



**Montgomery County Public Schools (MCPS)
Technology Action Agenda for K-12**

**Annual Report
2006-2007**

DRAFT

Contents

Purpose and Background	Page 2
Recommendation 1: Marketing and Recruiting	Page 3
Recommendation 2: Retention and Culture Building	Page 6
Recommendation 3: Curriculum and Professional Development	Page 12

Purpose

The purpose of this annual report is to document progress made in 2006-2007 toward meeting the recommendations proposed in the task force report, *Montgomery County Public Schools (MCPS) Technology Action Agenda for K-12*. The task force report made the following set of recommendations to ensure that girls and underrepresented populations within MCPS are prepared to enter the workforce with critical technology skills:

Recommendation 1: Marketing and Recruiting

Create a comprehensive marketing plan to raise the awareness of parents/guardians and educators that the skills and talents of girls are vital to technology-related professions.

Recommendation 2: Retention and Culture Building

Create and expand articulated and integrated technology pathway multi-year programs over stand-alone courses. Provide options for culture-building and supportive experiences to retain students in technology programs.

Recommendation 3: Curriculum and Professional Development

Partner with business and higher education to create a seamless K-16 educational system that aligns curriculum and requires technology-related units or course work by all K-12 students by 2010.

Background

In March 2005, the Montgomery County Commission for Women requested that MCPS convene a *Girls in Information Technology (IT) Task Force* to address the crisis involving the national, state, and regional shortage of women entering IT-related career fields and the lack of female enrollment in MCPS technology programs.

The task force was a multi-stakeholder group chaired by Nancy Floreen, member, Montgomery County Council, and vice-chaired by Carroll McGillin, National Initiatives Manager, Cisco Networking Academy Program, Cisco Systems, Inc. On August 24, 2006, the task force presented their report, *(MCPS) Technology Action Agenda for K-12*, to the Board of Education for Montgomery County Public Schools.

Recommendation 1: Marketing and Recruiting

Create a comprehensive marketing plan to raise the awareness of parents/guardians and educators that the skills and talents of girls are vital to technology-related professions.

Public Relations

In 2006-2007, a coordinated campaign was established to publicize *MCPS Technology Action Agenda for K-12* initiative program models and supporting events. Press releases were published through the MCPS Public Information Office, provided to local print and electronic media sources, and posted on the MCPS website home page. Events were also published in the MCPS newsletter, *The Bulletin*, that is distributed district-wide to all school staff, and the Division of Career and Technology Education newsletter. In addition, MCPS QuickNotes, a monthly electronic newsletter available to parents, staff, and the community at large was used to publicize technology events and educational experiences. A sampling of technology programs and events publicized are listed below.

- Academy of Information Technology Pinning Ceremony – October 2006
- National Engineer's Week Celebration on *Introduce a Girl to Engineering Day* – February 2007
- Ad placed in *The Gazette* newspaper for technology internship sites – February-March-April 2007
- 2007 Professional Development Conference for Students – May 2007
- Academy of Information Technology Graduation – May 2007
- Advanced Engineering - Project Lead The Way Graduation – June 2007
- *Plan for the Future* Summer Camps – June 2007
- 2007 CTE Student Excellence Award – Massielle Begazo, PLTW student – June 2007

A June 2007 Washington Post article, *Engineering Program Builds Road to College*, featured the success of a four-year technology pilot, Advanced Engineering – Project Lead The Way. Six of the 26 graduates at the Wheaton High School site were female, and all but three of the graduates were from underrepresented populations. This single program has helped students gain admittance to top universities and yielded \$1.6 million in college scholarships.

Website

A website was established for the MCPS Technology Action Agenda for K-12 initiative. It includes the task force report, links to middle and high school technology programs, events, news items, photos, video clips, and links to national and state resources. The website is: <http://www.montgomeryschoolsmd.org/departments/cte/techagenda>.

Community Outreach Presentations: Parents, Business, Post-Secondary Education

- Montgomery County Council of Parent Teacher Associations (MCCPTA)
- Montgomery County High Tech Council
- Montgomery County Council Committee for Education
- Montgomery College

Internal Communication: Events for MCPS Professionals

- *Plan for the Future Seminar Series* – January 2007
This three-part series for high school and middle school counselors highlighted technology pathway programs and was developed in collaboration with partners from

higher education and business. Each of the programs in the series took place at one of the three Montgomery College campuses.

