

## URECA Researcher of the Month (April, 2008) - <http://www.sunysb.edu/ureca/>

### Cindy Thomas

Class of 08; Biology Major; AGEP SRI & BioPREP Program participant

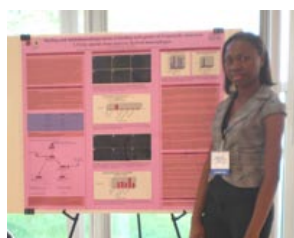
#### Research Mentor:

Dr. Anne Savitt, Molecular Genetics & Microbiology

### About Cindy

You don't need to ask Cindy Thomas's friends and family whether she's got the research "bug!" She's still explaining why she prefers to be in a lab all summer, rather than go on vacation. And what she particularly likes about summer research is the experience of absolute immersion: "You don't have to worry about a class at two o'clock that you have to run to. You're here, and you can engulf yourself in it . . . bury yourself in it! Because it's all you've got to do. The summers I've spent here were just the best!"

Cindy credits her undergraduate research experiences — in the summer and all year round! — as the best preparation for future graduate study in the field of microbiology. She conducts her research in the Savitt Lab, in the Department of Molecular Genetics & Microbiology; the core Cell Culture/Hybridoma lab facility where she focuses on *Francisella tularensis* bacterium is in the Center for Infectious Diseases, directed by Dr. Jorge Benach.



Cindy first became acquainted with her mentor, Dr. Savitt, at an [Undergraduate Biology Open House](#), an event organized by Prof. Eugene Katz and Ellen Lopez to aid undergraduates interested in doing bio-related research. **(The next one is November 5, from 12-2 in the CMM/BLL Lobby!)** Cindy's work with Dr. Savitt in Summer 2007 was funded through the AGEP SRI Program ([http://www.stonybrook.edu/agep/Summer\\_Research\\_Institute/](http://www.stonybrook.edu/agep/Summer_Research_Institute/)). Just recently, Cindy was granted the HHMI national Exceptional Research Opportunities Program (EXROP) award (<http://www.stonybrook.edu/ligase/>) and will be spending Summer 2008 working to create more efficient flu vaccines under the direction of HHMI investigator Dr. Philippa Marrack at the National Jewish Medical and Research Center in Denver, Colorado.

Cindy was born and educated in Guyana, South America. After secondary school, prior to moving to the US, she spent three years working on microbiological analysis of food products. Later on, while doing coursework at Nassau Community College, she heard about the BioPREP program at Stony Brook (<http://www.stonybrook.edu/ligase/Forstudents/BioPREP/BioPREP.html>), and decided to apply. And BioPREP delivered! She got valuable university research lab experience, and enjoyed working with Dr. Moloney, Dr. Bynum and the rest of the staff at LIGASE (now part of the Center for Science & Mathematics Education) so much that she transferred to SB. Look for Cindy's poster at the upcoming URECA Celebration on April 30th! Below are some excerpts of her interview with Karen Kernan, URECA Director.

### The Interview

**Karen Kernan: Tell me about your primary research area. What do you work on?**

**Cindy Thomas:** I work with Dr. Anne Savitt. I started last May as an AGEP fellow and I've been with her ever since. The past project that I've been working on deals with the binding and update of *Francisella tularensis* by murine macrophages. We try to enhance or inhibit it using some of the monoclonal antibodies that she has isolated from infected animals — usually mice.

**Karen Kernan: How did you first get involved with this research group/lab?**

**Cindy Thomas:** I had gone to the Biology Department's Open House for undergrad researchers. It was really helpful! I was in CMM at the time, and was in-between classes, and I thought, "you know what? It couldn't hurt to see what they have." An hour before it started, I began looking at the research descriptions and reading about what each scientist does. Before that, I didn't know that some of these labs even existed or what they worked on. But by the time the Open House started, I read through the descriptions of the participating labs and I knew I would be interested in Dr. Savitt's lab. I was interested in what she was working on. And as it turned out, I was actually the first person that Dr. Savitt spoke to!

**Karen Kernan: Did you have any previous experience?**

**Cindy Thomas:** I had worked in microbiology for ~3 years, in Guyana, on food products/quality control. I knew a lot about micro, but I hadn't worked in a research lab before. Then I did the BioPREP program with Dr. Bynum and Dr. Maloney in summer of 2005, before I actually started at Stony Brook. I was at Nassau at the time. I had one professor, Dr. Kelly, who recommended that I apply to it and I did. The BioPREP program is really great. It exposes you to what real lab work and research is like—we got to do current techniques, and at the end of it we were allowed to do an independent project using some of the techniques that we had learned previously.

