

# Educating Tomorrow's Workforce



**SIA's 2009 Report  
On the U.S. Semiconductor Industry's Commitment to  
Science, Technology, Engineering and Math Education in  
Grades K-12 in the United States**





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U.S. Semiconductor Industry's Commitment  
To Science, Technology, Engineering  
And Math Education in Grades K-12  
In the United States**

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## **The Semiconductor Industry Association**

The Semiconductor Industry Association (SIA) represents U.S.-based semiconductor manufacturers. Semiconductors are the enabling technology behind computers, cell phones, DVD players, and the many other products that are transforming how we work, think and play.

The SIA seeks to maintain U.S. semiconductor industry leadership in markets, investment, technology, and environment/safety/health. The association's primary focus on trade issues is to challenge unfair trade practices, eliminate tariffs on U.S. semiconductors, and create equal access for American semiconductor products in world markets. In the U.S., the SIA is also concerned with fostering a domestic economic climate that complements the needs of the highly competitive and capital and research-intensive semiconductor industry.

In 1998, the SIA recognized that access to talent is a key element to maintaining the industry's leadership position, and launched its Semiconductor Workforce Strategy Committee to assist the industry in meeting its workforce needs.

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# **Educating Tomorrow's Workforce: An Update on the Semiconductor Industry's Commitment to Youth in K-12**

**Preface** Supporting America's students and teachers in math and science education is critical for the United States to maintain global technological leadership. In the semiconductor industry, the need for chips is growing faster than the industry's ability to cultivate and hire sufficient numbers of skilled engineering and technical talent.

Traditional industry business cycles and the current economic climate have combined to create one of the most challenging periods in semiconductor industry history. In spite of the challenges, there is -- and will continue to be for many years -- a significant need for well-trained technology workers.

To substantially increase the numbers of math- and science-focused students (our next generation of technology workers), there must be strong support from teachers, parents, mentors and corporate, government and association partners. This effort needs to take place long before students reach high school, and continue throughout their studies.

In recent years, SIA member companies have begun working more intensely to improve student achievement in grades K-12. The overall contribution levels of our member companies are outstanding.

**In the past 3 years:**

- **the combined spending by member companies on K-12 programs is over \$319 Million**
- **more than 300,000 teachers have been trained or received support through member sponsored programs**
- **over 14 Million students have been reached by the programs these companies support**

The publication is divided into several sections. The charts in the first two sections reflect the variety of programs sponsored and supported by member companies within the STEM areas of Engineering and Technology, Science, Math/Science and Infrastructure. The first section highlights programs that benefit students, while the second concentrates on programs aimed at supporting teachers and schools.

Subsequent sections include brief overviews of individual company strategies and foundation goals, detailed descriptions of the various programs in alphabetical order, as well as web resources and a geographic listing of the cited member companies.

The catalog is designed to show the focus being placed on STEM areas of education by our member companies. We hope to see, over the next several years, an increase in the number of programs that address the need for additional math and science teachers at the middle and high school level. Our other focus is programs that focus on motivating and retaining University students in Electrical Engineering. The catalog is also intended for others who share a vision of providing superior math and science education for America's students, and continued U.S. technological leadership.

Since this catalog seeks to share best practices, it does not attempt to list every K-12 program supported by semiconductor companies. It does, however, demonstrate the industry's wide-reaching impact on math and science education, and its deep commitment to developing future generations of technology talent.



## **Section One**

# **SIA Member Company Student Centered Program Overview**



Benefiting Population		<b>Engineering &amp; Technology</b>	
<b>STUDENTS</b>			
<b>K-12</b>	Discover Engineering (Micron)		
	Girl Scouts "Inventions & Inquiry Camp" (Freescale)		
	Intel Computer Clubhouse Network (Intel)		
	PowerUp Presentations and Site Visits (ADI, Micron)		
<b>Elementary School</b>	KidSmart Early Learning (IBM)		
<b>Middle School</b>	Chip Camp (Micron) Design Squad (Intel) Electronics Fairs (ADI) Email Mentors (Micron) Visioneering Event (TI)		
<b>Middle/High School</b>	Infinity Project (TI) NSBE Fresh Start (Freescale) TexPREP (TI) Skillpoint Alliance (AMD) SWE Get SET (National Semiconductor)		
<b>High School</b>	Careers in a High Tech World (Micron)		
	E Girls (Micron)		
	FIRST/ <b>BEST</b> Robotics (ADI, Freescale, Micron, Qualcomm, Texas Instruments, Xilinx)		
	Internships (Micron) High Tech U (Intel)		
	Austin Community College Scholarships (AMD)		
	MIT MITES Program (ADI) Women in Technical Careers (Micron)		

<b>KEY</b>		
Black = Local Program	K-12	Targets Underrepresented Groups
Green = State Program	Elementary School	
Blue = National Program	Middle School	
Red = Company Branded	Middle/High School	
	High School	

Benefiting Population	<b>Science</b>
<b>STUDENTS</b>	
<b>K-12</b>	Environmental Volunteers (National Semiconductor) Science Discovery Museum (ADI) TryScience (IBM) San Diego Science Alliance (Qualcomm) Youth Science Institute
<b>Elementary</b>	Rocket Launch (Freescale) Micron Math Fun d'Mentals (Micron) Solar System Unit (ADI)
<b>Middle School</b>	RESEED (ADI, National Semiconductor) Science Buddies (AMD, National Semiconductor, Qualcomm) Sunnyvale School District (AMD)
<b>Middle/High School</b>	Massachusetts State Science Fair (ADI) San Diego Science and Engineering Fair (Qualcomm) TexPrep (TI) Secondary Science Olympiad (Qualcomm)
<b>High School</b>	International Science and Engineering Fair (Intel) Gender Equity Initiative – AP® Physics Camps for Girls (TI)

<b>KEY</b>		
Black = Local Program	K-12	Targets Underrepresented Groups
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Red = Company Branded	Middle/High School	
	High School	

Benefiting Population	Math/Science
<b>STUDENTS</b>	
<b>K-12</b>	Gender Equity Program (TI)
	Grade Level Team Presentations (Micron) Math in the Workplace (Micron) Mentor Place (IBM) Treasure Valley Math and Science Center (Micron)
<b>Elementary</b>	Developing Mathematical Thinking (Micron)
<b>Middle School</b>	Austin Community College Summer Youth Academy (AMD, Spansion)
	Southwest Key (AMD)
	IBM EXITE (IBM)
	Imaginary Lines - Sally Ride Math and Science Club (IR)
	Math Forward (TI)
<b>Middle / High School</b>	MATHCOUNTS (Micron, TI)
	Girlstart (AMD, Qualcomm) Tech Museum of Innovation (AMD) Breakthrough (AMD) California State Summer School for M/S (Qualcomm) Expanding your Horizons (Qualcomm) Careers in a High Tech World (Micron)
	HiTECCC - High Technology Education Coalition of Collin County (TI)
	TexPREP (TI)
	<b>High School</b>

KEY		
Black = Local Program	K-12	Targets Underrepresented Groups
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	High School	

Benefiting Population	Infrastructure & Other
<b>STUDENTS</b>	
<b>K-12</b>	“Find Your Future” – Micron for Students (Micron) Career Fairs (Micron)
	Intel Computer Clubhouse Network (Intel)
	Girls Inc. (ADI)
	Project HELP (AMD, National Semiconductor)
	School Supply Drives (Freescale)
	The Partnership for 21 <sup>st</sup> Century Skills (Intel)
<b>Elementary</b>	Junior Achievement (ADI, Intel, Xilinx)
<b>Middle School</b>	Columbia Neighborhood Center (AMD)
<b>High School</b>	Advanced Placement Incentive Program (TI)
	Destination Graduation (TI)

KEY		
Black = Local Program Green = State Program Blue = National Program Red = Company Branded	<div style="background-color: #ccccff; padding: 2px;">K-12</div> <div style="background-color: #ffcc99; padding: 2px;">Elementary School</div> <div style="background-color: #ffff99; padding: 2px;">Middle School</div> <div style="background-color: #ccffcc; padding: 2px;">Middle/High School</div> <div style="background-color: #ccffff; padding: 2px;">High School</div>	Targets Underrepresented Groups

## **Section Two**

# **SIA Member Company Teacher Centered Program Overview**



Benefiting Population	<b>Engineering &amp; Technology</b>
TEACHERS & SCHOOLS	
K-12	Engineering the Future Teacher Workshop (Micron) TryEngineering (IBM)
Elementary	Engineering is Elementary (Intel)
Middle/High School	Project Lead the Way (Intel, Qualcomm, Micron) Infinity Project (TI)
High School	IBM & Computer Science Teachers Association (IBM) Innovations in Science, Technology, Engineering and Mathematics Teacher Awards (TI)

Benefiting Population	<b>Science</b>
TEACHERS & SCHOOLS	
K-12	Power of Education Initiative (National Semiconductor) Project Tomorrow (IR) Intel ISEF Educator Academy (Intel) Lesson Plans and Presentations (Micron)
Middle School	Valley Forward Earthfest (Freescale)
Elementary	Partnering to Spark a Passion for Science and Math (Micron)

KEY		
Black = Local Program	K-12	Targets Underrepresented Groups
Green = State Program	Elementary School	
Blue = National Program	Middle School	
Red = Company Branded	Middle/High School	
	High School	

Benefiting Population	<b>Math/Science</b>
<b>TEACHERS &amp; SCHOOLS</b>	
<b>K-12</b>	<p style="text-align: center;">Del Valle School District Educational Initiatives (AMD)</p> <p style="text-align: center;">DFW Semiconductor Technology and Executive Council (TI, Micron)</p> <p style="text-align: center;">IISME / Teacher Internships (Intel, Micron, National Semiconductor)</p> <p style="text-align: center;">Math Scholars (TI)</p> <p style="text-align: center;">RAFT (AMD, National Semiconductor, Xilinx, Qualcomm)</p> <p style="text-align: center;">“T<sup>3</sup>” - Teachers Teaching with Technology (TI)</p> <p style="text-align: center; color: red;">Intel Schools of Distinction (Intel)</p> <p style="text-align: center; color: red;">Intel Math Initiative (Intel)</p> <p style="text-align: center;">Teacher Workshops: “Spark the Passion” and “Engineering the Future” (Micron)</p> <p style="text-align: center; color: blue;">National Governor’s STEM Center Grants (Intel)</p> <p style="text-align: center;">Achieve (Intel)</p>
<b>Elementary</b>	<p style="text-align: center;">Improving Student Achievement in Math (Qualcomm)</p>
<b>High School</b>	<p style="text-align: center; color: green;">UC Math &amp; Science Initiative (Intel)</p>

<b>KEY</b>		
Black = Local Program	K-12	Targets Underrepresented Groups
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Red = Company Branded	Middle/High School	
	High School	

Benefitting Population	Infrastructure & Other
<b>TEACHERS &amp; SCHOOLS</b>	
<b>K-12</b>	Almaden Valley Counseling Services (Xilinx) Arlington ISD Education Foundation (National Semiconductor) <b>Education is Crucial (Micron)</b> <b>Intel Teach to the Future (Intel)</b> <b>On Demand Community (IBM)</b> Partners in Education (Freescale, Xilinx, Qualcomm) Principal Executive Partnership (TI)
	<b>Reinventing Education (IBM)</b> Santa Clara University – Raising an Ethical Child (Xilinx) Skillpoint Alliance (AMD) <b>Teach to the Future (Intel)</b> Technology and Equipment Grants (Intel)
	TraduceloAhora (IBM)
	<b>Transition to Teaching (IBM)</b> Volunteer Matching Grants and Community Giving (IBM, Intel, Nat Semiconductor, Qualcomm) <b>Writing in the Workplace (Micron)</b>
<b>Middle School</b>	Girls for a Change (National Semiconductor)
<b>High School</b>	Lawndale High School Partnership & Mary Story Scholarship Award (IR)
	Rising Star Scholarships (TI)

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Red = Company Branded	Middle/High School	
	High School	



## **Section Three**

# **SIA Member Company K12 Profiles**





### **Advanced Micro Devices (AMD)**

Advanced Micro Devices (NYSE: AMD) is an innovative technology company dedicated to collaborating with customers and partners to ignite the next generation of computing and graphics solutions at work, home and play. For more information, visit <http://www.amd.com>. Through investments in education and community programs and with the technology we create, AMD enables individuals to become more productive, engaged members of a global society. Our involvement in communities worldwide includes donating technology, contributing financially, and encouraging our employees to volunteer.