- *Third Annual Partners for Rigor through Relevancy Conference* –June 2007
This one-day district-wide conference explored 21st century skills that students will need to compete in a global marketplace. Futurist Ed Barlow and breakouts on Science, Technology, Engineering, and Mathematics (STEM) and e-learning highlighted the expanding role of technology and the urgency for schools to update technology programs.

Student Recruitment Events

- *Girls in Technology Team Business Workshop* – February 2007
This one-day event for girls was sponsored by The Women and Girls in Technology Education foundation and took place at Northrop Grumman Corporation in McLean, Virginia. More than forty MCPS girls attended the hands-on workshop.
- *Computer Mania* – May 2007
This one-day event targeted middle school girls and was sponsored by the Center for Women and Information Technology at the University of Maryland, Baltimore County. MCPS middle school girls and their parents attended.
- *What is Engineering?* – Summer 2007
Johns Hopkins University sponsored this summer program for high school. To promote the program, the university invited students to attend an on-campus seminar in March 2007 and visited classrooms.
- *2007 Summer Computer Camps for Girls* – Summer 2007
This summer camp program was designed for MCPS girls in grades 6-9 and offered by Montgomery College in partnership with the Montgomery County Commission for Women and MCPS. Camps took place at all three Montgomery College locations – Germantown, Rockville, and Takoma Park – and offered two programs: *Computer Programming for Middle School Girls!* and *GURL Power Web Design*.
- *Plan for the Future Summer Camp* - June 2007
This week-long camp was designed for middle school students and sponsored by the MCPS Division of Career and Technology Education at three locations – Gaithersburg High School, Seneca Valley High School, and Wheaton High School. At each site, technology programs in engineering/robotics and information technology were offered. Below are the courses offered at each location and the enrollment by gender for each.

Plan for the Future Camp Location	Program	Male	Female	Total
Gaithersburg HS	MyWeb	14	12	26
	Engineering/Robotics (Battle Bots)	33	10	43
Seneca Valley HS	MyWeb	18	16	34
	TechnoArt	9	20	29
Wheaton HS	MyWeb	12	11	23
	Engineering/Robotics (Battle Bots)	18	5	23
Total Enrolled		104	74	178

Student Survey

In preparation for a middle school course pilot, *Information and Communication Technologies Grade 6*, 109 students entering grade 6 at five schools provided a profile of how they currently use technology and their interest in entering a career that uses technology. Forty-five percent of the students indicated an interest in pursuing a career using technology. More than sixty percent of students report using the computer to play games, e-mail friends, surf the web, listen and download music, research, and complete school work. Gender differences in student use indicate girls use the computer more than boys to e-mail, read and write blogs, listen to music, learn new skills, view and create photo galleries, shop, and research.

Recommendation 2: Retention and Culture Building

Create and expand articulated and integrated technology pathway multi-year programs over stand-alone courses. Provide options for culture-building and supportive experiences to retain students in technology programs.

In fall 2005, MCPS implemented whole-school technology magnet programs at two middle schools, Argyle Magnet Middle School for Information Technology and Parkland Magnet Middle School for Aerospace Technology. All students at each school participate in specialized technology courses. The technology theme at each school is infused within core subjects as well as extended learning opportunities to create a culture that encourages students to enroll in high school technology programs. Argyle Middle School has installed computer labs and Smart Boards to support the information technology theme. Parkland Middle School completed a renovation during summer 2007 and will begin the 2007-2008 year with new technology to support the aerospace curriculum.

Staff members of the Department of Shared Accountability (DSA) continue to conduct a grant-funded evaluation of the Middle School Magnet Consortium which includes the technology magnet programs at Argyle and Parkland. Evaluation activities in 2006-2007 included the following: observations, teacher surveys and teacher interviews about the professional development model; observations of grade 6 instruction in magnet focus and core academic courses; student and parent satisfaction surveys; and analysis of multiple indicators of student achievement including enrollment and performance in above-grade level courses and Maryland School Assessment scores. Results of these data collection activities have been shared with program staff and will be reported in DSA evaluation briefs later this year.

