her supervisor, this experience would sour her attitude toward the plant's people and practices. In addition, her sixteen hour work days at the plant were beginning to wear her down.

Once Toni left the plant in 1992, she followed her husband to Wisconsin where he had landed a job. Toni, applying to the Wisconsin Department of Natural Resources (the DNR), soon found a job as a water treatment specialist. Toni's first few years at the DNR were the hardest of her career, professionally as well as personally. She stood out in stark contrast to the rural, white men who dominated the workforce of the DNR at the time. Toni explains, "This wasn't really a field for women, especially not black women, and a black woman from the city working in my position was unheard of."

Further isolating Toni from her colleagues was her inexperience with the outdoors: “I don’t camp, fish, or hunt. I don’t go out at night and count owls. I never once have gone looking for birds, and if I ever heard a wolf in the woods, I definitely wouldn’t celebrate like [my colleagues] do; I’d be running for my life.” Early in her career, most of the meetings were located in state parks and were conducted around a campfire. “[My co-workers would] be sitting around singing Kumbaya while bats were swooping overhead and yellow eyes would be popping out of the bushes,” reminisces Toni, who was sometimes put on edge as a result of her associates calm demeanor in the face of “such terrifying stuff.”

Also, in the early nineties, there was very little racial diversity in the workplace, though Toni reports that in recent years there has been more cultural diffusion in the Wisconsin DNR. Because of this lack of diversity, Toni often felt ostracized, and mostly worked alone. This loneliness was exaggerated at conferences where she found herself to be the only minority in attendance. Over time this isolation from her peers lessened and eventually disappeared altogether.

Today Toni is recognized as one of the foremost specialists in wastewater management. On a daily basis she receives samples from wastewater treatment plants across the Midwest. Her main task is to study their samples, identify what is wrong with their system and propose a method to rectify the situation. To correct some of the problems with our water system she is often forced to either change the pH or temperature of the system, or even introduce chemicals into the water. She notes that most of the problems are engineered into the design since plants seldom respect the biological nature of the process of water treatment. Toni explains, “It’s all about the crap eating bacteria. If they get sick and stop eating, you will still have crap in your water when it leaves the plant, and no one wants that.” New problems are constantly arising

which necessitate continually developing unique solutions; it is this variety that drives Toni to eagerly anticipate coming to work each day.

In addition, Toni actively helped to neutralize pathogens in state waters. Her efforts have resulted in the creation of standards for recreational fishing waters as well as regulating industrial means for chemical disposal. Specifically she has worked closely with the Parks Department to counteract microorganisms and bacteria found in animal feces, in the hopes of avoiding costly beach closings throughout the state.

Furthermore, as Toni's reputation at the Department of Natural Resources grew, she was often asked to run classes and workshops by other states and companies on wastewater treatment. These lucrative classes ignited Toni's love for teaching, and have driven her to expend every last one of her vacation days running independent lectures.

It is not uncommon for her to visit five cities in five days, teaching at each stop. What's more is that she has made it a family affair, towing her youngest son along on most of her adventures and allowing him to help her set up the microscopes for her classes despite the fact that he is completely dumbfounded by the "crazy folks who actually want to learn about this stuff." Also, Toni is part of a state sponsored group that speaks to youths about their government jobs. Though she may not gain the same notoriety that she receives through her other endeavors, she still loves talking to children about what she does and is often a class favorite. However she often questions how much the students even understand; for example one group of kindergarteners she spoke to flushed a thank-you letter down the toilet then called her to see if she had received it.

Yet despite all of her success, Toni often faces discrimination due to the color of her skin, especially when she travels. Soon after gaining recognition as a nationally respected wastewater

specialist, she accepted an invitation to teach in a wastewater workshop in Idaho. When Toni arrived at the airport she was greeted by an armed guard that escorted her to her class. Apparently the “hick town” she flew into had an extremely strong anti-African American contingent with three or more active Ku Klux Klan groups. Afraid to go on she consulted her husband, who pleaded with her to return home and forgo her opportunity to speak. Still, Toni decided to stay, stating that, “Somebody had to set these people right.” Upon her arrival in Quarterlane, Idaho, she was confronted by her first student who entered the door, someone whom Toni described as a “stringy haired old curmudgeon who had, at best, three teeth.” When she asked his name for attendance, he told Toni that his name was “Hippity Bob” and if he wanted to, “I could cut [Toni] up into itty bitty pieces and hide [her] in the mountains where no one would ever find [her].” As more and more people entered, Hippity Bob continued to berate Toni, but when the class finally began, the room fell silent and remained that way for the rest of the class. The silence was agonizing to Toni. Leaving deflated, Toni was again confronted by Hippity Bob, but this time Hippity Bob had stopped Toni to inform her that he had learned more in the class than in his entire career in wastewater treatment. In fact, feedback from the class was so overwhelmingly positive that she was asked to return the next year. After speaking to the legislature about discrimination, she agreed to return, but next time the lecture would be held in Boise, a much more diverse, urban environment. Entering her class a year later, she saw Hippity Bob sitting contently in the first row. When she asked for attendance, Hippity Bob stood up and proclaimed, “I am Hippity Bob, and if anybody here gives her [Toni] trouble, I will chop you up into itty bitty pieces and hide them in the mountains where no one will ever find you!” While this experience ended positively, Toni continues to face numerous hurdles in her career due to

discrimination. Still, Toni remains extremely proud and confident, she says due, in part, to her extensive past martial arts experience.