AMD also supports the impact of our employees' contributions by offering a match for time and money they donate to charitable organizations and schools.

### **K–12 Education**

AMD recently created AMD Changing the Game, an education signature program that inspires youth to learn critical education and life skills by equipping them to create digital games with social content.

AMD's K–12 initiatives target programs that increase student interest and/or proficiency in math, science, and technology. Since great teachers are key to successful learning, AMD also funds programs aimed at developing and supporting effective classroom instruction.

Just as good jobs are critical to community stability, skilled and dedicated employees are a driving factor behind AMD's success. AMD sponsors a number of college & career awareness initiatives to introduce students to jobs in the high-tech sector and to equip community members with the job skills they need to be self-sufficient.

### **Schools and Programs Supported**

- Austin Community College
- Breakthrough
- Columbia Neighborhood Center
- Del Valle Independent School District
- Girlstart
- Project Help
- Resource Area for Teachers (RAFT)
- Science Buddies
- Skillpoint Alliance
- Southwest Key
- Sunnyvale School District
- Tech Museum





## **Analog Devices**

Analog Devices' K-12 goals are to increase student interest in science and math subjects, to update teachers' knowledge of ever changing technology; to increase the numbers of females and minorities pursuing math and science, and to increase the overall numbers of students pursuing advanced education in engineering. Our corporate contributions support programs for School to Business Partnerships, for science education, and for scholarships. Analog also provides financial support to local school systems in those areas of the country where its major facilities are located, namely Norwood and Wilmington, Massachusetts; Greensboro, North Carolina; and San Jose, California.

### **Programs and Schools Supported**

Electronics Fairs  
Discovery Museum  
Girls Inc  
Junior Achievement  
Massachusetts State Science Fair  
MIT MITE's Program  
Presentations and Site Visits  
RESEED  
Robotics Programs  
Solar System Unit

**For more information about Analog Devices Inc., visit:**  
[www.analog.com](http://www.analog.com)





## **Freescale Semiconductor**

Freescale Semiconductor is committed to supporting and expanding K-12 education opportunities for children in communities where we live and work.

Currently, we support the following programs in Tempe and Chandler, Arizona and Austin, Texas:

### **Programs and Schools Supported**

Austin Alumni Chapter for National Society of Black Engineers –  
Fresh Start  
Capital BEST Robotics  
Girl Scouts Inventions & Inquiry  
National Engineers Week  
Partners in Education  
Rocket Launch  
School Supply Drives  
Valley Forward Earthfest





## **IBM Corporation**

IBM's global commitment to education is demonstrated through a wide range of initiatives, involving the utilization of IBM talent and technology, designed to improve schools and raise student achievement through the implementation of innovative technology solutions.

### **Programs and Schools Supported**

IBM & Computer Science Teachers Association

IBM EX.I.T.E. (Exploring Interests in Technology and Engineering) and Technology Camps

IBM Kidsmart Early Learning Program

IBM Mentor Place

On Demand Community

PowerUp

Reinventing Education

TraduceloAhora

Transition to Teaching

TryEngineering

TryScience

Volunteer Matching Grants Program

**For more information about IBM Corporate Citizenship & Corporate Affairs, visit:**

[www.ibm.com/ibm/ibmgives](http://www.ibm.com/ibm/ibmgives).





## **Intel Corporation**

Intel believes students everywhere deserve to have the tools needed to become the next generation of innovators. Each year Intel invests USD 100 million to help teachers teach, students learn and universities around the world innovate-particularly in the areas of math, science and technology. Education is a top priority and critical focus of Intel's commitment to the community. To help young people everywhere thrive in today's global knowledge economy, Intel invests over \$100 million per year in education programs, over \$65 million in the United States. Integral to Intel's education initiative is a focus on success for all, including women, underrepresented minorities and those with little or no access to technology. Intel's education programs include:

### **Programs and Schools Supported**

Achieve  
Camp Invention  
Design Squad  
Engineering is Elementary  
FIRST and FIRST Lego League Robotics  
High Tech U  
Intel Computer Clubhouse Network  
Intel Tuition Assistance Ed Leave  
Intel International Science and Engineering Fair and Educator Academy  
Intel Math Initiative  
Intel Schools of Distinction Awards  
Intel Science Talent Search  
Intel® Teach to the Future  
Intel Volunteer Matching Grants and Community Giving  
National Governors Association STEM Center Grants  
The Partnership for 21<sup>st</sup> Century Skills  
Project Lead the Way  
Technology and Equipment Grants  
UC Math and Science Initiative

**For more information about Intel, visit:**

[www.intel.com/education](http://www.intel.com/education)



## **International Rectifier**

### **K-12 Commitment & Support**

International Rectifier, the world's leading supplier of power management semiconductors, is proud of its partnership with educators, schools and leading supporters of K-12 education. In the past 3 years, IR has contributed more than \$100,000 and a large number of employees' time to fostering education and interest in the sciences. Here are a few examples of our investment in education.

### **Programs and Schools Supported**

Lawndale High School Partnership  
The Mary Story Scholarship Award  
Employee/Community Scholarships  
Project Tomorrow  
Partners in Education





## Micron Technology, Inc.

Micron partners with K-12 schools and community organizations where Micron has a major presence, to promote greater interest and stronger skills in math, science, technology, and the semiconductor industry. Micron funds high-impact programs that drive advancements in science and engineering education with grants from the **Micron Technology Foundation**.

As a part of the Micron Technology Foundation, Micron's **K-12 Outreach Program** provides opportunities for team members to volunteer thousands of hours in K-12 activities that promote improved math, science, and technology skills and encourage students to prepare for and enter technical fields. Programs are designed to "Spark a passion" for science, technology, engineering, and math. In 2007-08 Micron's K12 Programs provided 1,131 events reaching 33,982 students and teachers in 298 participating schools.

Micron focuses its grants on innovative ways of teaching science and math that have an impact on student interest and achievement. This is being accomplished through programs like the **Treasure Valley Math and Science Center**, now in its fourth year of operation. With a \$1 million donation from the Micron Foundation, local school districts have teamed with industry and community partners to develop this exciting school. The program provides a facility and programs to enhance educational excellence in the areas of science, math, and technology by encouraging inquiry-based learning, high-level thinking, discovery, and research. Micron team members partner with the school to provide mentoring opportunities for students through various **K-12 Programs**.

Micron Foundation and Micron employees also have teamed up to provide funding and mentoring for **FIRST Robotics** and **FIRST Lego League** teams in the Boise, Idaho and Manassas, Virginia communities. Mentors work with students from concept to competition for hands-on learning and problem solving.

## **Programs and Schools Supported**

Career Fairs  
Careers in a High Tech World  
Chip Camp  
Developing Mathematical Thinking  
Discover Engineering  
Education is Crucial  
E-Girls  
E-Mail Mentor Program  
Engineering the Future Teacher Workshops  
Family Math – Micron Math Fun d’Mentals  
Find your Future “Micron for Students”  
FIRST Robotics  
Grade Level Team Presentations  
Internships (High School)  
Lesson Plans and Presentations  
Math in the Workplace  
MathCounts  
Presentations and Site Visits  
Science Fairs and Competitions  
Site Visits  
Spark a Passion for Science and Math  
Treasure Valley Math and Science Center  
Writing in the Workplace  
Women in Technical Careers

### **For more information:**

[www.micron.com/giving](http://www.micron.com/giving)

[www.micron.com/k-12](http://www.micron.com/k-12)



## National Semiconductor

National Semiconductor is proud to support K-12 education through a variety of awards, grants, partnerships, and volunteer opportunities.

Through the National Semiconductor Foundation, a charitable fund at the Silicon Valley Community Foundation, more than half of a million dollars annually is donated to support K-12 education. In addition, National Semiconductor matches employee contributions to educational institutions dollar-for-dollar, up to \$1,000 per employee each year. This past year, \$98,000 in company match donations was provided to K-12 schools and organizations.

In 2008, National Semiconductor launched the Power of Education Initiative, a three year, \$1 million investment to support K-12 science and math instruction. Through this initiative, the National Semiconductor Foundation provides grants for teacher professional development, with a focus on inquiry-based teaching strategies.

In addition to the Power of Education Initiative, National Semiconductor is proud to support many other education programs in its communities.

National Semiconductor has established formal partnerships with neighboring school districts, including Santa Clara Unified School District, Sunnyvale Elementary School District, Cupertino Union School District and Fremont Union High School District. Through these partnerships National provides funding, volunteers, in-kind contributions and consultation.

In Maine, National supports the Maine Festival of the Book, put on by **Maine Reads**, a nonprofit organization dedicated to improving literacy. The company also provides support for the state of Maine's annual science fair and **to the Gulf of Maine Research Institute, a nonprofit organization that provides students in the state of Maine free field trips to explore the Gulf of Maine through inquiry-based science curriculum.**

In Texas, National Semiconductor supports the Arlington Independent School District's Baccalaureate Program and provides annual grants for teachers within the Mansfield Independent School District for innovative science and math projects.

Members of National Semiconductor's Texas management team actively participate in educational initiatives through positions on district foundations, school boards, and the Chamber of Commerce.

As a result of its support of local schools, National Semiconductor received the 2008 Texas Education Partnership Crystal Award from the Texas Association of Partners in Education, which recognizes exemplary partners and partnership programs annually.

**Programs and Schools Supported**

Arlington ISD Education Foundation  
Environmental Volunteers  
GAINS (Girls Achieving in Non-traditional Subjects)  
Get SET Program  
Girls For a Change  
Gulf of Maine Research Institute  
High Tech U  
IISME  
Project HELP  
RAFT  
RESEED  
Science Buddies  
Science in Action  
Teacher Recognition  
Volunteerism

**For more information about National Semiconductor, visit:**  
[www.national.com](http://www.national.com)

Over the past 8 years, Qualcomm has donated more than \$80 million to a variety of educational programs and institutions. Qualcomm strives to prepare today's students for the demands of tomorrow. We look for ways where we can make measurable, meaningful change, and we bring our breadth of resources – human, financial and technical -- to the service of these projects. We support programs across the educational continuum: training for K-12 math and science teachers, curriculum development at the high school and college level, transformational change for urban public schools, collaboration between the high-tech sector and university-level instruction, and aligning resources for students at all levels to explore careers in engineering.

### **K-12 Education**

Qualcomm sees education as the most powerful tool to enable success for our community, both socially and economically. We are proud to support programs at the K-12 grade levels, because we believe that early student achievement is critical for the development of our future high-tech workforce. We target three focus areas within math and science education: teacher professional development, student success, and systemic transformation.

Qualcomm supports a broad range of classroom and after-school programs that directly impact student achievement in math and science. Some of our key partners include: Elementary Institute of Science, San Diego Science Alliance, Barrio Logan College Institute, AVID, and Classroom of the Future Foundation.

