



The NTC Today

The Biannual Newsletter for the Morgan State University National Center for Transportation Management, Research & Development

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New NTC Study Looks at Run-off's Effect on Aquatic Life

A new study sponsored by Morgan State University's National Transportation Center establishes Morgan as one of the first historically black institutions to study the links between transportation infrastructure, aquatic ecology, and pollution.

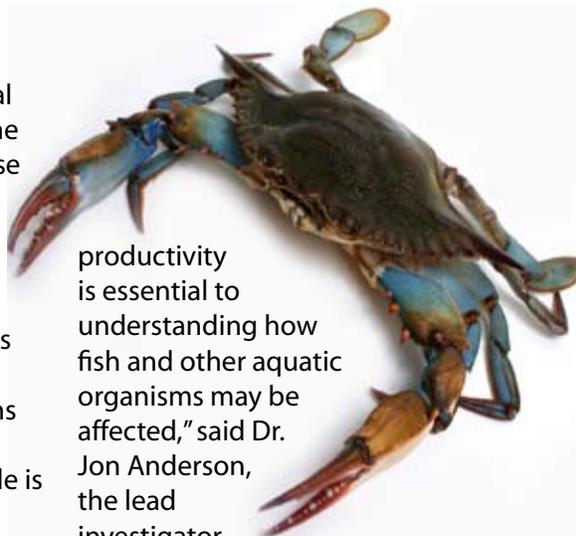
The over \$100,000 project — *Assessing the Magnitude of Polycyclic Aromatic Hydrocarbon Loading From Road Surfaces and its Effect on Algal Productivity* — is a collaboration between researchers at Morgan's Estuarine Research Center and St. Mary's College of Maryland.

Much of the pollution in the Chesapeake Bay and its tributaries is the result of run-off from impervious

surfaces, which include roads, pavement, and buildings. Because impervious surfaces block the natural filtration of contaminants through the soil, toxins accumulate on top of these hard surfaces, leach out in the rain (and other precipitation), and go into storm drains where they quickly flow into streams, rivers, and the Bay.

Polycyclic aromatic hydrocarbons (PAHs), the most common of these contaminants, are known carcinogens and mutagens that affect fish, insect larvae, and crustaceans. However, little is known about how PAHs affect algae.

"Since single-celled algae comprise the base of the aquatic food chain, understanding how PAHs affect algal



productivity is essential to understanding how fish and other aquatic organisms may be affected," said Dr. Jon Anderson, the lead investigator on the project.

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New Study Examines Links Between Road Run-Off and Algal Growth

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Furthermore, as a complication, not all algae are created equal. While most are beneficial and provide high quality food for other organisms, some are harmful, producing toxins that can in certain cases kill fish. It is our goal to study whether PAHs differentially affect harmful versus beneficial algae."

Sampling for the project was scheduled to begin in April, and the entire project will be completed in Fall 2010. Dr. Anderson and St. Mary's Dr. Randy Larsen, the study's co-investigator, will each be assisted by a St. Mary's intern. A Morgan graduate student will also participate in field and lab experiments. Dr. Anderson will oversee the completion of the project — including field sampling and algae analysis — while Dr. Larsen will direct PAH measurement and analysis.

Looking Toward the Future

Dr. Anderson finds the project even more relevant in light of the Obama administration's commitment to improving the environment and transportation infrastructure.

"As we move toward implementing green transportation technologies, it is important to understand its linkage to the environment," he said. "Questions that need to be answered include: How does current contaminant loading affect adjacent ecosystems? Do greener technologies reduce the harmful loading to these ecosystems? We hope to provide information on ecosystem impacts from a variety of road surfaces that can be used in conjunction with green infrastructure technologies to provide management with the best and most cost-effective solutions."

The full project description for Assessing the Magnitude of Polycyclic Aromatic Hydrocarbon Loading From Road Surfaces and its Effect on Algal Productivity can be found at www.eng.morgan.edu/~ntc/Research/Projects/New_Projects/new_projects.html.



Lively discussions continued during the symposium's refreshment break.