In 2006-2007, three successful national high school technology models were expanded: Advanced Engineering - Project Lead The Way (PLTW), Academy of Information Technology (AOIT), and the CISCO Networking Academy were expanded. A fourth technology program, Interactive Media Productions, is under development with a tentative start date of Fall 2009.

Each technology pathway has been designed to include the following integrated program components to create a culture to retain students. A menu of culture-building experiences has been established to guarantee relevance and student engagement and support. A sampling of culture-building experiences includes co-curricular activities, mentoring programs, student conferences, shadow day, and program graduations. Partnerships have been established with business, government, non-profit organizations, and postsecondary education to leverage resources and provide a community network of support for students. Each technology pathway program includes a rigorous sequence of courses, internship or capstone project, opportunity to earn college credit and/or industry certification, and an advisory board.

Listed below are descriptions and 2006-2007 data for each high school technology model. The following MCPS high school enrollment demographics are provided for comparison purposes.

2006-2007 MCPS High School Demographics						
% Gender		% Racial/Ethnic Composition				
Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
51.4%	48.6%	0.3%	14.6%	22.9%	43.5%	18.7%

Advanced Engineering - Project Lead The Way

Advanced Engineering - Project Lead The Way is a pre-engineering national program model with a four-year sequence of courses. Students are required to complete five credits including a capstone research course in which students work in teams to research, design, and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor. A Capstone Symposium is held each spring where students present their research report and defend their solutions to a panel of outside reviewers. Students may earn up to 18 college credits.

In June 2007, PLTW graduated the first cohort of 39 students. More than sixty-four percent were minority students and nearly eighteen percent were female. Collectively, the graduates earned 1.6 million in scholarships. Three girls who completed the program will attend Cornell University with full scholarships starting fall 2007. More than 800 underclassmen in grades 9, 10, and 11 are in the pipeline.

Program Implementation Schedule

2006-2007 Advanced Engineering - Project Lead The Way Sites	
School	Year Implemented
Col. Zadok Magruder High School	2003-2004
Wheaton High School	2003-2004
Watkins Mill High School	2004-2005
Walt Whitman High School	2004-2005
Poolesville High School	2005-2006
Paint Branch High School	2006-2007
Rockville High School	2006-2007

Graduate Data

2007 Advanced Engineering - Project Lead The Way Graduates								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	39	32	7	0	3	5	14	17
%		82.1%	17.9%	0.0%	7.7%	12.9%	35.8%	43.6%

Enrollment Data

2006-2007 Advanced Engineering - Project Lead The Way Enrollment								
Level 1: Principles of Engineering								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	415	333	82	0	43	90	164	118
%		79.5%	20.5%	0.0%	10.4%	21.7%	39.5%	28.4%
MCPS Course #: 5150-A/5151-B								
Level 2: Introduction to Engineering Design								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	327	263	64	2	44	71	120	90
%		80.4%	19.6%	0.6%	14.5%	21.7%	36.6%	27.5%
MCPS Course #: 5152-A/5153-B								
Level 3: Digital Electronics								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	94	81	13		17	14	24	39
%		86.2%	13.8%	0.0%	18.1%	14.9%	25.5%	41.5%
MCPS Course #: 5156-A/5157-B								

Level 4: Computer Integrated Manufacturing								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	104	94	10		14	21	35	34
%		90.4%	9.7%	0.0%	13.5%	20.1%	33.7%	32.7%
MCPS Course #: 5154-A/5155-B								
Level 4: Engineering Design and Development								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	39	32	7	0	3	5	14	17
%		82.1%	17.9%	0.0%	7.7%	12.9%	35.8%	43.6%
MCPS Course #: 5158-A/5159-B								

