Jefferson Lab is currently accepting applications for its science enrichment program for fifth-, sixth- and eighth-grade teachers of science.

The program, designed to increase teachers’ knowledge of the physical sciences and strengthen their teaching skills, runs from September 2010 through May 2011 and is called Jefferson Lab’s Science Activities for Teachers, or JSAT, program.

The after-school program builds teachers’ skills in the physical sciences, according to Lisa Surles-Law, program administrator.

“At the elementary and middle-school level, teachers, with little or no formal background in science education, often find themselves tasked with teaching the science curriculum,” she said. “This program is a primer for them and a refresher for those with a formal education in science. JSAT provides attendees with a wealth of materials and activities to take back to their classrooms, and a chance to network with other teachers.”

The 2010-11 program will include interactive activities to enhance physical science instruction at the upper-elementary and middle-school levels, and lectures by Jefferson Lab staff on the applications of science. Topics will include matter, atomic structure, energy transfer, force and motion, magnetism and electricity, waves and sound, simple machines, and watershed and optics. Program participants will receive supplies and materials so they may conduct all the planned activities in their own classrooms.

The program, funded by a grant from the Jefferson Science Associates Initiatives Fund, addresses components of National Science Education Standards and the Virginia Standards of Learning.

Fifth- and sixth-grade teachers usually meet on the first and third Wednesdays of each month. Eighth-grade teachers meet on the second and fourth Wednesdays every month. The sessions take place between 5-7 p.m. and are held in the science education classroom located in the VARC, Building 28.

More information and the application form are available at: http://education.jlab.org/jsat/ or by emailing Surles-Law at surles@jlab.org. The application deadline for the 2010-11 program is Friday, Sept. 17 Surles-Law may be reached by phone at 757-269-5002.

Session dates for the fifth- and sixth-grade teachers are: Sept. 22; Oct. 6, 20; Nov. 3, 17; Dec. 1, 8; Jan. 5, 19; Feb. 2, 16; Mar. 2, 23; Apr. 13 Teacher Night, and May 4 and 18.

Session dates for the eighth-grade teachers are: Sept. 29; Oct. 13, 27; Nov. 3, 17; Dec. 1, 8; Jan. 12, 26; Feb. 9, 23; Mar. 16, 30; Apr. 13 Teacher Night, and May 4 and 18.

Recent On Target stories about this program are available at:
• “JSA/JLab Program Empowers, Enriches Teachers of Science” (http://www.jlab.org/news/OnTarget/BelowTheFold.html#item7), and
• “Program Excites Teachers: What They Get, Take Back to Classroom, Share With Fellow Teachers” (http://www.jlab.org/news/OnTarget/BelowTheFold.html#item8).
Throughout the school year, from fall to spring, 20 selected 5th, 6th and 8th grade science teachers from across the region gather in Jefferson Lab’s Science Education classroom in the VARC building to engage in a program designed to increase their knowledge of the physical sciences and strengthen their teaching skills.

Since 2008, the JLab Science Activities for Teachers (JSAT) program has offered participants hands-on learning, a chance to network with other teachers and a wealth of materials and activities to take back to their classrooms.

Led by the lab’s Science Education administrator, Lisa Surles-Law, the classes meet in the evenings, every other week, alternating by grade level. This highly successful and sought-after program is funded by a grant from the JSA Initiatives Fund. The program addresses the National Science Education Standards and the Virginia Standards of Learning. Each teacher who attends at least 80 percent of the sessions receives a stipend of $400 at the end of the school year. Participating teachers also earn three Professional Development Points for each session they attend.

JSAT was created to address a demand in the local teaching community. The coursework is similar to the four-week DOE Academies Creating Teacher Scientists (ACTS) program held at the lab each summer, and includes a basic course in physics, lectures on current research, physical science classroom activities and the completion of a team-based research project under the guidance of Jefferson Lab staff.

“Jan Tyler and Sally Fisk really wanted to reach more teachers and arm them with the know-how and confidence to fully engage their students in science education,” Surles-Law noted. “This program is a way to do that. We invest in these teachers, and help them become enthusiastic champions of science in their schools.”

Teachers must apply to be admitted to JSAT, providing information on their teaching experience and writing an essay on how the JSAT program will help them reach their teaching goals. This year 43 teachers were accepted into the program. Those who are not formally admitted into the program receive a thumb drive containing all the core materials, which they may use at their schools.

Program participants receive instruction in the physical sciences and how to improve their teaching methodology. They also take home the materials they’ve used in each training session and complete kits of hands-on activities to share with their students, such as the ones for the PhysicsQuest competition, sponsored by the American Physical Society.

“This program is a valuable resource for teachers of all experience levels,” Surles-Law said. “Teachers network with one another, share ideas and try out the teaching activities before doing them with their students. We’ve found that this program has a far-reaching impact: teachers become empowered and begin to positively influence entire school science programs.”

As in the ACTS program, teachers are limited to attending three years of instruction, and many of them seize the opportunity to take part every year that they can. Their enthusiasm is palpable, and, despite having worked a full day at school, many of them drive from as far away as Southside Hampton Roads, Gloucester, Richmond and Henrico County because they find the program so valuable.

JSAT teachers assist the lab with hosting the annual “teacher night.” They invite their fellow teachers to come to the lab to see hands-on demonstrations of classroom projects, pick up teaching materials and learn more about the program.

Surles-Law also points out that the learning, networking and access to the lab’s vast and varied resources doesn’t stop at the end of the course. “They can call us with questions, borrow things, and ask for help,” she said. “Once you’re part of the Jefferson Lab community, you’re always able to stay connected and involved.”

