

Math, Science, and Kids! -

# Teachers Needed

KEEPING YOU IN THE LOOP & ON TARGET FOR YOUR TEACHING LICENSE

SPRING 2008 ISSUE



Dr. Maria Lee-Alvarez teaches a chemistry lab to juniors at Western Hills Technology Design Center.

## RESEARCHER PREFERS CHEMISTRY OF CLASSROOM

AS A SENIOR RESEARCH CHEMIST with a Ph.D. (from the University of Cincinnati) and a patent, Maria Lee-Alvarez had no reason to turn her comfortable world inside out to enter one more rough and tumble – teaching science at Western Hills Design and Technology Center – EXCEPT one.

“There was always something tugging at me,” she confides. “When I was shifted to consultant (status), the job was flexible enough that I had time to start accessing my priorities. ‘What do I want to do?’”

Her answer was “teach because I wanted to share my experience and make a difference.”

AS A RESEARCHER, Dr. Lee-Alvarez did her homework before flitting into uncharted territory.

She toured a variety of schools from a day to a week, from Lakota to Sycamore, Seven Hills to Withrow.

“When visiting the schools, I wanted to see how to do it and if it was something I wanted to do. Even after all that, I still wanted to teach,” she says. “My co-workers were so surprised. They said there was no way I’d survive.”

HAD THEY PAID CLOSER attention, they may have begun to notice a progression. Dr. Lee-Alvarez had been a graduate assistant, regularly volunteered for National Chemistry Week, planned family activities for company events and, when attending conferences, chose seminars related to education. Her mother

was also a teacher.

Her next step was to “see what was required. The usual route was to go back for two years, but that made no sense since I had a Ph.D. and could teach college. That’s when Dr. Fowler [of the former TeachOhio program] offered the most viable way. I took a couple of classes in the spring, did my classroom observation and, in the fall, I had an offer from Cincinnati Public Schools. It was quick.”

She began teaching physical science at Western Hills and now instructs strictly chemistry.

DR. LEE-ALVAREZ REMEMBERS teaching freshman chemistry, the book throwing and her exasperation. “the staff was very concerned. There’s the idea that students should be fearful of the teacher. I am the opposite.” After that freshman chemistry experience, she learned “not to personalize.”

“There is just so much going on in their lives and that influences how they react. Usually, it’s not about you.” That philosophy helps her “step back when there are teenager outbursts. I try not to do anything to escalate it.”

The knowledge gained from those episodes has helped her become a better educator and parent, she says, and broadened her horizons.

“MY LIFE EXPERIENCE HAD BEEN very limited and this school has

CONTINUED ON BACK

### “Hooking” kids in the classroom

- 1) CARE ABOUT STUDENTS. When you ask them to do something and it does not make sense to them, they will be willing to try it if they know you care. It helps me to build relationships with students before I ‘hook’ them to do things.
- 2) BE ENGAGING in the classroom. Boring is guaranteed not to reach them at all. Chemistry is fire and color and, yes, food. Work treats into the labs.
- 3) VARIETY. Although it’s tempting to always be hands-on, inquiry let’s students explore and put the solution together themselves.

– Dr. Maria Lee-Alvarez

taught me so much. These students have such a variety of experiences that I've never had or imagined. They have really stretched me and forced me to teach in a way that reaches them."

Seeing the hardships her students face has given Dr. Lee-Alvarez a more grateful attitude. "It's just amazing what some of these kids face just to be able to come to school." And they marvel at the hour commute she makes twice daily to be with them.

She is constantly learning their teen culture since she did not personally attend American high school. It only seems to energize her.

**HER CORPORATE EXPERTISE** has been a plus in the classroom. "When teaching I use that same basic set of skills: critical thinking and problem solving. Teaching, for me, is putting a lot of emphasis on investigation; it's what I used to do. The kids look to you as the expert and they believe what you say." She encourages them to discover the answers for themselves – yet she's right at the sidelines coaching and sharing their delight.

"I want them to see science in everything,"

she says. "I want them to make the connection." She knows that by the time she has them junior year, she can't always reel them in. "You really have to turn them onto science when they are younger and keep it up."

**EVEN WITH THAT CHALLENGE**, she manages to get them to understand that by reading food labels they can monitor their health or that of a family member – and those simple

## SO, YOU WANT TO BE A SCIENCE TEACHER

- Observe first to see if teaching is something you want to do.
- Have a passion for it. Teaching science takes a lot of time.
- Be patient enough to stick with it even when the students are frustrated.
- Know what's expected; it will save a lot of grief later.
- Teaching science is more of a challenge and requires more of a teacher. Be aware of those challenges.

