

# NEW JERSEY SOLUTIONS

NEWS FOR NJ SSI PARTNERS

## A DECADE OF DIFFERENCE NJ SSI CELEBRATES TEN YEAR ANNIVERSARY

When the National Science Foundation launched the Statewide Systemic Initiative program in 1993, awarding 26 states and Puerto Rico initial five-year grants, New Jersey received a \$10 million grant for five years of systemic reform activity. Since then, and with an additional NSF grant in 1998, NJ SSI has impacted over 40,000 teachers and students in over 75% of New Jersey Schools.

Over the past ten years NJ SSI has influenced many state policies including those requiring continuing hours of professional development for teachers and increasing high school graduation requirements. NJ SSI played an important role in the

development of the Core Curriculum Content Standards in mathematics and science. In addition to dramatic changes in education policies, new programs have improved student learning and increased the use of technology in the classroom.

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In an effort to help ALL students achieve in mathematics and science, NJ SSI has also worked closely with many urban school districts. Through numerous programs such

as the Urban Initiative and through a series of grants available to urban school districts, NJ SSI has helped to improve mathematics, science and technology education in the most economically

disadvantaged schools and districts. Through these successful partnerships and programs NJ SSI looks forward to helping New Jersey succeed in the 21st century.

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## PARTNER PROFILE



**TEN YEARS AGO JACKIE WILLIS DISCOVERED A NEW WAY OF TEACHING, BY ACCIDENT.** While working at Upsala College as chair of

the biology department, she assisted a group of East Orange elementary school teachers in professional development. The collaboration became mutually beneficial. What Jackie learned from these fourth-grade teachers was a new approach to teaching her college students. By flipping the traditional

approach to teaching and allowing students a more hands-on, collaborative experience in advance of textbook reading, Jackie saw a more successful understanding and absorption of scientific material.

Since then Jackie Willis has been practicing this teaching methodology in her classes and sharing her knowledge with other teachers. Now at Montclair State University, she helps others teach science as effectively and enthusiastically as possible. Jackie strives to excite and stimulate students by serving as a link between them and the scientific world.

Through her various field experiences around the world including Panama, the Galapagos Islands and Costa Rica, Jackie has allowed students to "see science in action," which has given them a broader comprehension of their textbook readings. Her Rainforest Connection program allows her students, via the web, to experience her fieldwork first-hand and interact with her by asking questions and making observations.

"The Rainforest Connection is my greatest personal achievement," says Jackie. "To be able to put a human face on science and actually show my

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Greetings,

Welcome to our inaugural edition of *NJ Solutions*! As we mark our ten-year anniversary, NJ SSI is delighted to announce the launch of this newsletter, as a resource for and about our partners, and a vehicle to keep our community informed with up-to-date information on the state of mathematics, science, and technology education in New Jersey schools. Three times a year, *NJ Solutions* will highlight key staff members, partnership programs, special projects, and events taking place throughout the state.

Hopefully, you'll find that the articles within help you better understand NJ SSI and our goals and accomplishments, consider our role in shaping mathematics, science and technology education in the future, and highlight some of our partners and their programs.

The past ten years have marked monumental progress in curriculum standards, testing, and performance. NJ SSI cannot take all the credit, of course. New Jersey's teachers, administrators, lawmakers and parents all have helped in shaping, and then striving to reach, our goals. Looking forward to the next ten years, we hope to mirror this success. But again, we can't do it alone.

The strength of NJ SSI has always been our partners. Through *NJ Solutions*, we hope to share ideas and stimulate dialogue so that we can continue to work towards our goal of helping ALL students achieve in mathematics, science and technology. It is our hope that *NJ Solutions* will stimulate readers to reach out to our partners. These people and places are extremely useful resources, and are the backbone of our important organization. Please see our list of Regional Centers and contact the one nearest you.

Finally, we respectfully request your input and feedback. Visit the NJ SSI website, <http://njssi.rutgers.edu/> or email your comments to us at [njssi@dimacs.rutgers.edu](mailto:njssi@dimacs.rutgers.edu). We look forward to hearing from you.

Deborah H. Cook.  
NJ SSI Principal Investigator  
and Project Director

# NJ SSI AWARDS \$500,000 IN GRANTS

**NJ SSI RECENTLY DISTRIBUTED APPROXIMATELY \$500,000 TO NEARLY 40 NEW JERSEY SCHOOL DISTRICTS TO IMPROVE MATHEMATICS, SCIENCE, AND TECHNOLOGY EDUCATION.**

Almost 70 school districts applied for the Standards Implementation Grants, which focus on professional development tools and implementation of standards based curriculum. Since NJ SSI first distributed these grants in 1997, over \$2.17 million has helped approximately 130 districts from every section of the state and led to increased student achievement in participating schools. For a complete list of school districts and next year's RFP please visit the NJ SSI web site at <http://njssi.rutgers.edu/>.

## RESOURCES

# THE RESOURCE ROOM AT THE COUNTY COLLEGE OF MORRIS

Three years ago, with just \$2,000 dollars from corporate donations and a vision, Trish Rokosz began building a K-12 math and science Resource Center. As NJ SSI's Northwestern Regional Center Director, Trish realized that if schools and districts wanted to make truly standards-based curriculum changes, they needed access to researched-based, field-tested programs. At the time, The County College of Morris' Resource Center housed a small incomplete collection of materials. With additional NJ SSI funding, Trish turned that small collection into a fully equipped center where districts could come and review complete sets of materials while having their questions answered.