**Karen Kernan: Was BioPREP a factor in your decision to enroll at Stony Brook?**

**Cindy Thomas:** It was huge! The summer that I spent here was awesome! I loved the campus! I had great friends here! Quite a few of us ended up coming here from my particular year at BioPREP. We all planned together what we'd do when we came to SB. So BioPREP played a major role!

It's an awesome support system here too, with LIGASE. Even now, I know that if I have any problems, I can run down there and say this is what's going on and I need help. And I'll get that help! They're really great!

**Karen Kernan: What is Dr. Savitt like as a mentor?**

**Cindy Thomas:** I think she's awesome! She's incredibly patient. I had never worked with human cells before. And she was so patient in walking me through it. I know that —just like the folks at LIGASE—if I ever have any trouble with anything, she'll be willing to help me out. She's really good with explaining!

Excerpt from the URECA Webpage (<http://www.sunysb.edu/ureca/>)

**Karen Kernan: What were your favorite and least favorite experiences of research so far?**

**Cindy Thomas:** The worst day...Oh, I know! I had just learned the techniques that we were doing. We work with the macrophages on cover slips in wells; that's how you manipulate them and expose them to different reagents/probes. One day, I had mounted the cover slips on slides, and I was ready to look for some great results and there was absolutely nothing there! I had sucked the cells off, so there was nothing there! That was bad! I was very upset. . . . But my good days are every other day than that! I especially like when you're at the microscope and see nice results. That's awesome!  
In addition to that, some of the courses I'm taking right now actually deal with stuff that I've done in lab. So when my professor talks about fluorescent probes, for example, I think, "yeah, I do that!" It's an educational experience as well.

**Karen Kernan: I've heard that from other students--that doing research changes your understanding or perspective on classes.**

**Cindy Thomas:** And the whole outlook! I mean I've taken courses where they'll talk about things and I used to think, "I just don't understand why you would need to know that." But after you've actually used it, it changes everything. You understand why it's being used. So I like that!

**Karen Kernan: What are you planning to do after you graduate?**

**Cindy Thomas:** Hopefully graduate school. I've applied and am waiting to hear. I want to come here, to keep working in Molecular Genetics and Micro. Last summer really prepared me for graduate school and what a career in research would probably be like. What I thought was most interesting and most real about it was the fact that you just don't know what's going to happen. There's no planning your day 9-5. There's none of that in research. You'll get out at 4 some days. You'll get out at 10 other days...

**Karen Kernan: Do you find it difficult to balance the academics and the research?**

**Cindy Thomas:** It is a time commitment. But I think once you realize the benefit, it's not so difficult. I kind of look at it as another class. From 9 to maybe 2 o'clock, two or three days a week, I'm "in class." Looking at it that way, it's bearable. It's been working out just fine for me.

**Karen Kernan: Any advice for students, apart from going to the Biology Open House?**

**Cindy Thomas:** What I've heard from a lot of students is either that they don't know what to do, or they don't have experience. And I just think that it shouldn't be a deterrent. Point is, it's a school. You're here to learn, and the faculty, they understand that. Most of them are very willing to teach you as long as you are willing to learn. So I think, forget about the fears, forget about not knowing. Just come prepared to learn and you'll be fine. That's it!

**Karen Kernan: Faculty are often more approachable than students think at first.**

**Cindy Thomas:** Absolutely! I always remember my mentor, Dr. Savitt, first introducing me to Dr. Benach. He's famous, you know. But when I met him over the summer, why he also is just a regular guy, strolling through the lab, saying hi to this person and that person. He's very nice.

**Karen Kernan: What is it that you recommend about summer research?**

**Cindy Thomas:** What I like particularly about it, and what is different from during the year, is that it's something you can commit your time to. You don't have to worry about a class at two o'clock that you have to run to. You're here, and you can engulf yourself in it...bury yourself in it! Because it's all you've got to do. The summers I've spent here were just the best! I'm still trying to explain to friends and family why I prefer to be in lab all summer rather than go on vacation! But it is worth it. Plus you get a lot more done as well because you can dedicate a greater amount of time to your research.

**Karen Kernan: What do you enjoy about research?**

**Cindy Thomas:** Oh gosh...I like not knowing, and then finding out! Pretty much everything that we have so far done started out with me not having a clue what I was doing and not knowing what was going to happen next. Just the process of getting to the point where you actually know what's going on or you think you know what's going on, that's really great! And you know what? Someone had said to me before. "It's all a big process. From research, from doing an experiment, you can get one of two things. Either you can get good results or some bad results, but either way you learn something." I go with it that way. I like that approach!