– Dr. Maria Lee-Alvarez

acts are a part of science. Students have visited COSI, the local recycling center, discussed bio-fuels and wired sample houses for solar power. "I like to present real situations," the teacher says. "Chemistry is not just calculation."

Neither was Dr. Lee-Alvarez's career change. "I just had an inclination teaching was for me. Everybody is gifted with something and I was lucky enough to find something I am passionate about."

**SHE'S REMINDED OF THAT** intuition every time "I feel as if I've made a difference in a kids' life. My kids are VERY appreciative."

Another aspect of her research life and it's corporate roots is her desire to collaborate in the classroom. "It's expected in the corporate world, but in education, it's YOUR classroom. I reach out and ask the English teacher what the kids are studying" to work that into chemistry plans.

However, it's her direct classroom collaboration with students that reassures her that her instincts to trade blue chip for chocolate chip were dead on.

## NSTA CONFERENCE: ONE YOU SHOULDN'T MISS

If you're a science teacher or planning to become one, mark your calendar for Dec. 4-6 and The National Science Teachers Association's (NSTA) area conference at the Cincinnati Convention Center.

"It's a unique opportunity for teachers to hear and see the latest instructional strategies, improve their understanding of content, share ideas, meet new people who share common concerns and interests," says Meri Johnson, a conference organizer, Clermont County Educational Service Center consultant and Southwest Center board member.

NSTA, the world's largest science organization, includes members from education, science and business with the mission of fostering "excellence and innovation in science teaching and learning."

The area conferences provides a venue of "nationally renowned speakers [to] address the hottest topics in science education and learn about the latest breakthroughs from experts," according to the NSTA website.

In Cincinnati, attendees may choose from "about 300 concurrent sessions, 12 half-day field trips, several short courses, about 90 exhibitor sessions, a huge exhibit hall with vendors, national speakers, a special elementary science day, evening events and around 2,500 science teachers from all over the U.S.," Johnson adds.

Additionally, sessions identified as "strands, which means they have a common theme to facilitate deeper understanding of



## Geeky is IN

**Geeky is IN Cincinnati**  
NSTA Area Conference  
December 4-6, 2008

TEACHING SCIENCE FOR LIFE

INtelligent  
IN demand  
INteresting  
INspired  
INcredible  
INgenious  
INvaluable  
INventive  
INdependent  
INdepth  
INtriguing  
INdividual  
INquisitive  
INdustrious  
INfluential  
INformative  
INnovative  
INtellectual

**Local NSTA members used this at March's national convention to lure visitors to the Queen City.**

a specific area," Johnson says, can count for credit from Xavier University. Those include Teaching for Enduring Understanding, Renewable/Nonrenewable Energy Sources and the Nature of Science.

**Johnson's advice is:** "If you are only able to join one professional organization, I would suggest the NSTA/SECO membership."

The Southwest Center has also been instrumental in planning and publicizing this event.

For more information, visit: [www.nsta.org](http://www.nsta.org)

## PRAXIS UPDATE

Navigating Praxis testing is not so simple. Here's a summary of upcoming dates and deadlines. Be sure to confirm on the Praxis website ([www.ets.org](http://www.ets.org)). We encourage testing in your content area as soon as possible. The Principles of Learning and Teaching (PLT) portion is typically completed after all coursework.

TEST DATE	REG. DUE	LATE REG. \$45 FEE	ER. WEB REG.\$75	SCORE MAILING
4/26/08	3/27/08	4/3/08	4/18/08	5/27/08
6/14/08	5/15/08	5/22/08	6/6/08	7/15/08
7/26/08	6/26/08	7/3/08	7/18/08	8/26/08

## WE'D LIKE YOUR INPUT

In order to keep this newsletter fresh, we'd like your input each issue to compile a "Top 10" David Letterman style. For the next edition, please respond to:

- **What profession are you leaving?**
- **What brings you to teaching** [always wanted to, inspired by a teacher, tired of the grind, want to make a difference, etc.]?

Keep submissions short and sweet; provide a first name and e-mail address; send to: Cathy Barney, [cathybarney@the-nose.com](mailto:cathybarney@the-nose.com).

TEACHERS NEEDED grant newsletter is published under the auspices of the Southwest Ohio Center of Excellence in Science and Mathematics Education. For program information, contact coordinator Kathie Maynard-Sund, [sundk@uc.edu](mailto:sundk@uc.edu) or 513-576-3536. For newsletter input, contact Cathy Barney, [cathybarney@the-nose.com](mailto:cathybarney@the-nose.com) or [cathybarney@hotmail.com](mailto:cathybarney@hotmail.com).