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Can Concrete Help the Chesapeake?

Most of us barely give the pavement beneath us a second thought. But Stuart Schwartz, a senior research scientist at the UMBC's Center for Urban Environmental Research and Education, thinks deeply about it.

Schwartz studies pervious concrete – a building material riddled with voids that allow water to trickle through it. If this material becomes standard for driveways, parking lots and low-traffic roads, it may help manage the flow of storm water and pollutants into the Chesapeake Bay and other imperiled waterways.

When storms douse roads or parking lots in Maryland, mind-boggling gallons of water careen from the pavement into storm water systems and eventually into the Chesapeake Bay. That runoff also carries sediments, nitrogen and phosphates – substances linked

with a range of phenomena that are unhealthy for the bay, including deadly algal blooms and decimation of the habitat for young fish and crabs.

“What we’re really talking about is restoring hydrologic function in the landscape,” says Schwartz.

Pervious concrete is made with a cementitious binding material that is devoid of the sand or silt-sized particles used in traditional concrete. “Think of a rice crispy treat, with all the little spaces in between the kernels,” he says.

Despite its promising benefits, some contractors and engineers remain skeptical of pervious concrete.

Catastrophe can strike if ice forms within the voids of pervious concrete and bursts the material's rigid matrix — which happened on a test section using the material on a Maryland interstate in the 1980s. Highway officials nicknamed it “popcorn pavement,” because the loose aggregate that broke into pieces that ping-ponged through traffic and damaged cars.

Schwartz is working to reverse that skepticism with new test plots on UMBC's campus. He is also taking practical steps to win converts – helping to certify contractors and organizing a workshop attended by 200 people last August.

“There was so much interest, we had to turn people away,” he says. ☺

— T. DeLene Beeland



Aging Boomers in a Class of Their Own

When Jena Rathell '09, management of aging services, watched YouTube videos on her laptop this past semester, there was a good chance that she was doing homework.



Rathell was a student in “Aging 100: You Say You Want a Revolution? How Baby Boomers are Revolutionizing Aging” – a new high-tech undergraduate course offered by UMBC's Erickson School of Aging Studies. It is a class with no textbook. The mid-terms and finals are taken online. Students can blog for extra credit.

Aging 100 acquaints students with key events and experiences of the baby boom generation. It is tailored for “millennials” – 75 million strong, and all born between 1981 and 1993 – who likely have never known life without computers. They learn about the Cold War and

the civil rights movement, as well as debates about the national debt and Social Security. Lectures are interwoven with videos, so students see guitarist Jimi Hendrix play at the 1969 Woodstock Festival as they learn about his cultural influence.

“They will be living with this population for the rest of their life,” says Dr. Judah Ronch, a professor at the Erickson School who devised the course with another Erickson colleague, Bill Thomas. “Boomers are different than the aging population now. On average they will live longer, be healthier and more active.”

Ronch also hopes to place the inevitable societal challenges of boomer aging in healthy perspective: “When they hear debates on the future of Social Security it will not be an abstraction that puts them to sleep – they’ll really know what it’s about.” ☺

— Al Staropoli