### **Access to Engineering**

Qualcomm strives to increase exposure to science, technology, and mathematics curriculum to under-represented populations. We partner with a variety of organizations to provide system-wide access for women and minorities to career paths in the high tech world. These organizations include: National Action Council on Minorities in Engineering, Society of Hispanic Engineers, San Diego MESA, National Society of Black Engineers, and the Society of Women Engineers

**Programs and Schools Supported**

California State Summer School for Mathematics and Science  
(COSMOS)

Expanding Your Horizons

FIRST Robotics

Improving Student Achievement in Mathematics

National Center for Urban School Transformation (NCUST)

Partners in Education

Project Lead the Way

RAFT

San Diego Science Alliance

San Diego Science and Engineering Fair

Secondary Science Olympiad

Qualcomm Career Experience



## Texas Instruments

At Texas Instruments, education is the highest priority for corporate philanthropy. Each year, TI and its corporate foundation make financial contributions totaling millions of dollars in grants and other gifts to schools, colleges and educational programs. Volunteer hours, equipment donations and in-kind contributions significantly extend the impact of its commitment to education.

TI's involvement in education is focused on advocating systemic reform on the local, state and national levels to close the achievement gap and improve student performance. Particularly in K-12 STEM (science, technology, engineering and mathematics) education, TI seeks opportunities for fundamental change by developing programs with measurable success that can be replicated elsewhere.

TI has long been a leader in the effort to advance assessment and accountability processes in the Texas public schools, an approach that has been nationally recognized. The company also works in partnership with individual schools to enhance the learning environment.

We're placing more emphasis than ever before on core areas, such as math, science and engineering, to help foster our next generation of high-tech workers. And we're also expanding our focus on teacher effectiveness and educational opportunities for women and other traditionally underrepresented groups in technical fields.

To broaden teachers' access to valuable resource materials and professional development opportunities, TI partners with many national and state-level education associations, sponsoring many of their outreach and training activities. These include the National Council of Teachers of Mathematics Academy for Professional Development, the Eisenhower National Clearinghouse, the Mathematical Association of America, The College Board, and the Texas Middle School Association, to name a few.

The education process offers many opportunities to engage and excite children about mathematics and science. TI believes this long-term investment is critical to preparing today's students for 21st century jobs and helping the United States to remain competitive in the global economy.

### **Programs and Schools Supported**

Teachers Teaching with Technology (T3)

Advanced Placement Incentive Program

Dallas Ft. Worth Semiconductor & Technology Executive Council

Destination Graduation

Gender Equity Initiative

FIRST Robotics

Head Start

High Technology Education Coalition of Collin County (HiTECCC)

Infinity Project

Innovations in Science, Technology, Engineering and Mathematics

Teacher Awards

MATHCOUNTS

MathForward

Principal Executive Partnership

Rising Star

Texas BEST

Texas Prefreshman Engineering Program (TexPREP)

TI Math Scholars

Visioneering Event

For more information go to:

<http://www.ti.com/corp/docs/company/citizen/education/index.shtml>



Xilinx is dedicated to making a difference in our global communities by improving the quality of life through our partnerships, funding, volunteerism and employee sports/social activities.

Our vision is to create global teams and programs which consist of recreation activities and charitable giving that sets the standard for providing systemic change and measurable results.

Each year Xilinx actively participates in supporting and improving the community by contributing to the areas of focus listed below. Additionally, employees are encouraged to invest their time in activities that enable them to make an impact in their local community.

### **Expected Goals and Outcomes for the Educational Ecosystem**

- Build relationships, through funding and service, between Xilinx, schools, and community partners, to result in increased student achievement in targeted areas (Education, Community and Social, Health and the Arts)
- Implement a 3-5 year strategy to support Education that is systemic, impactful and replicable globally (a franchisable model)
- Show measurable progression through grades K-12 by partnering with business, non-profits and community stake holders to influence the workforce of the future

### **Creating the workforce for tomorrow by:**

- **Enhancing** science & technology programs
- Influencing **integrated** curriculum and **articulation** plans
- **Connecting** schools to non-profits for greater impact
- **Multiplying** the Xilinx dollars

The Xilinx philosophy is very much a grassroots giving approach with the ownership and direction coming from the employees of the communities in which they live and work.

### **Programs and Schools Supported**

Almaden Valley Counseling Services (AVCS)  
Junior Achievement (JA)  
Partners in Education  
Resource Area for Teaching (RAFT)  
Santa Clara University  
Youth Science Institute (YSI)



## **Section Four**

# **Education Initiatives Supported by SIA**



## **Today's Students Will Create Tomorrow's Technologies**

The SIA board established the SIA Semiconductor Workforce Strategy Committee in 1998, to address the need for qualified and talented workers to continue the advancement of microelectronic technology in this globally competitive industry. To ensure America continued to graduate the inventors of tomorrow's semiconductors, the SIA workforce committee brought attention to existing efforts to increase the number of high school graduates motivated and prepared to enter university science and engineering programs. SIA's K-12 catalog highlights individual member companies' investments in science, technology, engineering and mathematics education programs. In addition, the committee supports collaboration with other organizations interested in teacher training, technician training at community colleges, and advocating public policies to support STEM education.

Over the years, the SIA has supported a variety of K-12 and post-secondary level education initiatives, including:

### **SEMI Workforce Development Institute for Teachers**

From 2003 to 2007 the SIA has partnered with the Semiconductor Equipment and Materials International (SEMI) to sponsor SEMI High Tech U programs for high school teachers. The High Tech U Teacher edition was a two-day professional development program designed to increase teacher awareness of career opportunities in high tech, while equipping them with math and science based learning activities, with learning activities designed for easy integration into the classroom and support state education standards.

### **Maricopa Advanced Technology Education Center (MATEC)**

The SIA works closely with the Maricopa Advanced Technology Education Center (MATEC) in Chandler, Arizona, to provide curriculum and faculty training and development for automated manufacturing programs at over 100 two and four-year institutions across the United States. The National Science Foundation has been a major sponsor of MATEC since it was founded in 1996. MATEC has developed over 50 curriculum modules on all aspects of semiconductor manufacturing.

Through representation on the MATEC Advisory Board, and by sponsoring MATEC's annual conference for education and business partners, SIA has a strong voice in a national, leading-edge program to advance semiconductor manufacturing development and education.

### **Semiconductor Research Corporation Education Programs**

SIA has partnered with the Education Alliance of its affiliate organization, the Semiconductor Research Corporation (SRC), on various education initiatives. SRC offers doctoral fellowships and master's scholarships in disciplines of interest to the semiconductor industry. SRC's Graduate Fellowship Program addresses the issues of improving educational opportunities at the doctoral level, while also helping fuel a well-trained work force for the semiconductor industry. The program encourages gifted U.S. and Canadian students to pursue doctoral degrees in research areas consistent with SRC goals.

## **Public Policies to Promote K-12**

The SIA strongly supports K-12 reforms embodied in "No Child Left Behind" Act (NCLB), signed into law in 2002. The bill's national focus on high standards, annual assessments in core subjects, greater accountability for results, and enhanced teacher quality will help ensure that all children receive the education they need to succeed in our complex global economy.

Over the past five years SIA, has worked actively with other organizations to expand the talent pipeline over the long term by supporting programs and adequate appropriations to improve science, technology, engineering and mathematics (STEM) education at the K-12 and undergraduate levels. Among the programs that SIA has supported are those outlined in the American COMPETES Act, such as the Noyce Scholarship Program and the STEM Talent Expansion Program (STEP).

## **S.S.T. ... SIA Stay Tech Program**

From 2005 to 2007 the SIA and its members provided grants totaling \$120,000 for a pilot program at the University of California Riverside, the University of the Pacific, Rochester Institute of Technology, and Boise State to support their development of innovative retention programs. These programs have positively impacted more than 350 students pursuing engineering and computer science degrees.

Nationally, the retention rate for EE's is below 50% and even worse for underserved populations, and an immediate way to increase the quality and supply of graduating EE's is to increase the retention rate of students already enrolled in the EE major. Providing focused support systems in the first two years of a student's academic program increases the likelihood a student will continue pursuit of an EE degree. The schools' activities took many forms; including mentors, study partners, study teams, resource rooms, faculty partners, pre-college camps; and resulted in improvement in retention, sustainable curriculum changes, fundamental changes to orientation programs, mentoring, and the establishment of internal benchmarks. One school reported that 62 percent of freshman remained in the major compared to 55 percent in the prior year, and another reported that 14 of 14 students remained in the program for a 100 percent return rate. All schools reported the increased focus on retention was yielding positive results and would be continued beyond SIA's direct investment.

## **SIA / SRC Chip Design Challenge**

For a number of years, the Semiconductor Research Corporation (SRC) and the SIA have sponsored a chip design contest for universities. The most recent contest, involving more than 47 teams from 28 universities, was concluded in February, 2009. Teams from Purdue University, Texas A&M University and Carnegie Mellon University took first, second, and third places respectively. A total of \$68,000 in prize money was awarded in the two phases of the contest, and eight teams were able to have their designs fabricated into actual devices at Jazz Semiconductor's foundry.

The Chip Design Challenge is made possible through the generous support from AMD, Analog Devices, Freescale Semiconductor, IBM, Intel, Intersil, Jazz Semiconductor, LSI, National Semiconductor, NVIDA, and Texas Instruments, as well as SRC and SIA.

## **Section Five**

# **Index of Company Supported Program Descriptions**



# A

## **Achieve**

As a Board member since 2001, and Board Co-chair since 2008 Intel has supported Achieve, a nonprofit organization led by business leaders and governors, dedicated to helping states set standards that prepare young people for success in college and careers. Currently 35 states are members of Achieves American Diploma Project. Intel has donated over \$2M to Achieve. (Intel)

## **Almaden Valley Counseling Services**

The Almaden Valley Counseling Service envisions a community where everyone has access to affordable mental health counseling. AVCS is a community-based, nonprofit counseling agency committed to meeting the mental health concerns of all ages with an emphasis on youth. AVCS offers a full range of counseling services which supports and promotes personal growth, positive family relationships and emotional well-being. (Xilinx)

## **AMD Changing the Game**

The mission of AMD Changing the Game is to inspire youth to learn critical education and life skills by equipping them to create digital games with social content. The initiative includes: grants to leading nonprofit organizations working with youth to create games; support for a new youth-focused game development curriculum; underwriting of a "how-to" digital toolkit for nonprofits seeking to develop their own gaming programs and sponsorship of the International Games for Change Festival. The program focuses on 13 to 18-year-olds with a particular emphasis on enriching the educational experience of disadvantaged youth, primarily in AMD site communities.

## **America's Competitiveness Summit**

IBM hosted and co-sponsored an inaugural summit titled "America's Competitiveness: Hispanic Participation in Technology Careers," in May 2008. The summit brought together more than 150 leaders in education, community, business and elected officials from around the country. The goal of the summit was to develop an aggressive action plan and timeline to address the critical shortage of job candidates in STEM and, in particular, the low participation from the Hispanic community. Based on data presented at the summit, it was clear that failing to address this issue will negatively affect the future of America's economy. Leading into the summit, IBM commissioned a series of papers and reports from Public Agenda and The Tomás Rivera Policy Institute to help shape the the agenda. In October 2008, IBM published a report online that outlined the discussions and action items that resulted from the summit. For more information on the summit, to see other commitments IBM made as a result of the summit, or to download any of the reports, visit <http://www.ibm.com/ibm/ibmgives> and click on Reports & papers.

Currently, IBM is reviewing proposals from higher education institutions and nonprofit organizations, in response to a grant opportunity it made available as a direct result of the summit. IBM's goal is to fund proposals that demonstrate best practices to reduce attrition rates for Hispanics in STEM fields, and how technology could be part of the solution to improve the delivery of existing or new resources and programs.

