

## Program Overview and Goals

**PISA<sup>2</sup>** is an \$11.5 million National Science Foundation-sponsored, Math Science Partnership program that involves teachers and administrators from several socio-economically and academically diverse NJ school districts, university faculty, researchers, policymakers and curriculum/professional development experts at the Center for Innovation in Engineering and Science Education (CIESE). This consortium proposes to significantly increase the quantity, quality, and diversity of teachers prepared to teach STEM subjects in grades 3-8 and realize measured gains in student achievement across subgroups.

### DISTRICT/SCHOOL PARTNERS

Bayonne Board of Education  
Brick Township Public Schools  
Camden City Public Schools  
Cherry Hill Public Schools  
Hoboken Public Schools  
Howell Township Public Schools  
Jersey City Public Schools  
Lakewood School District  
Margate City School District  
Morris School District  
Mustard Seed School (private)  
Princeton Regional Schools  
Red Bank Public Schools  
Toms River Regional Schools  
West New York School District

### IHE PARTNERS

Stevens Institute of Technology  
St. Peter's University  
(School of Education)

### OTHER PARTNERS

NJ Department of Education  
Education Development Center

PISA<sup>2</sup> aims to increase student achievement in science and engineering and student acquisition of specific 21<sup>st</sup> century skills by enhancing teachers' science content knowledge, science pedagogy, understanding of the learning sciences and utilization of research-based STEM curricula. The PISA<sup>2</sup> program provides models to integrate science inquiry and the engineering design process. Moreover, the project seeks to increase the number of teachers holding the New Jersey *Elementary School Endorsement with Science Specialization*.

### About CIESE:

The mission of the Center for Innovation in Engineering and Science at Stevens Institute of Technology is to catalyze and support excellence in teaching and learning science, technology, engineering, mathematics (STEM) and other core subjects through innovative, research-based instructional strategies and use of novel technologies.

## Program: PISA<sup>2</sup> Teacher Leaders

**Teacher Eligibility:** 3rd to 8th grade teachers in New Jersey schools/districts who teach science as all or part of their curricula are invited to apply to the **PISA<sup>2</sup> Teacher Leaders** program.

**Teachers in partner districts will receive priority consideration.**

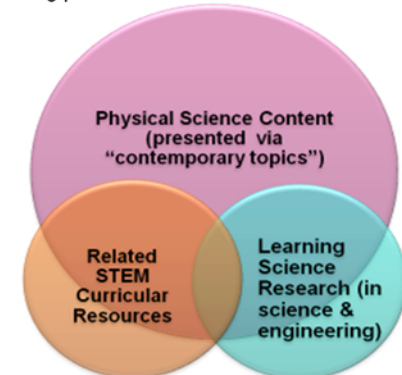
**PISA<sup>2</sup> Teacher Leaders** select and attend one of the grade level specific Professional Development (PD) Institutes for the Summer of 2016

### PD Institutes Summer 2016

Grades 3-5	Grades 6-8
Moving towards the NGSS in Physical Science	Moving towards the NGSS in Physical Science
<b>July 18-22</b> Stevens Institute Hoboken, NJ	<b>July 11-15</b> Stevens Institute Hoboken, NJ
Moving towards the NGSS in Physical Science	Moving towards the NGSS in Physical Science
<b>August 1-5</b> FEA Monroe, NJ	<b>August 1-5</b> FEA Monroe, NJ

## Evaluation & Research Questions

1. Does a project which uses scientific inquiry and the engineering design process (EDP) contribute to an increase in teachers' content knowledge of science and engineering?
2. Does a project which uses scientific inquiry and the EDP contribute to an increase in students' content knowledge of science and engineering?
3. Do students improve their 21st Century Skills as a result of the program?
4. To what extent did the program promote an increase in collaboration and shared vision among partners? (University Faculty; District and Schools; Administrators; Teachers; Students; Parents)
5. To what extent do teachers incorporate science and engineering practices in their science instruction?



## PISA<sup>2</sup> Benefits & Commitments

### PISA<sup>2</sup> Teacher Leader Benefits

- Science content/pedagogy Institutes and PD workshops
- Deeper understanding of the NGSS
- Hands on experience integrating engineering design into science classrooms
- Classroom support visits by CIESE Specialists
- \$1,000 Institute completion stipend
- \$200 Institute of classroom materials

### PISA<sup>2</sup> Teacher Leader Commitments

- Complete all PISA<sup>2</sup> program components and activities including: attend 5 days of the summer institute session, attend 2 school year PD workshops, participate in classroom support visits with CIESE Staff and complete evaluations
- Implement research-based STEM classroom activities
- Participate in PISA<sup>2</sup> special events

### District Benefits

- Enhanced teacher knowledge and pedagogy expertise in science and engineering
- Increased science and engineering literacy & 21st century skill acquisition of students
- Preparation for the *Next Generation Science Standards*
- Partnerships with other districts, national science organizations, Stevens Institute of Technology and CIESE
- Monetary provision to offset substitute teacher costs

### District Commitments

- Support PISA<sup>2</sup> Teacher Leaders' participation in all program components including attendance at the summer Institute and 2 school year PD sessions.
- Support classroom visits by CIESE specialists
- Maintain teachers' assignment in grades 3-8 science
- Support project evaluation and research efforts



## Application & Acceptance Process

### Apply to be a PISA<sup>2</sup> Teacher Leader:

Submit an application by **April 1st, 2016** online at

<http://www.stevens.edu/ciese/pisa2>

or via mail, fax or email to:

Patricia Slater

Stevens Institute of Technology

Castle Point on Hudson

Hoboken, NJ 07030

Fax: 201-216-8069

Phone: 201-216-5375

Email: [Patricia.Slater@stevens.edu](mailto:Patricia.Slater@stevens.edu)

Acceptance to PISA<sup>2</sup> is based on eligibility and location capacity.

For more information, contact:

**Kathy Kennedy, PISA<sup>2</sup> Program Manager**

at the address, phone or email below and visit our website:

[www.stevens.edu/ciese/pisa2](http://www.stevens.edu/ciese/pisa2)

**Center for Innovation in Engineering and  
Science Education (CIESE)  
Stevens Institute of Technology  
Castle Point on Hudson  
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[kkenned3@stevens.edu](mailto:kkenned3@stevens.edu)  
201-216-5443 Tel  
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THE INNOVATION UNIVERSITY



## PISA<sup>2</sup>

*Partnership to Improve  
Student Achievement in  
Physical Science:  
Integrating STEM Approaches*



A Five-Year National Science Foundation  
Math-Science Partnership Program



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