Culture-Building Experiences Documentation

2006-2007 Advanced Engineering - Project Lead The Way Culture-Building Experiences		
Event /Co-curricular Program	Description	Date
ACE Mentoring Program	This after school program meets bi-monthly and matches students in grades 9-12 with engineers from the business community. The program took place at Watkins Mill and Wheaton high schools.	September 2006 – June 2007
FIRST Robotics Competition	This nationally affiliated after school program brings students in grades 9-12 together to design and build a robot that will compete in organized competitions. The program receives technical and financial support from area businesses. High schools, Col. Zadok Magruder and Walt Whitman, participated in the program.	September 2006 – May 2007
National Engineers Week Celebration	A one-day event took place at Wheaton High School in celebration of National Engineers Week. Representatives from business, higher education, and the Maryland State Department of Education attended. Pilot seniors were recognized as the first graduating class.	February 2007
2007 Professional Development Conference for Students	This one-day event is sponsored by the MCPS Division of Career and Technology Education (CTE) and the Montgomery County Business Round Table for Education (MCBRE). It is modeled after adult professional development conferences with a selection of workshops presented by technology-related businesses.	May 2007
Capstone Symposium	Graduating seniors are required to work in teams to complete a capstone open-ended engineering problem. Teams are required to present their report and defend the solutions to their problem to a panel of outside reviewers from industry and higher education at a Capstone Symposium.	May 2007

Advisory Board

An advisory board has been established for Advanced Engineering Project Lead The Way. It includes representatives from business, postsecondary education, government, non-profit organizations, and MCPS. The advisory board membership list is printed under the “Recommendation 3” section of this report. The board provides technical expertise and supports culture-building experiences for students.

CISCO Networking Academy

The CISCO Networking Academy utilizes a blended learning model, integrating face-to-face teaching with a challenging web-based curriculum, hands-on lab exercises, and internet-based assessment. Academy graduates are prepared for networking and information related careers, as well as for higher education in engineering, computer science and related fields. Instructors are trained by Cisco Systems.

The program includes a sequence of two year-long courses and an opportunity to serve an internship. Students may enroll in the program as early as grade nine, with the majority of students beginning in grades 10 or 11. Students completing Level 1: CISCO IT Essentials are qualified to take the A+ industry certification exam. Students completing Level 2: Computer Maintenance and Lan Management are qualified to take the CCNA certification exam. The program provides flexibility for students to complete Level 1 as a specific program for those interested solely in earning the A+ industry certifications. Students may also earn up to four college credits which articulate to Montgomery College.

Program Implementation Schedule

2006-2007 CISCO Networking Academy Sites	
School	Year Implemented
Bethesda-Chevy Chase High School	New for 2007-2008
Montgomery Blair High School	2005-2006
Damascus High School	2005-2006
Gaithersburg High School	2005-2006
Poolesville High School	2006-2007
Quince Orchard High School	2006-2007
Springbrook High School	2005-2006
Wheaton High School	2005-2006
Wootton High School	2005-2006

Graduate Data

2007 CISCO Networking Academy Graduates								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	80	78	2	0	17	18	34	11
%		97.5%	2.5%	0.0%	21.2%	22.5%	42.5%	13.8%

Enrollment Data

2006-2007 CISCO Networking Academy Enrollment								
Level 1: CISCO IT Essentials								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	335	297	38	2	61	79	143	50
%		88.6%	11.4%	0.5%	18.3%	23.6%	42.7%	14.9%
MCPS Course #: Computer Maintenance 4214-A/4215-B, 5611-A/5611-B, 4216-A/4217-B (DP), 5613-A/5614-B (DP)								
Level 2: Computer Maintenance and LAN Management								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	80	78	2	0	17	18	34	11
%		97.5%	2.5%	0.0%	21.2%	22.5%	42.5%	13.8%
MCPS Course #: 4218-A/4219-B, 5615-A/5615-B, 4220-A/4220-B (DP)								

Culture-Building Experiences Documentation

2006-2007 CISCO Networking Academy Culture-Building Experiences		
Event	Description	Date
National Job Shadow Day	This one-day event occurs on Ground Hog Day, February 2. Arrangements are made for students to visit and shadow local technology professionals at their place of business.	February 2007
2007 Professional Development Conference for Students	This one-day event is sponsored by the MCPS Division of Career and Technology Education (CTE) and the Montgomery County Business Roundtable for Education (MCBRE). It is modeled after adult professional development conferences with a selection of workshops presented by technology-related businesses.	May 2007

Advisory Board

A formal advisory board has not yet been established for the CISCO Networking Academy.

Academy of Information Technology (AOIT)

The Academy of Information Technology (AOIT), a member program of the National Academy Foundation (NAF), introduces students to a broad range of information technology related careers. The multi-year high school model is being strategically replicated.