Toni exercised this confidence in 2005 when she delved into the field of scientific literature by authoring her first book, *Wastewater Microbiology for Operators*. After years of running her workshops with great success, people began asking her to put her lessons into a book so the information would be readily available, both as an onsite training and reference tool. In no time, Toni had acquired some three thousand names of persons committed to purchasing any book that she wrote. After submitting her notes to a publisher, her proposal was accepted and she began the daunting task of compiling all of her notes and presentations. Over the next three months, she spent her nights and weekends writing and arranging her book, often clashing with her editor on topics ranging from grammar to arguments about whether wastewater jokes were funny and “if a bug chasing a piece of crap was a useful illustration for learning.” Submitting her book at 4 A.M. on the day that it was due, Toni found out that she was the first author to ever compile a book by the given deadline in the publishing company’s history. Additionally, her book has sold out in most bookstores and has received the best reviews overall in company history. This triumph has led her to add a full color CD to the book, picturing microorganisms and bacteria found in wastewater. Also, she has signed a contract promising to complete a revised edition of the book in a few years. Toni plans to write three more books with similar themes, based on more recent discoveries in her field. Crediting her literary success to the fact that the book communicates on a very basic level with the reader, Toni says she writes, assuming that the operators, the book’s main audience, have little or no education in wastewater treatment. The book also introduces readers to Toni’s groundbreaking ideas about biological balance in water treatment systems.

Toni's efforts have gone far beyond improving the wastewater community, however. Every week, for the past few years she has made the three hour drive to downtown Chicago where she helps counsel women who have been picked up off the streets. Oftentimes these women are drug addicted prostitutes earnestly looking to turn their lives around. After the women are released from detoxification centers, where they learned overcome their self destructive drug habits, the women are sent to a farm run by a retired pastor and his wife. It is at the farm that the women are taught life skills, such as computer expertise, while planting fruits and vegetables by hand. Toni is well prepared for her role because she holds a master's degree in biblical counseling. She is assigned to certain women to be a mentor, and her sessions help the women handle the changes that they are experiencing. Participation in this program has been incredibly eye-opening for Toni, in that she now views prostitution as a coping mechanism for the horrendous experiences many of the women encountered in their childhoods. She often learned that the women were sold by their own parents into prostitution or given drugs by family members at a very early age and these illegitimate lifestyles were actually forced upon the women.

The benefits of the program hit home when Toni helped Valerie, her husband's ex-wife, and the mother of her two step-children, get accepted into the program. Valerie was addicted to a variety of drugs and was found living on the streets. She hated Toni to the extent that she had at one point put out a contract on Toni's life. Resentful of Toni's role in raising her offspring, Valerie kidnapped her children several times. After weeks of detoxification and screenings to prove that she was indeed sincere in her attempt to get her life back on track, she was transported to the farm. Once there, Toni was assigned to Valerie as her mentor and helped Valerie become drug free. In fact, at the graduation ceremony, Valerie's children saw her sober for the first time



in their lives. Chicago's Mayor Daley also attended the graduation and presented the women with citations on behalf of the city, and the Tribune ran a story of the program's accomplishments. After the ceremony, Valerie met with Toni and asked a very simple question, "Why do you do all of this?" Surprised, Toni could only respond, "Why not? Because I'm like that, I guess."

Toni Glymph still spends her days saving the world one flush at a time, and uses her nights to write her books. A modern day superwoman, she helps women who have previously lived on the streets. Toni teaches us that it is not the magnitude of the task that is important, but rather it is the passion and effort that is expended that defines our vocation. It doesn't matter whether you are a steel worker, a janitor, a doctor, or even, if you are lucky, a wastewater treatment specialist; we must find self-worth in the execution of our endeavors. Our professions and pastimes must be more than a means to accrue currency; but rather they must be a testament to our character and a celebration of our ability to overcome all obstacles.



Herein I have provided the story of Auralene "Toni" Glymph to date. The account is not complete, though Toni and I assure you that it is enough. This is not a report meant for your enjoyment, though it is a tale worth retelling. What Toni has given us is a beacon of excellence where we might never have looked before. Toni has triumphed in the face of immeasurable adversity and peril, and has leapt each hurdle in her path with a personal grace that should be praised and upheld as an example for us all.