#### **Arlington I.S.D. Education Foundation**

National Semiconductor continues to fund the Arlington and Mansfield Independent School District foundations with a combined annual grant of \$30,000 to help further educational development for local students in **math and science**. National supports the Arlington I.S.D. Education Foundation with an annual \$10,000 contribution. (National Semiconductor)

#### **Arlington Gateway Summer Camp**

National Semiconductor sponsors 7th grade students to attend the University of Texas at Arlington Gateway Summer Camp. The students stay on campus for a week and learn about science and engineering through classes and projects held at the University.

#### **Austin Alumni Chapter of National Association for Black Engineers (NSBE) – Fresh Start**

For the past 3 years Freescale has hosted and sponsored a day long series of hands on engineering, math and science workshops and motivational speakers for students in grades 6-12. The program is called Fresh Start. (Freescale)

#### **Austin Community College-Austin, Texas**

To support the need for skilled employees, AMD has provided scholarships to more than 92 deserving students who attend the Austin Community College Electronics and Applied Technologies Program. As these deserving students expand their career options by furthering their education, the community gains a larger pool of well-educated and highly motivated potential employees. (AMD)

## **B**

#### **Boys and Girls Clubs MBA program**

Freescale worked with the Boys and Girls clubs in the Austin, Texas area to sponsor the Motivated by Arithmetic program (MBA). The program was designed to help children gradually develop the fundamentals of math. (Freescale)

## **Breakthrough**

To encourage talented high school and college students to pursue careers in education, AMD provided stipends for 12 “student teachers” to spend the summer teaching math, science, English and social studies to 80 Austin area middle school students. Breakthrough is a collaboration of programs that increase educational opportunities for high-potential middle school students. (AMD)

**C California State Summer School for Mathematics and Science (COSMOS)** –UC COSMOS is a highly competitive four week residential program where top high school students learn about and conduct research in math and science. COSMOS course clusters address topics not often taught in high schools such as astronomy, aerospace engineering, biomedical sciences, computer science, wetlands ecology, ocean science, robotics, game theory, and more. Qualcomm helped bring a COSMOS Institute to the University of California San Diego. (Qualcomm)

Intel provides funds to UC to select two or three top students and award them the Intel Promising Young Scientist award. The award includes an all expense paid trip to Intel ISEF in May as an observer. It also includes a scholarship to attend the UC COSMOS summer program. The Intel Promising Young Scientists then continue to receive ongoing mentorship and resources to continue their pursuit of research-based science and math. Often, these scholars become future winners of Intel ISEF. (Intel)

## **Capital BEST Robotics**

A science, technology and innovation competition involving hundreds of students from more than 20 Austin, Texas area high schools. Freescale has been a sponsor of this program for several years. (Freescale)

## **Careers in a High Tech World**

High school juniors and seniors interested in technical careers participate in a full-day program that offers a general introduction to technical careers and a job shadowing opportunity. This opportunity is available to students in Idaho and Virginia. Since 1999 over nine hundred students have participated in this job shadow opportunity. Many have returned to Micron as college interns. (Micron)

**Career Fairs:** Micron employees participate in Career Days and Career Fairs for a variety of schools and school districts where Micron Technology, Inc. has a presence. (Micron)

**Career presentations:** Micron team members visit classrooms to describe the semiconductor industry and the various career opportunities. They help students to understand their particular careers and how to prepare for high tech opportunities. (Micron)

**Chip Camp:** Micron engineers lead hands-on science activities related to semiconductor manufacturing in three-day summer camp sessions. The camps are for budding young scientists exiting the seventh and eighth grades. Chip Camp includes robotics, chemistry, physics and math activities that stir students' interest in STEM subject areas. (Micron)

### **Columbia Neighborhood Center-Sunnyvale, California**

Seeking to provide needed services to an under-served neighborhood, AMD partnered with the City of Sunnyvale and the Sunnyvale School District to build the AMD Sports and Service Center, the core of the Columbia Neighborhood Center. This school-based service hub continues to provide accessible education, recreation, health, and social service programs to students and their families in North Sunnyvale. In partnership with Columbia Middle School, AMD renewed its ongoing commitment and support for the organization. (AMD)

## **D**

### **Dallas Ft. Worth Semiconductor & Technology Executive Council**

Texas Instruments was a founding member of DFW SEC, the **Dallas Ft. Worth Semiconductor & Technology Executive Council**. Through the combined efforts of these companies, teachers and counselors in the region are learning more about the industry and needs for students in math and science. (Texas Instruments)

### **Del Valle Independent School District**

Math and science education is fundamental to the work of AMD. By strengthening the math instruction skills of teachers, AMD is able to impact a large number of students, thereby enhancing their college and career success. Since 1988, AMD has partnered with the Del Valle Independent School District in Austin, Texas to support educational initiatives ranging from gifted and talented programs to innovative math academies for teachers and students, to teacher development and retention. (AMD)

### **Design Squad**

Intel has provided major funding since 2006 to WGBH, the producers and developers of the nationally televised PBS TV show *Design Squad* that increases kids' interest in engineering by showcasing engaging, real-life applications. The extensive outreach program powered across the country by volunteers from engineering societies, Boys and Girls Clubs, Girls Scouts, and K12 schools, colleges and universities reached over 100,000 students, teachers and engineers in its first two seasons. The Intel Foundation has contributed over \$1.8 million dollars in funding for this program. (Intel)

### **Destination Graduation**

The Texas Instruments Foundation has partnered with the United Way of Metropolitan Dallas to improve graduation rates among Dallas and Collin County students via a program titled, “**Destination Graduation.**” The program targets high school students at risk of dropping out using college preparation, interactive parental involvement classes and mentoring programs to educate students and parents on the long-term benefits of a high school diploma. (Texas Instruments)

### **Developing Mathematical Thinking**

In an effort to support the math initiative efforts of the **Idaho State Department of Education**, the **Micron Foundation** recently awarded a three-year \$133,488 grant to Spalding Elementary in Meridian. The grant is in support of an intensive three-year professional development program for K-6 elementary school teachers developed by Boise State University faculty member, Dr. Jonathan Brendefur, and his research team. The program, **Developing Mathematical Thinking**, is based on research that indicates children who conceptually grasp numbers, problem solving and place value during elementary mathematics are better prepared for algebra and functions. During the program, teachers work on strengthening their own math content knowledge and using multiple problem solving strategies to help students learn. The Micron Foundation serves on the Idaho Math Initiative Task Force and considers Developing Mathematic Thinking a model program that could be used to strengthen mathematics statewide. (Micron)

### **Discover Engineering**

Idaho - In cooperation with Boise State University College of Engineering and several other community sponsors, Micron offers a family event to celebrate National Engineer Week by engaging children and their parents in stimulating hands-on activities that simulate various engineering disciplines. (Micron)

**E** “**Education is Crucial**” is an ongoing program to supply memory upgrades to schools throughout the state of Idaho. This program has been in place since 1997 through Crucial Technology, a division of Micron. (Micron)

**E-Girls:** In summer 2004 Micron and the Boise State College of Engineering, the Society of Women Engineers, and the Boise, ID School District implemented a camp to introduce young women, grades 9 and 10 to engineering disciplines through hands-on activities in the university setting. The girls determine the mechanics of high heels, the physics of rock climbing, as well as learning about career opportunities. In addition to the summer camp, the sponsors provide an evening reunion event for previous years’ participants. The reunion provides scholarship information, rekindles participants’ interest in engineering careers, and tracks the impact of E-Girls on the post-high school pursuits of the young women. (Micron)

### **Electronics Fairs**

ADI organizes and deliver Electronics Fairs in local Middle Schools. These fairs allow students the opportunity to be involved in such practical activities as soldering, wiring electronic circuits, working with test equipment, building radios and demonstrations of wave theory, feedback theory and Morse Code. (ADI)

**E-Mail Mentor Program:** This program matches women in technical careers with eighth grade female students. The program consists of 6 weeks of e-mail exchanges followed by an on-site meeting, job shadow, and hands-on technical demonstrations. Students are encouraged to choose challenging high school courses to help them prepare for careers of the future. (Micron)

### **Employee/Community Scholarships**

Almost all of our member companies offer scholarships to children of their employees, as well as to students in their local communities (All Member Companies)

### **Engineering is Elementary**

Intel supports professional development for K-5 teachers to implement the Boston Museum of Science's Engineering is Elementary curriculum modules in the most commonly used elementary science curriculums. (Intel)

**Engineering the Future Teacher Workshop:** Micron offers a special topics college workshop designed to provide teachers (and pre-service teachers) background in the semiconductor industry and in the underlying mathematical and scientific principles of the technologies that enable the industry. Teachers learn real-world applications for the science and math they teach and participate in hands-on industry-related activities to convey those concepts. Through the workshop, teachers have the opportunity to make connections for partnerships with engineers, scientists, chemists, mathematicians and other industry professionals to enrich their classrooms on an ongoing basis. One hundred percent of the teachers who have participated in the three-year-old program have reported they changed the curriculum they teach in that they infuse more application activities from the workshop. The **Micron Foundation** provides grant opportunities for teachers who complete the workshop to purchase materials to replicate activities in their own classrooms. (Micron)

### **Environmental Volunteers**

National Semiconductor is a long-time supporter of Environmental Volunteers, which provides outdoor science and nature lessons to local K-12 students in the Santa Clara, California area. (National Semiconductor)

### **Expanding Your Horizons in Math and Science**

Expanding Your Horizons in Math and Science encourages 7th and 8th grade girls to pursue careers in science and math.

# F

## **Family Math – Micron Math Fun d’Mentals**

These kits grade level, research based kits provide everything a PTO organization needs (except volunteers) to host a family math night event. The program helps students develop their mathematical understanding through active engagement in fun activities that encourage student to build on what they already know and learn to talk about how they know what they know!

**Find Your Future: “Micron for Students”** is a dynamic Web site with career awareness activities and information. The site features “**Job Talk,**” job profiles of high tech careers with video clips. (Micron)

## **FIRST Robotics - For Inspiration and Recognition of Science and Technology)**

San Diego - Qualcomm co-sponsored the inaugural San Diego Regional FIRST Robotics Competition. The FIRST Robotics Competition is an exciting, multinational competition that brings professionals and high school student teams together to solve an engineering design problem in an intense and competitive way. Qualcomm employees volunteer as student team mentors to help build a robot from design to completion, as well as volunteer at the competition event in a variety of ways such as serving as judges, robot inspectors, and scorekeepers. (Qualcomm)

Micron mentors and funds **FIRST** teams in Idaho and Virginia and a **BEST** Robotics competition team in Texas. (Micron)

ADI sponsors various Robotics teams at local area high schools in Boston, Massachusetts (ADI)

TI was an official technology supplier to the FIRST Robotics Competition. (Texas Instruments)

Intel Oregon is the primary supporter of Intel Oregon FIRST LEGO Robotics competitions process. In 2008 this 11 week STEM rich program reached almost 2600 youth, of which 775 were girls and 276 were either Latino, African American or Native American. These youth formed into 375 teams from all over Oregon. Additionally over 250 Intel Oregon employees involved in coaching, mentoring and helping with qualifying tournaments and the two day Oregon State tournament. Intel also supports FIRST Teams in Arizona. (Intel)

# G

## **Gender Equity Initiative**

The Women of TI Fund in partnership with the TI Foundation are investing in programs to increase math and science participation among girls. One of its first initiatives, the **gender neutral teacher training program**, has shown classroom teachers how even the most modest changes in instructional methods can make a profound difference in results. The program also sponsors AP® Physics Camps

for girls that have shown to increase girls' confidence and achievement in AP physics courses. (Texas Instruments)

