

# Meet...

## Lola Eniola-Adefeso

CHEMICAL ENGINEER, Ann Arbor, Michigan

### What She's Doing

Lola Eniola-Adefeso's special interest in heart disease stems in part from the death of her father five years ago from the condition. She was very close to him and he inspired her love for science, Eniola-Adefeso says.

As a chemical engineer, her goal is to develop a way to deliver heart disease medicines right to the places they're needed—the blood vessels near the heart—and to do so without surgery.

Her strategy relies on an understanding of white blood cells, one of the body's first lines of defense against illness and infection. "I am trying to create artificial white blood cells to deliver medicines," says Eniola-Adefeso.

**"Being one of the very first people to observe something—it's very addictive."**

### Her Findings

In her quest to deliver the right amount of drug to the right place, Eniola-Adefeso has made hollow, biodegradable plastic beads that can be filled with medicine. She is currently working on customizing the beads so that they travel directly to their destination and release their contents in a controlled way over a specified length of time.

Once at their destination, Eniola-Adefeso says, the beads will latch onto a vessel wall, then slowly wear away, releasing medicine that helps heal the vessel.

To design these drug carriers, Eniola-Adefeso has to correctly mimic the chemical connections between white blood cells and a blood vessel wall. There are lots of materials to choose from, she says, adding that her favorite is the molecule PLGA. This substance, a long chain made up of repeated units of two chemical building blocks, is compatible with living tissue and its properties can be tailored. PLGA is already used in a variety of biomedical devices including sutures, skin grafts and bone implants.

By altering the relative quantities of each chemical unit, Eniola-Adefeso can control how slowly the material degrades.



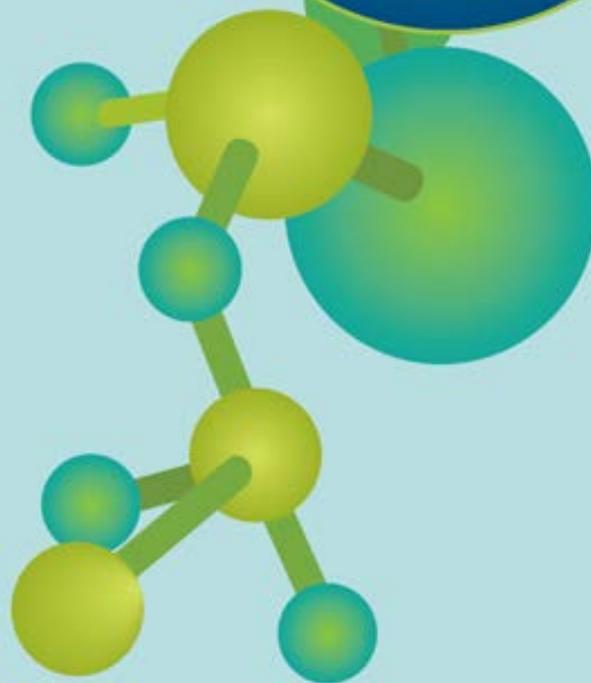
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Nigeria, Africa

**JOB SITE**  
University of Michigan, Ann Arbor

**FAVORITE MOVIES**  
*The Lord of the Rings: The Return of the King*—"it shows human courage"

**FAVORITE PASTIME**  
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**SECRET WISH**  
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