Since opening in 1999 approximately 300 visitors from across northern and central NJ, most them district teams, have used the Resource Center. Teachers and administrators sit and

examine materials and discuss programs. Trish is available to visitors to share information about various programs and their effectiveness. After a brief orientation to the Resource Center, visitors are free to explore the NSF sponsored materials, including FOSS kits, Everyday Math, STC Middle School and Integrated Math Programs for high school students. Always responding to the needs of her visitors, the center also includes catalogs and purchasing information. Trish estimates that it costs approximately \$2000 a year to keep the room updated with current materials including newly published programs and program revisions. This year Trish added some of her own funding to keep the center current.

"Through future partnerships, and through the generosity of NJ SSI, we hope to keep the center strong for many years," says Trish. "It is a vital part of the on-going work here at the NJ SSI at County College of Morris."

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## ACHIEVING EQUITY IN EDUCATION:

# The Family Tools and Technology Program

Women and girls have come a long way toward closing the achievement gap in mathematics and science. But as the data continue to show, they have a long way to go before achieving full participation in science, engineering, and mathematics careers. In the past few years, The Family Tools and Technology (FTT)



Program at The College of New Jersey has not only brought together parents and students to share in the joy of learning, but has also paved powerful paths for female students.

The award winning after-school program focuses on design and engineering activities that require the application of mathematics and science. Qualified FTT teachers involve family teams at their local school in a variety of design challenges. The current FTT



program is appropriate for both girls and boys in grades 4 through 7 and their parents or guardians.

“Not many programs bring parents and children together in a meaningful way, says Bob Weber, NJ SSI Regional Center Director. “Through the FTT program, parents are involved directly into the learning process. Often the kids surpass parents in design solutions because kids take risks.”

Studies have shown that parents have a significant impact on student achievement. The FTT program allows adults to see children achieve as designers and problem solvers! In particular, the program has shown parents that girls, through activities, guest speakers, and other motivating forces, can succeed as technologists. In addition, early evaluations of the program found that girls felt more comfortable with technology, and that boys attitudes about what girls can do



changed when they saw girls involved in design projects. By changing gender attitudes, FTT has demonstrated to both parents and children that females can advance in whatever field they choose.

For more information on these events and others please visit the News & Events section on the NJ SSI web site at <http://njssi.rutgers.edu/>

## DECEMBER

- 12/4, 12/5 Partnership Program, Rowan University
- 12/4 Standards Implementation Grantees Session at Rutgers
- 12/5 Lens on Learning County College of Morris
- 12/9, 12/10 LASER Assessment Conference in Delaware
- 12/11 Partnership Program, Montclair State University

## 2003

## JANUARY

- 1/9-1/10 GEPA Assessment Workshop for Grades 5-8
- 1/13 Lens on Learning, County College of Morris
- 1/15 Partnership Program, The College of New Jersey
- 1/16-1/17 New State Math Assessment Workshop for Grades 2-4
- 1/16-1/17 HSPA Assessment Workshop for Grades 9-11
- 1/17 Partnership Program, Rutgers University
- 1/28-1/29 GEPA Assessment Workshop for Grades 7 & 8
- 1/30 Lens on Learning, Middlesex County College

## FEBRUARY

- 2/10 Lens on Learning Middlesex County College
- 2/26 NJ SSI Statewide Conference: Celebrating a Decade of Difference
- 2/28 Lens on Learning, County College of Morris

## PARTNER PROFILE

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students the importance of habitat conservation instead of just teaching it provides not only a better relationship between us, but a real meaning behind scientific facts for them."

Jackie's work at Montclair State University led to a partnership with NJ SSI. In January of 2001, she became the Regional Center Director for NJSSI at Montclair. Jackie has developed a network with which to reach out and assist various science and mathematics districts throughout the region.

"Developing this partnership with NJ SSI has been crucial in helping administrators and school districts seek change and results," says Jackie. "For example, thanks to NJ SSI's Standards Implementation Grants, school districts that do not have money to spend on science and math education have been able to seek such professional development, which is critical in improving their curricula."

## NEWS FROM THE DOE

**ON OCTOBER 28, 2002, THE DEPARTMENT OF EDUCATION CO-SPONSORED A FORUM AT THE COLLEGE OF NEW JERSEY** on the Recruitment and Retention of Mathematics and Science Teachers. Representatives from K-12 education, state government, business and industry, higher education, and other stakeholders in mathematics and science participated in the roundtables, facilitated by NJ SSI personnel, and made recommendations about addressing these issues.

During the luncheon Commissioner William Librera announced that a task force would be taking the recommendations from the forum and developing a plan of action for the issues. Deborah Cook as well as other

members of the NJ SSI Executive Board will serve on the task force. The task force report is due out in the spring.

The New Jersey Department of Education currently welcomes your feedback on the new technology standards which are available on the DOE website for review and comment.

The DOE website is a useful and informative tool for teachers. The site includes the latest Core Curriculum Standards and revisions as well as information on professional development and the statewide assessment schedule.

<http://www.state.nj.us/education/>



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