The Academy of Information Technology offers three strands: Programming, Information Resource Design, and Networking Hardware Management. Students may earn up to 18 college credits that articulate to Montgomery College and have an opportunity to earn industry certifications. All graduates are required to complete an internship. A wide range of culture building experiences are offered in collaboration with educational partners representing business, non-profit organizations, and higher education.

Program Implementation Schedule

2006-2007 Academy of Information Technology Sites	
School	Year Implemented
Gaithersburg High School	2002-2003
Wheaton High School	2003-2004
Damascus High School	2005-2006
Springbrook High School	2005-2006
Seneca Valley High School	2006-2007
Wootton High School	2006-2007

Graduate Data

2007 Academy of Information Technology Graduate Demographics								
	Total	Male	Female	A. Indian	Asian	Afr. Am.	White	Hispanic
#	38	33	5	0	11	5	15	7
%		86.8%	13.2%	0.0%	28.9%	13.2%	39.5%	18.4%

Enrollment Data

A system is being developed to collect whole program data.

Culture-Building Experiences Documentation

2006-2007 Academy of Information Technology Culture-Building Events		
Event	Description	Date
Pinning Ceremony	This ceremony recognizes seniors who have completed an internship. Mentors and school leaders are invited to attend.	October 2006
National Shadow Day	This one-day event occurs on Ground Hog Day, February 2. Arrangements are made for students to visit and shadow local technology professionals at their place of business.	February 2007
Mock Interviews	To prepare students for internship interviews, technology professionals practice interview techniques with juniors and help them practice one-on-one for the interview.	Spring 2007
2007 Professional Development Conference for Students	This one-day event is sponsored by the MCPS Division of Career and Technology Education (CTE) and the Montgomery County Business Roundtable for Education (MCBRE). It is modeled after adult professional development conferences with a selection of workshops presented by technology-related businesses.	May 2007
AOIT Graduation	The graduation was co-sponsored by Montgomery College and took place at the Germantown campus. Parents, school leaders, and advisory board members were invited to attend.	May 2007

Advisory Board

An advisory board has been established for AOIT. It includes representatives from business, post secondary education, government, non-profit organizations, and MCPS. The advisory board membership list is printed under the “Recommendation 3” section of this report. The board provides technical expertise and supports culture-building experiences for students.

Interactive Media Program

The Interactive Media program is a proposed technology pathway slated to launch in fall 2009. It includes strong foundations in arts and communications with a particular emphasis on technology as it relates to design, graphics, media communications, interactive technologies, and project development. Students complete two foundation courses before selecting one of two options for advanced study: *Interactive Media* or *Simulation and Gaming*.

In 2006-2007, the one-credit course, Advanced Simulation and Gaming, was piloted at high schools, James Hubert Blake and Winston Churchill.

Recommendation 3: Curriculum and Professional Development

Partner with business and higher education to create a seamless K-16 educational system that aligns curriculum and requires technology-related units or course work by all K-12 students by 2010.

MCPS is collaborating with postsecondary education and business to create a seamless K-16 technology education system. Advisory boards are being established with stakeholders representing business, higher education, government, non-profit organizations, and MCPS. For each technology pathway, an articulation agreement has been established with Montgomery College and some four-year universities which permits students to earn college credit while in high school. Curricula are being developed to support the national call for twenty-first century skills and state guidelines, the *Maryland Technology Literacy Standards*. The technology professional development program has been expanded to prepare teachers to instruct new courses/programs in addition to upgrading skills for existing courses/programs.

Middle School Technology Curriculum

Argyle Magnet Middle School for Information Technology and Parkland Magnet Middle School for Aerospace Technology offer a sequence of specialized technology courses for students in grades 6, 7, and 8. In 2007-2008, MCPS will offer high school level information technology courses, *Software Applications by Design* and *Discovering Program Concepts*, in selected middle schools on a pilot basis.

In 2006-2007, MCPS developed a Middle School Reform plan. The first phase will be implemented at five schools in 2007-2008: Benjamin Banneker, Sligo, Roberto Clemente, Montgomery Village, and Earl B. Wood. As part of the middle school reform efforts, a new technology course, *Information and Communication Technologies Grade 6*, will be piloted at these middle schools. All sixth graders will complete the semester course with the exception of students enrolled in music courses.