Symposium Puts Research in Action

The National Transportation Center Research Symposium brought together industry professionals, researchers, and students for an in-depth discussion and analysis of the center's six most recently completed projects.

As Dean DeLoatch said in his opening remarks, "This is a very timely symposium ... as we look to the commitment that's being made at the national level to look through and work on the future of our national infrastructure."

Held on Feb. 25, the event featured presentations by two graduate students and five Morgan professors. Topics included the best type of paint for road markings, how a system based on GPS technology could improve congestion and traffic management, and how "second parenthoods" affect the travel needs and patterns of elderly African Americans.

Four of the projects were funded by the Maryland State Highway Administration (SHA).



Dr. Mansoureh Jiehani was an investigator on three of the six projects exhibited at the symposium.

Allison Hardt, the research division chief of SHA's office of policy and research, was pleased with what she saw.

"It's great," Hardt said. "I like hearing about all of the students that worked on the projects and how they're supported and learning. That's part of it, too — the education."

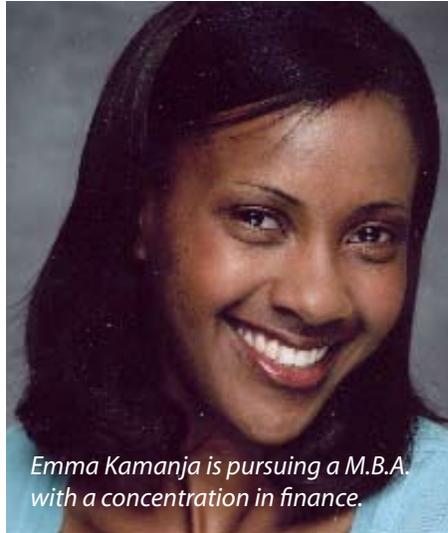
Emma Kamanja: Proof That MDOT-MSU Internships Work

While students across the country fret about finding jobs in a declining economy, nine Morgan students will be enjoying year-long paid internships through the Maryland Department of Transportation-Morgan State University Graduate Internship Program.

Through January 2010, these students will work with assigned mentors in a state transportation agency and build their resumes with real work experience. And if they're lucky, they'll wind up like Emma Kamanja. Kamanja is a 2008 MDOT-MSU intern who was recently hired as a contractual employee with the Maryland Transportation Authority's finance division, the same department in which she interned.

"The internship program offered great opportunities and benefits," she said. "I had the opportunity to contribute to crucial company decisions on forecasted budgets, budget cuts, and investment options. Moreover, the internship also gave me a competitive edge in terms of the experience, knowledge, and skills that I acquired."

In fact, those acquired skills led to



Emma Kamanja is pursuing a M.B.A. with a concentration in finance.

her hiring. Kamanja's supervisor, Allen Garman, describes her as intelligent and "always eager to lend a hand" from high-level projects to lower tasks.

"She gained experience and became more valuable to us," said Garman, director of treasury and debt management.

As he explained, the state's budget freeze has made it easier to hire on a temporary basis. An ideal candidate has a working knowledge of the job duties, and requires little training.

"Emma takes initiative. She doesn't

"Obviously, I love my job."

Emma Kamanja

need a lot of supervision or instruction," he added.

"I have gained a lot of insight into the transportation industry," Kamanja said. "I am glad I pursued this internship. This internship has helped me gain knowledge, insight, and gain better managerial skills."

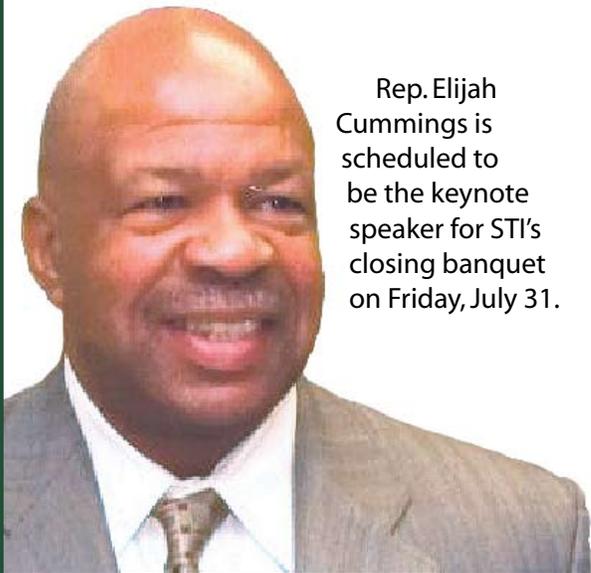
We wish this year's interns the same success.