#### **Get SET Program**

The Society of Women Engineer's Get SET Program provides a week-long summer camp for 80 **Latina and African American girls** interested in **careers in engineering**. The week combines lectures, hands-on activities, tours and discussions with women engineers. National provides an annual grant of \$5,000, mentors and speakers for the organization's annual luncheon. (National Semiconductor)

#### **Girl Scouts – Camp Athena**

Freescale sponsored the Lone Star Girl Scouts Council's "Inventions & Inquiry Camp", a design and discovery camp for 70 participants. (Freescale)

#### **Girls Achieving in Non-Traditional Subjects Program (GAINS)**

National Semiconductor also **encourages young women to consider careers in engineering** through its participation in the Girls Achieving in Non-Traditional Subjects Program (GAINS) within the Santa Clara Unified School District. (National Semiconductor)

#### **Girls For A Change**

National is a founding sponsor of Girls For A Change, an organization whose goal is to provide 12 to 18 year-old girls with **skills and confidence** to be decision-makers and influencers in their communities. As one of the organization's largest corporate donors, National provides a \$20,000 annual grant and many in-kind services to the group. (National Semiconductor)

#### **Girls Inc**

**Girls Incorporated** is a national nonprofit youth organization dedicated to inspiring all girls to be strong, smart, and bold. With roots dating to 1864, Girls Inc has provided vital educational programs to millions of American girls, particularly those in high-risk, underserved areas. Today, innovative programs help girls confront subtle societal messages about their value and potential, and prepare them to lead successful, independent, and fulfilling lives. (ADI)

#### **Girlstart**

Girlstart is an Austin-based non-profit organization whose mission is to educate and empower girls ages 9-17 in math, science and technology. AMD supports after-school and week-end programs that exposes girls to a variety of math, science, engineering and technology principles through hands on activities. (AMD)

### **Grade Level Team Presentations**

Employee teams provide classroom presentations of Micron-developed lesson plans using hands-on activities to reinforce the math, science, or technology concepts students are studying. These lessons are published on Micron's Web site, [www.micron.com/k-12](http://www.micron.com/k-12). Lessons are aligned with the National Science Content standards. In fall 05, this program expanded from the Boise, ID and Lehi, UT, facilities to include Manassas, VA vicinity schools. (Micron)

## **H**

### **Head Start**

In 1990, the TI Foundation began collaborating with universities and local Head Start administrators to develop a model preschool program designed to give students from economically disadvantaged communities an equal chance to succeed in the classroom. TI initiated and remains involved with Head Start programs at the Margaret Cone Head Start Center (Dallas), Jerry Junkins Head Start Center (West Dallas), and Davids' Place (Fair Park).

TI collaborated with SMU to develop the Language Enrichment Activities Program (LEAP) which assists in language and pre-reading skills development. (Texas Instruments)

### **High Technology Education Coalition of Collin County (HiTECCC)**

TI partnered with the Plano Independent School District, the Collin County Community College District, and University of Texas at Dallas to form the **High Technology Education Coalition of Collin County (HiTECCC)**, a collaborative effort designed to ensure that area students receive a high-quality science, technology, engineering and math education. Other industry advisors include Cisco, Nortel, and Raytheon. Program activities to date include scholarships, summer internships, executive/principal partnerships, technology partnerships, engineering your future through math and science middle school program and physics camp for girls. (Texas Instruments)

### **High Tech U**

High Tech U is an Interactive curriculum--hands-on activities that demonstrate semiconductor mfg. concepts, educational pathways and career planning. Managed by the Semi Foundation this initiative targets middle school and HS students and their teachers in after school environment to excite them about STEM and Semiconductor industry. Intel supports sessions for teachers and students in Oregon, California, Arizona, new Mexico and Massachusetts. (Intel, National Semiconductor)

### **IBM & Computer Science Teachers Association**

IBM and the Computer Science Teachers Association (CSTA) are collaborating to accelerate computer science and technology skills among high school students. This marks the first time that CSTA has partnered with an IT vendor to co-develop customized courseware for secondary school audiences.

IBM and CSTA have partnered to provide 36,000 teachers with free access to computer science resources in an effort to improve teachers' expertise and help students acquire necessary skills for jobs in the 21st century. The new resources are being introduced based on a pilot program involving a half of a dozen high schools and teacher-education universities nationwide. With just a few clicks, teachers can access a series of lesson plans, guidebooks and topic overviews to incorporate concepts of computer programming and Web design into everyday math and science classes. (IBM)

### **IBM EX.I.T.E. (EXploring Interests in Technology and Engineering) and Technology Camps**

IBM conducts a variety of technology camps for middle school students to encourage and promote interest in careers in science, engineering and technology.

Over the course of the 2-3 day, or in some case weeklong camp, participants may learn how to assemble a PC, develop a website, program computers and participate in virtual teams from around the world on a variety of exciting and interactive engineering and technology projects.

In 2008, more than 1,250 middle school-aged students around the world had a unique opportunity to explore technology, math and science, as IBM expanded its EX.I.T.E. Camp program to 39 sites in the U.S., Canada, Latin America, Europe, Africa and Asia-Pacific. (IBM)

### **IBM KidSmart Early Learning Program**

IBM KidSmart Early Learning Program ([www.kidsmartearlylearning.org](http://www.kidsmartearlylearning.org)) is aimed at the pre-kindergarten curricula. The centerpiece of KidSmart is the Young Explorer, a colorful "kid-proof" play station manufactured by Little Tikes and IBM and loaded with award-winning educational software from Riverdeep. Young Explorers help children learn concepts in math, science and language while gaining new technology skills. After a decade of expansion, the program now operates in sixty countries, serving more than 40 million children. The software is translated into 28 languages.

### **IBM MentorPlace**

IBM MentorPlace is a key component of IBM's overall commitment to public education. Through this structured, school-based online mentoring program, more than 6,000 IBM employees in more than 35 countries are volunteering their time annually to more than 6,500 students between the ages of 7 and 18. IBMers are providing students with online academic assistance and career counseling, while letting them know that adults do care about their issues and concerns. The program provides a meaningful and convenient way for IBM employees to volunteer their time and talents in schools by giving IBMers with busy work and home schedules the opportunity to contribute virtually, circumventing time and distance barriers to volunteerism.

Employees communicate with students via a secure communications tool, available in Chinese, English, German, Japanese, Portuguese and Spanish, developed specifically for the program.

IBM MentorPlace is a structured program based upon mentoring research. All participants must complete program and technology training. Safety and security rules are strictly followed, and all conversations are monitored. Program evaluations also are conducted. While communication is online, there are opportunities for mentors and students to meet face-to-face at IBM and school-sponsored events. (IBM)

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### **IISME**

IISME (Industry Initiatives in Science and Math Education) provides hands-on experience in the high-tech workplace for science and math teachers, and provides tools to create curriculum with real-world relevance for students. Teachers receive stipends for their summer internships with businesses, which help them to better afford the high cost of living in the Bay Area. In addition, data show that IISME teachers have a higher retention rate and better overall job satisfaction than non-IISME teachers. (National Semiconductor)

### **Infinity Project**

In 1999 in collaboration with Southern Methodist University (SMU), Texas Instruments helped design a math and science-based engineering curriculum for high school students called the **Infinity Project**. The class uses devices such as MP3 players and cell phones to teach engineering concepts. Infinity is now offered in nearly 328 schools in 37 states and is showing impressive results in changing student attitudes toward engineering and technology disciplines. (Texas Instruments)

### **Innovations in Science, Technology, Engineering and Mathematics (STEM) Teacher Awards**

The TI Foundation **Innovations in Science, Technology, Engineering and Mathematics (STEM) Teacher Awards** were established to recognize instructors at the secondary level who are enhancing student achievement and increasing interest in high school classrooms in the Dallas, Plano and Richardson independent school districts (ISD).

As STEM fellows, the teachers participate in a unique annual professional development day at TI's facility designed to expose them to interesting, everyday uses of math and science in the technology business world. Recipients also each receive \$10,000, of which \$5,000 is directly awarded to the teacher. The other \$5,000 is to be used at the teacher's discretion for professional development or instructional technology. (Texas Instruments)

### **Intel Computer Clubhouse Network**

The Intel Computer Clubhouse Network is an after-school community-based technology learning program that enables youth in underserved communities to acquire tools necessary for personal and professional success. A Computer Clubhouse is a creative place where a "community of learners"—young people working with adult mentors and staff—use technology as a tool for learning and creative expression. The supportive learning environment within the Computer Clubhouses enables young people to build skills as well as self confidence. The Computer Clubhouse Network operates as a program of the Boston Museum of Science in cooperation with the MIT Media Lab. There are now more than 100 Computer Clubhouses in the Intel Computer Clubhouse Network. Located in more than 20 countries, Computer Clubhouses have served more than 25,000 youth. There are 71 Clubhouses in 15 states in the US. (Intel)

### **Intel Math Initiative**

Intel has invested over \$1M to develop an initiative that provides extensive professional development to teachers and school leaders focusing on rich mathematics knowledge and effective classroom teaching strategies. This initiative is currently being test piloted in Massachusetts and California. (Intel)

### **Intel Schools of Distinction Awards**

Intel recognizes schools that have demonstrated excellence in math and science education as Intel Schools of Distinction. Two elementary, middle and high schools receive \$10,000 cash grants and \$150,000 in products and services from sponsors in recognition of their achievements. Since its inception in 2004, SODA has recognized 80 schools from 30 states with awards totaling almost \$10 million dollars. (Intel)

### **Intel Science Talent Search and the Intel International Science and Engineering Fair and Educator Academy**

In 2008 Intel committed \$120 million over the next 10 years to stimulate more interest among youth in math and science, so they will be prepared to address global challenges in innovative ways. The funding from the Intel Foundation supports the company's historical commitment to the Intel Science Talent Search and Intel International Science and Engineering Fair, Programs of the Society for Science and Public. The support also adds a robust youth outreach program plus an online science community and science fair alumni network which includes a mentoring component.

For 11 years, Intel has sponsored America's oldest and most prestigious science competition, the Intel Science Talent Search. This program competition allows U.S. high school seniors to complete an original research project that is recognized and judged by a national jury of highly regarded professional scientists. Prizes and scholarship awards total over \$1.25M. Past winners have been the recipients of over 100 of the world's most coveted science and math honors including six Nobel Prizes and three National Medals of Science. In 2008 over 1602 entrants competed from 45 states, Puerto Rico and the Virgin Islands.

Intel sponsors the annual Intel International Science and Engineering Fair (ISEF), the world's largest pre-college science competition. This competition draws over 1500 of the world's brightest young science minds, from fairs all over the world which engage millions of young people in math, science, and engineering research. The Intel ISEF Educator Academy provides math and science-specific professional development the educators. There are approximately 466 affiliated fairs in the US in 46 states. Over \$4M in scholarships and awards were presented in 2008. (Intel)  
(Intel)

**Intel® Teach Program**

For a decade, the Intel® Teach Program has been helping K–12 teachers to be more effective educators by training them on how to integrate technology into their lessons, promoting problem solving, critical thinking and collaboration skills among their students. To date, the program has trained more than five million teachers in more than 40 countries, and is committed to reaching 13 million teachers by 2011. Working with local governments, Intel® Teach has trained over 400,000 teachers in the United States since its inception. (Intel)

**Intel Tuition for Teaching**

Tuition for Teaching offers Intel employees who share at commitment, who are passionate about becoming a teacher and making a positive impact on children's lives, the opportunity to help make that happen. The Intel Tuition for Teaching program reimburses expenses for any eligible U.S. Intel employee who would like to obtain their initial teaching certification and become a public school teacher.