In the *Information and Communication Technologies Grade 6* course, students use technology in a rigorous, inquiry- and project-based learning environment that promotes relevance and engagement. Students acquire knowledge and skill sets connected to grade 6 content areas involving the use of application, web-based, and multimedia tools. Programming concepts will be applied to the development of games, educational simulations, and robotic products.

Elective technology courses are offered at all MCPS middle schools. In some cases, technology course curriculum is scheduled as one component of a year-long electives rotation.

High School Technology Curriculum

A range of technology elective courses are offered at all MCPS high schools. In 2006-2007, an on-line course, *Foundations of Technology*, was developed and piloted during Summer 2007. The course fulfills the Maryland State Department of Education technology education diploma requirement. The e-learning course may be taken for a full-credit or half-credit. Students meet regularly with a teacher to complete hands-on technology experiences.

In 2006-2007, multiple-year technology pathway program models were strategically expanded. Nationally affiliated model programs being implemented include the Academy of Information Technology (AOIT), CISCO Networking Academy, and Advanced Engineering Project Lead The Way (PLTW). Postsecondary articulation agreements were negotiated for each. Related advisory boards were established to support program models and are listed below. Data specific to each technology pathway are located in this report under “Recommendation 2.”

Advisory Board Membership

2006-2007 Advanced Engineering Project Lead The Way Advisory Board		
Organization	Representative	Title
Business		
Bechtel Corporation	SanhjMalushte	Senior Principal Engineer
Bechtel Group	Pieter Van Stolk	Engineering Manager for Learning and Development
Boeing Corporation	Frank Weaver	Director, Boeing Telecommunications
Clark Construction Group, Inc.	Mommoud Hosseini	Senior Vice President
Clark Construction Group, Inc.	Greg Colevas	Senior Vice President
Lockheed Martin Corporation	James Sturges	Advisory Board President
Lockheed Martin Corporation	Chris Horne	Vice-President TSS Engineering, Technology, and Operations
Lockheed Martin Corporation	Sean Reineke	Vice-President Integrated Border Security Solutions
Orbital Sciences Corporation	David Low	Vice-President Technical Services
Orbital Sciences Corporation	Ray Crough	Senior Director of Satellite Systems
	Mr. Brock	Software Engineer School-based Representative
Postsecondary Education		
University of Maryland, College Park	Stu Stabley	Clarke School of Engineering
Non-Profit Organizations		
Aerospace Industries Association (AIA)	Bruce Mahone	Assistant and Vice-President Technical Operations Council
Aerospace Industries Association (AIA)	Lisa Bacon	Program Manager, Pre-college Outreach
Aerospace Industries Association (AIA)	Carol Vargas	Program Manager, Corporate Membership
American Institute of Aeronautics and Astronautics (AIAA)	Klaus Danenberg	Director
Edison Electric Institute	Michael Oldak	Walt Whitman School-Based Rep.
Montgomery County Business Roundtable for Education	Jane Kubasik	Director
Retired Scientists and Engineers	David Richman	Executive Director, Washington Area Chapter
Government Agencies		
Rockville Department of Public Works – Engineering Department	Lise Soukup	Civil Engineer II
U.S. Nuclear Regulatory Commission	Gene Carpenter	School-based Representative
Montgomery County Public Schools - Departments		
Career and Technology Education	Ed Ball	Coordinator
Career and Technology Education	Steve Mikulski	Specialist
Community Partnerships	Gail Woolf	Coordinator, Human Connections Resource Bank

