



Janine NUNES

Home Country
Trinidad and Tobago

Degree
PhD in Chemistry

Expertise
Chemistry

Research Focus
Particle Replication
in Non-Wetting
Templates

Host University
University of North
Carolina,
Chapel Hill, United
States

Fellowship Awarded
2005

Janine Nunes was born in Trinidad and Tobago. She received her undergraduate and graduate degrees in chemistry at Morgan State University in Maryland in the United States, where she graduated in 2005 with a MSc.

Janine is interested in physical chemistry, particularly the characterization of novel polymeric materials as well as a number of interdisciplinary projects where physical chemistry can be applied.

At Morgan State she was a teaching assistant and active at the board level in three student organizations—Student Affiliates of the American Chemical Society, National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, and Beta Kappa Chi National Scientific Honor Society. While pursuing her PhD in chemistry at the University of North Carolina she focused on nanotechnology. She became interested in investigating a new technology designed to create well-defined nanoparticles of one size, shape and exact chemical composition. Designed for use in biomedical applications, this new approach to nanoparticle synthesis, named Particle Replication in Non-Wetting Templates (PRINT), not only affords absolute control over particle size, shape and chemical makeup, but also allows biomolecules to be incorporated into the particles during their creation.

PRINT utilizes a stamping mold made of a novel polymer that does not allow liquids to spread across its surface and this property, known as non-wetting, enables the mold to produce discrete particles with the exact shape and size of any feature etched in the polymer, in much the same way that a rubber stamp coated with ink recreates the design etched on the stamp's surface.

The technology may eventually be useful in making nanoparticles intended as drug delivery vehicles and biocompatible nanoparticles containing anti-cancer and other drugs.

After completing her studies, Janine intends to continue working in the academic field both as a professor and as a researcher.