**Intel Involved Matching Grant Program**

The Intel Involved Matching Grant Program has supported schools in U.S. site communities for ten years. Under IIMG in the U.S., the Intel Foundation grants a school \$200 for every 20 hours of combined Intel employee volunteer time the school accumulates each year. In 2008, Intel's 40th Anniversary employees around the world donated over 1 million hours of volunteer time. In the past decade over 1 billion dollars and 2.5 Million hours have been volunteered by Intel employees.

**Internships:** Micron provides work-based learning experiences for high school students attending partner schools. These semester-long experiences provide students the opportunity to apply the skills they are studying in a workplace environment and provide team members opportunities to give schools feedback on curricula. In 2006-07 Micron will provide its first "transitional" internships. These internships are designed to give freshman and sophomore college students, who have participated in internships at Micron while in high school, college internships opportunities. Historically, there has been a tendency to offer internships to upper classmen who are closer to employability. The transitional internships will provide continuity in the pipeline as Micron grows the talent pool. (Micron)

**Improving Student Achievement in Mathematics (ISAM)** – Program designed to improve public school mathematics instruction at all levels by enhancing teachers' subject knowledge and instructional effectiveness. ISAM provides Math Specialist Certificate Programs for elementary school teachers, and new Highly Qualified Math Teacher Program that helps students understand the applications of math in technology. (Qualcomm)

**J****Junior Achievement (JA)**

JA's programs guide youth to set and achieve higher educational and career goals, and develop the skills needed to achieve success. Spansion support of JA's After School Programs (in collaboration with groups such as YMCA and After-School All Stars) helps meet the community's needs by providing positive and productive activities to socially and academic at-risk students. This comprehensive after-school programming includes homework support, literacy development, games, sports, and arts & crafts. JA's unique after-school program contributes a curriculum of life skills development and workforce preparation. (ADI)

**L****Lawndale High School Partnership**

International Rectifier is proud of the partnership we've formed in "adopting" Lawndale (CA) High School. Lawndale High School was a functioning school for many years before being closed 9 years ago due to funding shortfalls. The school was reopened 4 years ago with a clear and strong focus on developing academic excellence and a "community center" to better serve at-risk students and their families. We support Lawndale with teacher development projects, field trips to our Wafer Fab facility, employee-taught classroom instruction and partnering our employees with Lawndale students in mentoring relationships. We're committed to making a difference in our community and to diversity through innovative partnerships like that we have with Lawndale. (International Rectifier)

**Lesson Plans and Presentations:** "States of Matter," "Parts of a Computer," and "What's a Capacitor?" are just a few of the lessons Micron has developed and provides on the Web. Lessons are aligned to the National Science Content Standards. (Micron)

**M****Mary Story Scholarship Award**

Mary was an International Rectifier employee who struggled throughout her life with debilitating physical challenges. Mary was hired into a position in the Company's El Segundo operation, and went on to become a team leader and a supervisor. She became a symbol of the heart and vitality of IR people, and went on to live an independent and full life.

In her later years, Mary was the informal leader of the alumni club, taking time everyday to stay in touch with past employees of the Company and to keep our senior leaders up to speed on their lives.

Mary passed away in 2004, and at her memorial service we announced the endowment of the Mary Story Scholarship Award. This year we were proud to give scholarship awards to 6 graduating high school seniors at our adopted school, Lawndale High School, to help them pursue their education regardless of barriers with which they are confronted. (International Rectifier)

### **Math in the Workplace**

Provides real-world demonstrations of the relevance of mathematics in a variety of careers. The problems are aligned with the National Standards for School Mathematics. (Micron)

### **MATHCOUNTS**

MATHCOUNTS is a national math competition for public middle-school students that gives thousands of seventh and eighth grade “mathletes” a chance to race against the clock to solve challenging mathematics problems. The program features a series of competitions and elimination rounds, based on team and individual efforts. Winners from these rounds compete in the national competition in Washington, D.C. In addition to providing major funding, TI supplies the handheld technology required annually to support local, state and national MATHCOUNTS competitions. (Micron, Texas Instruments)

### **MathForward™**

TI developed and implemented **MathForward™**, a program that combines instruction, professional development, curriculum integration and classroom technology to help middle school and high school students build confidence and achievement in mathematics. The intervention program has proven successful in significantly raising the test scores of students who previously failed state math assessment tests. Most pilot participants were African-American or Hispanic and most were from economically disadvantaged circumstances. First launched at a junior high in the Richardson Independent School District, today more than 40 schools from eight states participate. Leading mathematicians, researchers, educators and administrators assisted TI in the development of this researched based program. (Texas Instruments)

### **Massachusetts State Science Fair**

The Massachusetts State Science Fair is in its 59<sup>th</sup> consecutive year of celebrating inquiry-based learning, achievement and innovation in science and technology. Each year, more than 400 students participate in 10 categories, competing for over \$425,000 in cash and prizes. ADI is proud to support this important event. (ADI)

### **MIT MITES Program (Minority Introduction to Engineering and Science)**

MITES is a rigorous six-week residential, academic enrichment summer program for promising high school juniors who are interested in studying and exploring careers in science, engineering, and entrepreneurship. This national program stresses the value and reward of pursuing advanced technical degrees and careers while developing the skills necessary to achieve success in science and engineering in an increasingly racially and ethnically diverse nation and world. MITES is rooted in MIT's belief in the importance to our nation that minorities and other underrepresented segments of the population pursue higher education and careers in these fields. (ADI)

**N National Center for Urban School Transformation (NCUST) –** Qualcomm provided the seed funding to launch the NCUST. The goal of the Center is to develop an institutional infrastructure to support the transformational process in urban schools, providing a forum for practical, action-oriented dialogue with urban school districts. The Center's programs enable urban schools to develop customized processes for change. (Qualcomm)

**National Governors Association STEM Center Grants**

Intel provides leadership and funding to selected national organizations that help states build capacity to improve education. Recent examples include a \$500K grant to the National Governors' Association Innovation America Initiative to support 6 states (MN, PA, OH, CO, HI and VA) in developing K12 STEM Centers to improve math, science, engineering and technology education. (Intel)

**O On Demand Community**

On November 15, 2003, IBM introduced the On Demand Community, a first-of-its-kind initiative to encourage and sustain corporate philanthropy through volunteerism by arming employees with a rich set of IBM technology tools targeted for schools and non-profit community organizations. Four years later, more than 100,000 IBM employees and more than 12,000 retirees across 80 countries comprise On Demand Community, and have already donated almost 7 million hours of community service to schools and community organizations.

The new initiative includes a rich portfolio of more than 200 proven technology solution assets for schools and not-for-profits, plus online training and support materials for IBM volunteers that enrich their community work and link IBM's spirit of volunteerism to its on demand strategy.

If the employee uses the solutions and becomes a regular school volunteer, IBM will provide increased levels of technology or cash awards to the school.

School solutions include dynamic classroom presentations, online activities, and hands-on experiments to excite students about math, science and engineering; information on the use of technology in the preschool classroom and guidance on how parents can continue early learning at home; information for parents and community members about keeping children safe online; mentoring information and support from grade school through the university levels; and activities that enable IBM volunteers to assist teachers in exploring and understanding the Internet as a tool for teaching and learning. (IBM)

# P

## **Partners in Education**

A program linking math and science mentors and tutors with students in local schools Freescale received “Partner of the Year” Math Study Group of the Year” and “Individual of the Year” awards in 2007 for the Austin, Texas area. (Freescale)

In the Silicon Valley area, Xilinx partners with Oster Elementary for Rolling Readers, Robotics, Tutoring, ESL, and Junior Achievement, with Union Middle School for AVID, Technical phone support by Xilinx staff, and Smart start. They also partner with Leigh High School. Outside the Bay Area, Xilinx partners with the following schools. (Xilinx)

- Longmont, CO – Flagstaff Academy (charter school)
- Albuquerque, NM – Apache Elementary
- Nashua, NH – Brookline Elementary
- Singapore – Katong School
- Dublin Ireland

## **The Partnership for 21<sup>st</sup> Century Skills**

The Partnership for 21<sup>st</sup> Century Skills is a Coalition of Business, NGOs and Associations which serves as a catalyst to position 21st century skills at the center of US K-12 education by building collaborative partnerships among education, business, community and government leaders. Intel Chairs the Partnership in 2008-2009.

## **Power of Education Initiative**

For most teachers, the greatest barrier to reforming science curriculum is lack of time for planning. National Semiconductor is proud to support professional development through \$750,000 in grants to our Power of Education Partners, science education experts in our key U.S. communities:

- **California (Silicon Valley)**  
Santa Clara County Office of Education  
RAFT- Resource Area for Teaching
- **Maine (entire state)**  
Maine Mathematics & Science Alliance
- **Texas (Tarrant County)**  
Arlington Independent School District  
Mansfield Independent School District

The second greatest barrier for science teachers is a shortage of materials and resources. National Semiconductor’s Science in Action Awards provide up to \$2,000 for individual classrooms and up to \$5,000 for groups to purchase tools for hands-on science projects. In total, more than \$300,000 in grants will be given to support classroom hands-on science activities. (National Semiconductor)

### **PowerUp**

IBM has created a free multiplayer online game, PowerUp ([www.powerupthegame.org](http://www.powerupthegame.org)), challenging teenagers to help save the planet "Helios" from ecological disaster. The game is part of IBM's TryScience initiative and was launched at Engineer's Week 2008 opening on February 16, 2008 in Washington, D.C. IBM Chairman Sam Palmisano served as 2008 EWeek honorary chair, and IBM has supported EWeek since 1991.

PowerUp aims to use kids' interest in fantasy virtual worlds to encourage them to learn about engineering principles by riding over rugged mountains in buggies to build solar towers or searching through grim junk yards to repair wind turbines. They will also learn about energy conservation by the choices they make in completing their missions.

Along with the game, there will be classroom lesson plans associated with the energy transformation topics and an interactive module where kids can learn about 3D technologies to build virtual worlds. To ensure a safe environment, "avatars" will use phrase-based chats to interact in missions. (IBM)

### **Presentations and Site Visits**

Micron regularly hosts teachers to acquaint educators with the connections between the classroom and our workplace. In 2003, Micron leadership organized a community-wide **Business Education Exchange**. The program, sponsored by the Boise area Chamber of Commerce and the Boise and Meridian, ID School Districts, brings together 100 secondary teachers and 22 businesses for half-day site visits. Teachers learn what businesses and industries require of employees and see how the content they teach has application in work environments. (Micron).

ADI is involved in participation in local schools' career days, classroom presentations, student shadowing programs and teacher-engineer paired partnerships. They also provide a guest lecturer at a local high school in NH for a Mechanical/General Engineering class, 20 senior high school students. (ADI)

### **Principal Executive Partnership**

TI executives have also teamed up with school principals to provide coaching and apply best practices from the business world through the **Principal Executive Partnership**, an activity that has been adopted by numerous North Texas corporations through local chambers of commerce. (Texas Instruments)

### **Project HELP (High Expectations Learning Program)**

Through its extended school-year and school day instruction for at-risk students, Project HELP provides an additional 200 hours of instruction to bring students to grade-level performance and beyond. The program utilizes the expertise of the schools' finest teachers who also benefit by the added compensation and professional development opportunities offered by Project H.E.L.P. Companies have provided funding to bring this academic safety net to Sunnyvale elementary schools. In addition, member companies support Project H.E.L.P. through grants, board involvement, loaned meeting space and other in-kind resources. (AMD, National Semiconductor)

### **Project K-Nect**

Through Qualcomm's Wireless Reach™\* initiative and in partnership with the North Carolina Department of Public Instruction and Digital Millennial Consulting, Qualcomm is supporting Project K-Nect. Project K-Nect is a pilot education program using Smartphones with advanced mobile broadband technologies to deliver educational material to 9th grade students in Onslow, Durham and Winston-Salem/Forsyth Counties to improve math proficiency levels in the state. The project will run through June 2008 and be followed up with an extensive research study examining the viability of utilizing Smartphones to increase student achievement in mathematics. The project aims to increase math achievement as measured by proficiency in state testing and improved classroom performance by improving the academic involvement of harder-to-engage students who have struggled with math. It also seeks to dramatically impact the current digital divide by providing supplemental learning through mobile Smartphones with high-speed wireless connectivity to students who otherwise might not have access to a computer at home. (Qualcomm)

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\* Qualcomm believes access to advanced wireless voice and data services improves people's lives. Qualcomm's Wireless Reach™ initiative supports programs and solutions that bring the benefits of connectivity to developing communities globally. By working with partners, Wireless Reach projects create new ways for people to communicate, learn, access health care and reach global markets.