2009 MDOT-MSU GRADUATE INTERNS

Gladys Apolonio
Nadine Bennett-Darby
Yaw Osei Berkoh
William "Stacy" Boles
Marouf Diallo
Alex Kamamia
Toheeb Oridedi
Kortney Pinkney
Erimas F. Shiferaw

Summer Transportation Institute News

The first class doesn't start until July 6, but we already have news to report.



Rep. Elijah Cummings is scheduled to be the keynote speaker for STI's closing banquet on Friday, July 31.



Ashley Barnett (STI Class of '05 & '06) begins her freshman year at Pennsylvania State University this fall, and she plans to major in civil engineering. Her grandmother Juanita Barnett called us to report that Ashley's "wonderful experience" with STI led to her

career choice. Ashley hopes to one day own her own architectural and construction firm.

"The field trips broadened our horizons," Ashley said.

Applications for STI 2009 will be accepted through May 22. To learn more, contact Valencia Baker at 443-885-3969 or valencia.baker@morgan.edu. Applications can be downloaded at www.eng.morgan.edu/~ntc.



News Flash

• **Motorcycle Crash Study Approved**

Sponsored by the NTC and the State Highway Administration, *A Comprehensive Review of Motorcycle Crashes in Maryland* analyzes the state of Maryland's motorcycle crash data for the last ten years.

The project will identify accident patterns, severity, and difficulties in accident data collection. Motorcycle registrations trends and their relationship to accidents and various areas of the state will also be classified. It is hoped that the study will define the best ways to collect and report crash data and lead to the establishment of policies that enhance motorcycle safety and mobility.

A full project description can be found online at [www.eng.morgan.edu/~ntc/Research Projects/New_Projects/new_projects.html](http://www.eng.morgan.edu/~ntc/Research%20Projects/New_Projects/new_projects.html).

• **SHA Summer Interns (as of 5/6/09)**

Justin Dean
Naomi James
Janay Smith
Travis Vance

• **Eisenhower HBCU Fellowship Recipients**

Devang Dave
Devkota Bimal
Siriam Jayanti
Francis Udentia



A Message from the NTC Director

DR. ANDREW FARKAS

The NTC is in the process of finishing its third grant year under SAFETEA-LU's University Transportation Centers program, and we'll soon apply for a fourth year of funding. However, the looming expiration of SAFETEA-LU makes the future of that funding unclear.

The recent stimulus legislation makes the case that government research funding has positive effects on the economy. Does that suggest cautious optimism for transportation research programs under SAFETEA-LU's successor? We'll see, but I believe that Morgan's National Transportation Center is doing its part to justify the funding of transportation research, particularly when it comes to educating the transportation professionals of the future.

Our research, educational efforts, and technology transfer activities have helped establish our presence nationally and locally. As a sponsor of the Transportation Research Board's 2010 Finance Conference in New Orleans, we'll provide travel scholarships for five students.

We've partnered with the Maryland Department of Transportation, Federal Highway

Administration, and several state agencies to help implement the TEACH program, a new after-school curriculum that will educate elementary school students in Baltimore City about transportation technology.

"Morgan's National Transportation Center is doing its part to justify the funding of transportation research."

We've also been involved in the selection of Morgan students for Eisenhower Fellowships and summer internships with the Maryland State Highway Administration. And on July 6, we'll host our 13th Summer Transportation Institute.

While we know these efforts matter, their significance is confirmed by the achievements of students like Emma Kamanja and Ashley Barnett, whose stories are profiled on page 3.

To learn more about the center, its dedicated staff, and our various programs, please look at our website www.eng.morgan.edu/~ntc.