By Judi Tull
Feature writer
Wednesday nights in the Jefferson Lab Science Education classroom were abuzz with excitement and enthusiasm during the 2009-2010 school year. Teachers gathered there to take part in JLab’s Science Activities for Teachers program. Teachers would start arriving around 5 p.m. as science education administrator Lisa Surles-Law and volunteer teacher Ray Yoh got the evening’s lessons ready.

Cindy Chung, a special education teacher at Langley Elementary School, talks with her tablemate, Elizabeth Blevins, a 6th-grade teacher from Davis Middle School in Hampton. Both women have taken the class before and both have returned to expand their own knowledge so they can enhance their students’ science experiences.

“One of the most beneficial aspects of JSAT for me is that it helps me bring real excitement to teaching science, and that encourages interest and excitement in the kids, too,” Chung explained.

For Blevins, it’s a way to enhance what she already knew. “This really helps me move ahead,” she said. “I’ve re-learned a lot that I’d forgotten, and one of the best parts is that we learn from each other. I’m excited every time about coming here, even at the end of a long day.”

For Leala Otarota, the program has special meaning. She teaches 8th grade at The Academy of Life and Learning, which is part of the Williamsburg/James City County public school system. Her students are academically challenged, with most of them reading at least two grades below their regular grade level.

“My kids struggle,” she said.

“Everything I learn here, and the materials I’m provided with, I take back to them and use. This has been an unbelievably rich and rewarding experience.”

Otarota talks on as she sets up Petri dishes with nuts, screws, bolts and washers for a lab on elements, compounds and mixtures that she’ll do at her school. She’ll take the sets back to her students so they can experience hands-on learning that wouldn’t have been available to them otherwise.

“We all learn best by doing,” says Surles-Law as she watches Otarota work. “And our teachers have a great time doing this. They take that excitement about science back to their schools, and share it with their peers. This program creates educational ripples throughout our communities. It doesn’t end here.”

Otarota and the other teachers all comment on the wealth and breadth of materials that Jefferson Science Associates/JLab supplies them with as part of the program. “The generosity and support provided through this program and the people who do this program are amazing,” she said.

For Paula Collet, who teaches 5th graders at West Side Elementary School in Isle of Wight County, her first year in the JSAT program has brought a wealth of not only learning but also much-need ed classroom equipment and supplies. Mostly, though, she gets to share the sheer enthusiasm that’s generated here.

“I leave here so energized,” she said, “and I take that energy back with me. The kids get excited too, and I’m always aware that that feeling is possibly just what the child sitting in the back of the room needed to spark a real passion for science in them.”

Liz Hobson, who teaches at Norfolk’s School of International Studies at Meadowbrook Magnet School, makes the trip from school and then back to her home in Chesapeake. She shrugs with a smile at the idea of a long drive after a long day.

“This is the first time I’ve come here for a program, and it’s worth every bit of the drive,” she noted with a smile. “One of the biggest benefits is that the way they teach us, I can be doing the activity the very next morning with my classes.”

For teacher Tom Conley from Crittenden Middle School in Newport News, this is his third year in the JSAT program. An educator for 30 years – 11 of those spent as a principal – Conley also mentors new teachers and passes on what he’s learned at JSAT to them.

“Of all the classes I’ve done over my years in education, this is the most useful and practical of all,” he said.

By Judi Tull
Feature writer

Program Excites Teachers: What They Get, Take Back to Students, Share With Fellow Teachers

Ray Yoh has had a long association with teacher enrichment programs at Jefferson Lab. He is a “graduate” of JLab’s Academies Creating Teacher Scientists program and the earlier Physics Enrichment for Science Teachers program. Yoh became a volunteer teacher in the JSAT program three years ago. Here he talks with teachers in the JSAT program.
Teacher Volunteers Bring Experience, Knowledge to Program

When Ray Yoh retired from the Air Force, he chose a new career: He went to Christopher Newport University for his teacher’s certificate and took a job at Peasley Middle School in Gloucester, where he taught 8th grade science for eight years. After retiring there, and enjoying a year off (during which he rode a bike across the United States), Yoh then became a science teacher at Trinity Lutheran School.

He has had a long association with teacher enrichment programs at Jefferson Lab. A “graduate” of Jefferson Lab’s ACTS (Academies Creating Teacher Scientists) summer program, and the earlier Physics Enrichment for Science Teachers program, Yoh signed on to be a volunteer teacher helping teachers in the JSAT program three years ago.

“Its fun teaching people who are interested and who truly like being here,” he said. “After a number of years, it’s challenging for teachers to keep coming up with new ideas. This program keeps the ideas flowing and really provides them with wonderful resources.”

When teacher Amanda Carmean went through the Becoming Enthusiastic About Math and Science (BEAMS) program at JLab, science education administrator Lisa Surles-Law and others couldn’t help but notice her outright enthusiasm and, in Surles-Law’s words, “willingness to go the extra mile.” So they offered her a part-time position as a teacher in the JSAT program when it started three years ago. Carmean, who teaches sixth-grade science at Crittenden Middle School in Newport News, is full of praise for what JSAT brings to teachers.

“For a teacher, the best thing is not having to re-invent the wheel,” she said. “Through JSAT, teachers are able to not only learn new and exciting ways of presenting lessons to their students, but they also get to share what works with other teachers. It’s hard to find time in a normal school day to really talk to one another. This program gives them the chance to do that. Our teachers have really good ideas and we’re glad to give them a setting where they can share them.”

By Judi Tull
Feature writer