### **Project Lead the Way**

Intel also develops and supports customized programs and initiatives to support local needs in states where Intel has a business presence. In 2007 over \$2M funded such initiatives. For example to create interest and experiences in engineering Intel supports partner schools in six states with equipment labs and professional development to implement *Project Lead the Way*, a nation wide, college prep based high school engineering curriculum and middle school outreach program. (Intel)

Qualcomm supports the California State affiliate, SDSU, to train teachers in the PLTW curriculum and pedagogy. (Qualcomm)

### **Project Tomorrow**

International Rectifier supports Project Tomorrow, a K-12 science collaboration of educators and business leaders, through sponsorship of the organizations annual recognition event for Orange County, CA educators. (International Rectifier)

## **Q**

### **Qualcomm Career Experience**

High school students visit Qualcomm's corporate headquarters to learn first-hand about life as a Qualcomm engineer. A panel of employee volunteers share their experiences, background, career path, and inspirations. Students also take a tour of Qualcomm high-tech manufacturing facilities. (Qualcomm)

## **R**

### **Reading Companion**

Reading Companion grew out of IBM's flagship Reinventing Education program, and was launched in 2006. It is IBM's web-based literacy program that uses novel speech recognition technology to help adults and children gain and increase literacy skills. Reading Companion's innovative software "listens" and provides feedback, enabling emerging readers to practice reading and pronunciation as they acquire fundamental reading skills.

The program represents a decade of investment by IBM, which is committed to improving the literacy skills of children and adults around the world. It was developed by IBM Researchers working with IBM partner schools and not-for profit organizations to ensure this technology is effective and easy to use in assisting individual learners to read. Reading Companion's web-based format will bring this technology to tens of thousands in need of assistance, and is currently in operation at over 400 schools and nonprofit organizations around the world.

### **Reinventing Education**

The Reinventing Education grant program is the primary vehicle through which IBM contributes its expertise and knowledge to spur and support school reform efforts throughout the world. Through this \$75 million program, IBM has been working closely with teachers, administrators and parents to drive systemic changes through the innovative use of technology. To this end, IBM is contributing more than just money; it is dedicating its world-renowned researchers, educational consultants, and technology. Through these contributions, IBM is finding new ways for technology to overcome deeply entrenched barriers to education in order to improve schools and raise student achievement.

Reinventing Education encompasses 25 sites in the United States, as well as 12 countries throughout the world – Australia, China, Germany, India, Italy, Ireland, Japan, Mexico, Singapore, the United Kingdom, Vietnam, and the State of Rio de Janeiro in Brazil. In the United States, IBM is working primarily with large urban districts (such as New York City, Philadelphia, Detroit, Chicago, Atlanta, Boston) that struggle with a host of educational challenges, including access to technology, as well as with states with large rural populations (Vermont, West Virginia) that traditionally are outside of the technology mainstream.

Each project is working to overcome a specific barrier to school reform, such as the length and structure of the school day and year, how learning is measured, and how language, math and science are taught. Collectively, the projects address nearly every aspect of the education agenda -- from home-school communications, to data management and analysis, classroom instruction, teacher training, and student assessment. The program also includes an interactive Web-based toolkit ([www.reinventingeducation.org](http://www.reinventingeducation.org)), based on the work of Harvard Business School Professor Rosabeth Moss Kanter, to help school leaders expand and sustain their reform efforts.

IBM's efforts are making a difference. An independent evaluation by the Center for Children and Technology found significant student gains in every core academic area in grades 7-11 and reported that many of the technological and educational changes induced by the grants are becoming institutionalized. In addition, researchers from Vanderbilt University found that, as a result of a grant with the Houston Independent School District, first-graders test significantly higher in reading on both word recognition and comprehension tasks.

In 2007, IBM convened an Asia Pacific Reinventing Education Summit in Shanghai, China. Program partners participated, as well as education leaders from 13 countries across Asia. (IBM)

### **RESEED**

RE-SEED is a nonprofit dedicated to helping retirees from the technology sector share their knowledge and excitement with local students. (ADI, National Semiconductor)

### ***Resource Area for Teachers (RAFT)***

RAFT provides needed classroom supplies to teachers for hands-on instruction for students, trains teachers to use hands-on methods for science and math, and effectively recycles corporate discards and overstocked or discontinued products, all while providing an unofficial forum for teacher collaboration. The organization is an integral part of corporate recycling programs, receiving office discards and other in-kind donations for reuse by teachers and nonprofit organizations. In addition, AMD, National Semiconductor, Spansion and Xilinx provide the organization with ongoing financial support and volunteers. (AMD, National Semiconductor, Xilinx, Qualcomm)

### **Rising Star**

The TI Foundation funds “**Rising Star**” scholarships, guaranteeing a two-year education to any Dallas County student in the top 40% of his or her high-school class with a financial need (Texas Instruments)

### **Rocket Launch**

These programs are offered to 4<sup>th</sup> – 5<sup>th</sup> grade students in select partner schools. Engineers volunteer to help students design and build small rockets over a series of 6 one-hour meetings, and then one morning to meet and shoot off the rockets in a controlled environment, measuring height and distance of travel. The students are given awards for their hard work. (Freescale)

## **S**

### **San Diego Science and Engineering Fair**

The mission is to maintain a continuous process that encourages and rewards professional excellence, promotes educational enrichment, and provides unique opportunities for independent achievement in science and technology for the thousands of seventh through twelfth grade students of all private, parochial, and public schools of the Greater San Diego Region wishing to participate. (Qualcomm)

### **San Diego Science Alliance**

San Diego Science Alliance is the catalyst for improving K-12 science education in San Diego County. They deliver quality experiential programs, build bridges between the region’s diverse business, education and scientific research communities, and foster public/private partnerships to increase science literacy. (Qualcomm)

### **Santa Clara University – Raising and Ethical Child**

The programs offered by Santa Clara University include a parenting series called Raising an Ethical child. These classes are open not only to the employees but to instructors at Oster Elementary, Union Middle and Leigh High who are dealing with at risk families with the hopes of keeping these students involved in school and getting the support they need from the community to be successful. In order to facilitate the opportunity for parents to attend we provide free child care onsite at the Xilinx campus while the sessions are taking place. (Xilinx)

### **School Supply Drives**

Freescale employees donated school supplies and volunteered their time to support under-served children getting the needed supplies to start school. They participated in the Salvation Army Pack-to-School Supply Drive, the Manos de Cristo “Back to School Program”, Communities in Schools and the “For the Children” annual drive addressing 10 Central Texas School districts. (Freescale)

### **Science Buddies**

Through this online mentoring program, scientists and engineers volunteer as advisors to help students in grades 7-9 complete science fair projects. The young “explorers” get the help they need as their high-school mentor and industry advisor guide them through successful completion of their project using a powerful online project management tool. By working with industry volunteers, students also gain a better understanding of how science is applied in the workplace, thus strengthening the school-to-work connection for students.

Science Buddies is a non-profit organization empowering students from all walks of life to develop a love of science and an understanding of the scientific method. With the help of mentors and advisors, Science Buddies helps students improve their science skills and literacy, and inspires them to consider additional study or careers in science. (AMD, National Semiconductor, Qualcomm)

### **Science Discovery Museum**

Designed for Elementary, Middle, and High School students in the Boston, Massachusetts area. The Science Discovery Museum offers powerful interactions with hands-on physical science exhibits that elicit curiosity and encourage observation, questioning, testing, and sharing ideas. (ADI)

### **Secondary Science Olympiad**

For the past 25 years, Science Olympiad has led a revolution in science education. What began as a grassroots assembly of science teachers is now one of the premiere science competitions in the nation, providing rigorous, standards-based challenges to more than 5,700 teams in 48 states. Science Olympiad's ever-changing event lineup provides a variety of career choices and exposure to practicing scientists and mentors. In the words of a Science Olympiad alumnus: "I consider Science Olympiad the most important and influential activity I participated in during my middle school and high school career." (Qualcomm)

### **Site Visits**

Micron provides visits to its facilities with presentations customized to meet specific learning objectives for students in grades 7-12. Additionally, Micron offers specialized site visits for students of partner schools who have the opportunity to pursue pre-engineering curricula like Project Lead the Way or electronics courses. These site visits allow students to see application of the content they are learning in the classroom. (Micron)

### **Skillpoint Alliance**

AMD has been an active partner with Skillpoint Alliance whose mission it is to build partnerships among industry, education and the community, thus leading to college and career success for Central Texans, while meeting employers' needs for a qualified workforce.

AMD provides leadership on the Texas Technology & Education Executive Council. (AMD)

### **Solar System Unit**

ADI organizes and delivers a unit on the solar system to entire 4<sup>th</sup> grade, approximately 700 children, of Wilmington, MA, designed to get students in this early grade excited about science. (ADI)

### **Southwest Key**

Southwest Key is a National Nonprofit Organization headquartered in Austin, Texas and provides services that positively impact the lives of youth and families. AMD sponsored the Community Technology Center at Southwest Key's new East Austin Community Development Project. The center provides Boys & Girls Club Computer programming classes, a college connections program, GED/ESL classes and bilingual computer literacy classes. (AMD)

### **Spark a Passion for Science and Math**

In 2007 Micron hosted its first workshop for elementary teachers hosting the entire faculty from a math/science magnet school. Teachers learned how to incorporate appropriate Micron lessons into their curricula to enhance their science program. (Micron)

### **Sunnyvale School District**

AMD-Sunnyvale first partnered with the Sunnyvale School District in 1989 when it began a comprehensive effort to help address the needs of the district's middle school students at Sunnyvale Middle School. The partnership expanded in 1994 with the opening of Columbia Middle School. At both schools, AMD has sponsored programs before and after school to help provide safe and enriching activities for students, as well as homework support and tutorials, during their parent's traditional work hours. In addition, AMD provides funding for targeted academic programs. Recently AMD supported the schools' efforts to improve math achievement by supporting implementation of a computer-based interactive algebra program at both schools. Volunteers from AMD help at a variety of events throughout the school year. Through these and other programs, AMD is helping to improve student attendance and reduce juvenile crime in the neighborhoods around the partner schools, and is working to ensure that students gain the skills necessary for future success. (AMD)

# T

## **T<sup>3</sup> - Teachers Teaching with Technology™**

Through **T<sup>3</sup> - Teachers Teaching with Technology™**, Texas Instruments provides professional development services to help schools and teachers improve teaching and learning through the successful integration of handheld technology into the classroom. Begun in 1986, T<sup>3</sup> has reached over 100,000 teachers worldwide through 1- to 5-day math and science workshops. And today, T<sup>3</sup> is expanding to offer courses beyond math and science, as well as offering online, self-paced course delivery. (Texas Instruments)

### **Teacher Recognition**

National believes that to truly impact education, we must focus our support on teachers. National honors outstanding California teachers by providing stipends for teachers selected through the California Department of Education's Teacher of the Year Recognition Program and the Santa Clara County Office of Education's Teacher Recognition Program. (National Semiconductor)