Advisory Board Membership

2006-2007 Academy of Information Technology Advisory Board		
Organization	Representative	Title
Business		
Beyond Systems	Paul Wagner	President
Booz, Allen & Hamilton	Kathleen Dyer	
CISCO Systems	Carroll McGillin	National Initiatives Manager
CISCO Systems	Kevin Malinowski	Account Manager
CNSI	Charles Sharrocks	Senior Vice President
IBM	Lillian Karuri-Magero	Small Business Liaison Officer
IBM	Vemecia Lee	Client Executive
Intervise	Michael Priddy	President and CEO
KPMG	William Kevit	Director
Lockheed Martin Information Technology	Richard Johnson	Vice President, Chief Technology Officer
Lockheed Martin Information Technology	Dalila Wortman	Ethics and Diversity Director
Talent Ship, Inc.	Margaret Burke	Senior Vice President
Postsecondary Education		
Montgomery College	Kathy Michaelian	Instructional Dean, Technology Division
Montgomery College	Lisa Carvallo	Assistant Director of Academic Initiatives
Montgomery College	Levy Martin	Department Chair, Networking and Wireless Technologies
Montgomery County Public Schools - Departments		
School Library Media Programs	Gail Bailey	Director
Technology, Consulting, and Communications	John Burke	Director
Field Operations	Michael Cady	Director
Technology Implementation and Support	Doreen Heath	Assistant Chief Information Officer
Career and Technology Education	Sandi Navidi	Coordinator
Career and Technology Education	Michelle Lipson	Specialist
Businessman in Residence	Douglas Schiffman	Consultant

Professional Development Program

To ensure technology skills align with industry and higher education, professional development activities are designed in collaboration with local businesses and colleges/universities. National affiliate organizations for technology pathway models also sponsor conferences, workshops, and training. Below is a sampling of professional development activities offered in 2006-2007.

Middle School Technology Professional Development Program

2006-2007 Middle School Professional Development Activities		
Professional Development Activity	Description	Date
Middle School Resource Teacher Meetings	Monthly meetings with middle school technology resource teachers.	September 2006 – May 2007
Technical Assistance	MPCS coordinators and specialists provide onsite assistance to technology teachers.	September 2006 – May 2007

Tech Expo	Technology education teachers attended a one-day conference sponsored by the Technology Education Association of Maryland (TEAM) at the Baltimore Museum of Industry. Lakelands Park Middle School teacher, Courtney Phelps, was recognized as outstanding technology teacher. Rocky Hill Middle School received the outstanding program award.	October 2006
Annual International Technology Education Association (ITEA) Conference	Five technology education teachers attended the three-day conference in San Antonio, Texas.	April 2007
New Curriculum Workshop: Information and Communication Technologies Grade 6	Teachers selected to pilot the new sixth grade technology curriculum attended a two-day workshop.	July 2007
Professional Learning Community: Information and Communication Technologies Grade 6	A professional learning community was established using an electronic format for teachers piloting the new sixth grade technology curriculum to use to share best practices.	August 2007

High School Technology Professional Development Program

2006-2007 High School Professional Development Activities		
Professional Development Activity	Description	Date
Interactive PowerPoint Workshop	Computer Applications teachers were invited to attend this one-day workshop.	October 2006
Tech Expo	Technology education teachers attended a one-day conference sponsored by the Technology Education Association of Maryland (TEAM) at the Baltimore Museum of Industry. Walter Johnson High School received the outstanding program award. James Hubert Blake High School teacher, Raquel Marshall, was recognized as teacher of the year.	October 2006
Software Applications Workshop	High School software applications teachers attend a one-day consultant-lead training.	December 2006
National Academy Foundation Leadership Conference	Academy of Information Technology directors and lead teachers attended the three-day national conference.	November 2006
Annual International Technology Education Association (ITEA) Conference	Five technology education teachers attended the three-day conference in San Antonio, Texas. James Hubert Blake High School teacher, Raquel Marshall, was recognized as teacher of the year.	April 2007
New E-Learning Course Training: Foundations of Technology Education	Two teachers received training to teach the online pilot course, <i>Foundations of Technology Education</i> .	Spring 2007
CISCO Institute	Experienced CISCO Networking Academy teachers attended the institute to participated in workshops, share best practices, and network.	Summer 2007
CISCO Boot Camp	New CISCO Networking Academy teachers attended this five-day intensive training.	Summer 2007
National Academy Foundation Annual Institute for Staff Development	Academy of Information Technology directors and teachers attended the three-day national conference in Washington, DC	July 2007
MCPS Leadership Week	MCPS resource teachers attended a week-long workshop to prepare for FY08 technology programs.	July 2007
Advanced Engineering Project Lead The Way Training	Seventeen teachers attended a two week intensive training session sponsored by Project Lead The Way. The training took place at the University of Maryland, Baltimore; Duke University; and Sinclair University.	July-August 2007