Intel supports the National Teacher of the Year program at the local, state and national level in Oregon, California and Arizona. The Oregon Teacher of the Year program is sponsored by Intel Corporation and in 2008 Intel provided support to the 2008 National Teacher of the year, and Oregon educator, by covering his salary and providing him with a laptop computer and blackberry during the 2008-09 school year, allowing him to fulfill his national and international duties. (Intel)

### **Tech Museum of Innovation**

The Tech Museum of Innovation mission is to serve as an educational resource that engages people of all ages and backgrounds in exploring and experiencing technologies affecting their lives, and to inspire young people to become innovators in developing technologies of the future. AMD provides funding for The Tech Challenge, an annual event where teams of fifth through twelfth graders are presented with a design challenge to solve a reality-based problem. The Tech Challenge provides an engaging hands-on, real-life experience for students with the potential to ignite real interest in science and engineering fields. (AMD)

### **Technology and Equipment Grants Schools**

Intel sites provided equipment donations to computer labs and classrooms to enable rich content and on-line tools and simulations to enhance teaching and learning. In 2007 over \$1M worth of equipment was donated in Intel communities. (Intel)

### **Texas BEST (Boosting Engineering, Science and Technology)**

Since the early 1990s, TI engineers have been helping high school students put their competitive spirit to work in a robotics competition called **Texas BEST (Boosting Engineering, Science and Technology)** that challenges students to build remote-controlled robots. Each year the competition attracts entries from nearly 700 middle and high schools and more than 8,000 students across several states each fall. (Texas Instruments)

### **TI Math Scholars**

The **TI Math Scholars** program at the University of North Texas Dallas Campus aims to add the pool of qualified math educators by offering full scholarships with book stipend, to students pursuing their Bachelor of Arts degree in Mathematics with Secondary Certification at the UNT Dallas Campus. The students will teach in Dallas ISD or select neighboring school districts for a minimum of two years in return for this scholarship opportunity. (Texas Instruments)

### **TraduceloAhora**

IBM's ¡TraduceloAhora! Automatic Translation Project ([www.traduceloahora.org](http://www.traduceloahora.org))

¡TraduceloAhora! (or "translate now" in English) is a program that uses IBM WebSphere Translation Server software to not only translate web sites from English to Spanish but also offers bidirectional email translations (English <=> Spanish) to enhance communications between teachers and Spanish-speaking parents. More than 500 schools and nonprofit organization in the U.S. and Latin America are participating in this grant program.

### **Transition to Teaching**

In September 2005, IBM announced that it will help address the critical shortage of math and science teachers to assure that every child has the best preparation in math and science by leveraging the brains and backgrounds of some of its most experienced employees, enabling them to become fully accredited teachers in their local communities upon electing to leave the company.

The IBM Transition to Teaching program began as a pilot in January 2006 and currently has about 100 participants. Eight IBMers have graduated from the program and have become math and science teachers. We have participants in 17 states and are working on teacher certification policy in nine states. IBM is reimbursing participants up to \$15,000 for tuition and stipends while they student teach, as well as providing online mentoring and other support services in conjunction with partner colleges, universities and school districts. (IBM)

### **Treasure Valley Math and Science Center**

Now in its third year of operation. With a \$1 million donation from the Micron Foundation, local school districts have teamed with industry and community partners to develop this exciting school. The program provides a facility and programs to enhance educational excellence in the areas of science, math, and technology by encouraging inquiry-based learning, high-level thinking, discovery, and research. (Micron)

### **TryEngineering**

IBM is the technology partner of TryEngineering, a web site owned by IEEE (Institute of Electrical and Electronics Engineers, Inc.). Designed to appeal to a wide range of audiences, TryEngineering's goal is to inform teachers, school counselors, parents, and students about engineering and what engineers do. The site combines interactive activities with valuable information on careers in engineering. (IBM)

### **TryScience**

TryScience at [www.tryscience.org](http://www.tryscience.org), the first worldwide science and technology center, is a collaboration of the New York Hall of Science, IBM, and the more than 600 member institutions of the Association of Science-Technology Centers. TryScience, which is available in nine languages (Arabic, Chinese, Dutch, English, French, Italian, Japanese, Portuguese and Spanish), offers a virtual means for people to gain access to and discover the science presented by museums around the world through interactive exhibits, multimedia adventures, and live camera "field trips." TryScience also provides hands-on science projects that children, parents, and teachers can do at home or in school.

TryScience features "The Grid," interactive online and interactive activities, inspired by another IBM community program called World Community Grid ([www.worldcommunitygrid.org](http://www.worldcommunitygrid.org)), a public computing grid focused on humanitarian research. The activities are a dynamic and fun way to teach children about grid computing, an innovative technology that is becoming more and more common in business, education and other sectors of our society; at the same time, the activities encourage students to join World Community Grid, teaching them the importance of civic involvement and giving back to their communities.

A special view for teachers, compiled by the National Science Teachers Association Webwatchers' Team, correlates many of the TryScience experiments with National Science Education Standards and SciLinks codes. The view also provides advice on how to use TryScience's hands-on activities to augment the core curriculum and to deliver key concepts. (IBM)

## **U UC Math and Science Initiative**

In some instances state initiatives can serve as national models and demonstration projects. Intel committed \$2M to just such an initiative, the University of California Math Science Initiative which will produce 1,000 highly qualified science and mathematics secondary school teachers annually by 2010. (Intel)

### **“Un Sabado Gigante in Engineering” in Texas**

It is a one-day program designed to inspire 500 plus middle school students about engineering and science. The program is open to all middle school students with a priority on Hispanic students. The focus of the program is to expose and inspire students to the opportunities in Engineering and Science; therefore, the attendee requirements are not based on school grades. There will also be a simultaneous program for parents to educate them on the advantages of a college education. Sponsored by Freescale’s Employee Resource Group HEAT (Hispanic Education and Awareness Team).

## **V Visioneering**

TI sponsors a one-day event during National Engineers Week titled, “**Visioneering**” that promotes engineering career awareness to middle school students. Participants are exposed to the fun and exciting side of engineering. Visioneering sits at the crossroads of a day at the mall, an exciting sporting event, a live concert, and the science fair and delivers the substance teachers and parents want, with the fun young people crave. Since 2001, more than 7,000 students, teachers and industry volunteers have participated in the program.. (Texas Instruments)

**IBM** - The IBM Matching Grants Program enables employees and retirees to increase the value of their donations to higher education institutions, hospitals, hospices, nursing homes, and cultural and environmental organizations with a matching gift from IBM. The program has been enhanced for the first time to offer participating universities a selected set of solutions and services, in addition to the hardware and software products available previously. This aligns the program more closely with IBM’s strategic initiatives as a global provider of services and technology solutions.

The IBM Pre-K/K-12 Matching Grants Program is a special program that enables employees and retirees to contribute selected IBM equipment and software to eligible K-12 schools of their choice. This program is unique among corporate Matching Grants programs both in its focus on K-12 education and in its grounding in technology.

In 2007, more than \$8 million in cash and \$6 million in equipment were donated through the program to almost 6,000 institutions across the U.S.

### **National Semiconductor**

Through National Semiconductor's Giving Program, employees can receive a company match of personal donations up to \$1500 per fiscal year. In addition, employees can receive \$500 grants for the organizations in which they volunteer their time. Last year alone, \$952,000 was donated to 972 nonprofit organizations and accredited schools through National's Giving Program.

## **W**

### **“Women in Technical Careers”**

Designed to address the under-representation of women in STEM careers, **WITC** offers lunchtime career panel presentations for female students grades 9-12 in the Boise, Idaho, area. Women from Micron, HP, iLEVEL by Weyerhaeuser, the Society of Women Engineers, and Boise State University College of Engineering, make up the panels. They address issues young women face in engineering and other high tech career paths. (Micron)

### **Writing in the Workplace**

Provides samples of the use of technical writing at Micron with materials teachers can use as they develop technical writing curricula. (Micron)

## **Y**

### **Youth Science Institute**

YSI focuses on hands-on learning of life sciences, physical sciences and social sciences, including biology, chemistry, physics, geology and astronomy. Programs are conducted at its three Science and Nature Centers in Vasona, Sanborn and Alum Rock parks, in schools and at community events. Centers feature live mammals, birds, insects, amphibians and reptiles in some combination.

YSI's science education methods develop the critical thinking skills that are necessary for a child's academic success, which ultimately impacts his or her opportunity for economic success. In addition, YSI programs help children understand and appreciate the delicate interrelationships between themselves and the world around them. This inspires them to be involved citizens, developing their capacity to contribute to their local community and the health of the planet. (Xilinx)

## Web Based Resources Recommended By Member Companies

Advanced Placement Digital Library/Rice University - <http://apdl.rice.edu>

Center for Advanced Learning - [www.thecenterforadvancedlearning.org](http://www.thecenterforadvancedlearning.org)

Central Texas Engineers Week - [www.centexeweek.org](http://www.centexeweek.org)

Challenger Learning Center of Colorado Springs - [www.clccs.org](http://www.clccs.org)

Discovery Science Center Museum - [www.dcsm.org](http://www.dcsm.org)

Eternal Egypt - [www.eternalegypt.org](http://www.eternalegypt.org)

George Lucas Educational Foundation - <http://www.edutopia.org/>

Girls Inc. - [www.girlsinc.org](http://www.girlsinc.org)

Hermitage Museum - [www.hermitagemuseum.org](http://www.hermitagemuseum.org)

IISME - [www.iisme.org](http://www.iisme.org)

Junior Achievement - [www.ja.org/nested/santaclara](http://www.ja.org/nested/santaclara)

Just for the Kids - [www.just4kids.org](http://www.just4kids.org)

KidSmart Guide to Early Learning & Technology - [www.kidsmartearlylearning.org](http://www.kidsmartearlylearning.org)

MATEC - <http://www.matec.org/>

MATHCOUNTS - [www.mathcounts.org](http://www.mathcounts.org)

Mentor Place - [www.mentorplace.org](http://www.mentorplace.org)

MESA - [www.mesa.ucop.edu](http://www.mesa.ucop.edu)

Micron for Students - [www.micron.com/students](http://www.micron.com/students)

Micron K-12 Resources - [www.micron.com/k12](http://www.micron.com/k12)

Micron Lesson Plans – [www.micron.com/k12/lessonplans/](http://www.micron.com/k12/lessonplans/)

Micron Math in the Workplace - [www.micron.com/k12/math/](http://www.micron.com/k12/math/)

Mind Institute - [www.mindinst.org](http://www.mindinst.org)

National Semiconductor's Science in Action - [www.nsawards.com](http://www.nsawards.com)

Oregon School-to-Work - [http://www.oregon.gov/DOC/HR/kid\\_welcome.shtml](http://www.oregon.gov/DOC/HR/kid_welcome.shtml)

Project HELP - [www.project-help.org](http://www.project-help.org)

Project Tomorrow - [www.tomorrow.org](http://www.tomorrow.org)

PowerUp - [www.powerupthegame.org](http://www.powerupthegame.org)

Reading Companion – [www.readingcompanion.org](http://www.readingcompanion.org)

Smithsonian National Museum of African American History and Culture – [www.nmaahc.si.edu](http://www.nmaahc.si.edu)

The Education Trust - [www.edtrust.org](http://www.edtrust.org)

TraduceloAhora - [www.traduceloahora.org](http://www.traduceloahora.org)

TryEngineering - [www.tryengineering.org](http://www.tryengineering.org)

Try Science - [www.tryscience.org](http://www.tryscience.org)

Writing in the Workplace - [www.micron.com/k12/writing/](http://www.micron.com/k12/writing/)