

## Summary: DiTYP<sup>1</sup> Summer Immersion Workshop

Detroit ITEST Youth Project (DiTYP) - Creating Safe Communities through Information Technology Training in Homeland Security Applications - is a NSF sponsored project managed by Eastern Michigan University (EMU), in collaboration with Detroit Public Schools, the City of Detroit Homeland Security and Emergency Management, and Environmental System Research Institute, Inc. (ESRI). The DiTYP project brings together many partners to provide resources, support, and innovative opportunities to strengthen science, technology, engineering, and mathematics (STEM) education. The DiTYP project is recruiting 100 students in two cohorts from high schools in Metropolitan Detroit. Each cohort of 50 students will receive about 250 hours training and hands-on experience in geographic information system and technology (GIS/T) and information assurance (IA) during a two-year period. Participating students will hone their skills in real-world settings through internships with Detroit City Departments or other worksite contractors.

EMU just hosted the first DiTYP Summer Immersion Workshop on its campus July 20-25. This workshop brought 53 students from Metropolitan Detroit to EMU dormitory, provided the students with entry-level training in GIS/T, IA, network security and computer forensics software in preparation for advanced training in fall, 2008. Several spotlight sessions demonstrated a firm commitment from a broad range of stakeholders to our youth for student's career development in cutting-edge technologies:

July 20: 4:15 – 5:00pm: *Opening Remarks (Cyber Security & Communications – A New Frontier for Career)*, by Director Cornelius Tate, National Cyber Security Division, U.S. Department of Homeland Security (Photo 1)



July 21: 10:00 – 11:00am: *Audio Keynote Welcome (The Communities Collaborate to Support Youth in Disadvantaged Communities for Promising Careers in Information Technologies)*, by Honorable Congressman **John Dingell**

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<sup>1</sup> This project was initially approved as Mayor's Youth Technology Corps (MYTC).

July 23: 8:30 – 9:15am: *Spotlight Lecture – Threat and Vulnerability Analysis – The Need for Intelligence*, by Brian Gouker, Chief, IAD Community Outreach, National Security Agency.

July 23: 6:00-7:30pm: *Community College and Business/Industry – College Admissions and Job Fairs*

July 25: 9:00 – 10:00am: *Your Future and Technology*, by Brenda Ice, Deputy Director, City of Detroit Homeland Security and Emergency Management

Honorable Congressman John Dingle emphasized that the Detroit ITEST Youth Project, through the partnership, was offering new opportunities for the students to engage in advanced technology training and to learn STEM. All fifty-three students successfully completed the basic training sessions of GIS/T, network security (Photo 2), and computer forensics. Twenty students in three groups won the Poster Competition (Photo 3: the winning group of First Award). Ninety percent of the students' parents attended the opening ceremony and the graduation ceremony. Around a dozen representatives from local government agencies, community colleges and companies observed some spotlight sessions. Majority of the students and the parents were excited about the DiTYP project and fully committed to this project. The Workshop was a great success.





There are many findings out of the Workshop. Two important ones among them are as follows. At first, from the perspective of the participating students, more than 80% of the students strongly welcomed the opportunity of attending DiTYP Summer Immersion Workshop and would recommend it to their fellow students. These students greatly appreciated the innovative integration of GIS with network security and computer forensics that would lead to career pathways involving high tech as well as hot-in-demand jobs. If the support from the DiTYP project and the NSF ITEST Program were not present, these students would not have had this opportunity for advanced IT and GIS/T training, college experience, inquiry-based STEM learning, and homeland security focused application exposure. They were collectively requesting to organize an advanced hands-on training next summer as a cap-stone session, which will enable them to sharpen their skills and to be ready for jobs in real world.

Secondly, from the perspective of the project staff and the students' parents, the workshop was a great success because of the collaboration and the contribution from many stakeholders. In addition to the funding from the NSF ITEST Program, the financial supports from EMU Vice President Office of Student Services and EMU College of Technology provided necessary resources to make the Summer Immersion Workshop possible. The volunteers from EMU Information Assurance program supplemented the budget shortfall for the Workshop. In addition, many staff members working for the Workshop were enthusiastic of providing opportunities to those students who might not have and the efforts from these staff were far more than what were budgeted. Moreover, the efforts on publicity from EMU Office of Government Relations, the administrative support from Institute for Geospatial Research and Education, the

program support from Detroit Public Schools and the City of Detroit Homeland Security and Emergency Management, and the material support from ESRI all contributed to the success of the Workshop.

Therefore, the most important lesson we learned is that “a collaboration of resources, supports, and opportunities is the key for successfully strengthening science, technology, engineering, and mathematics education efforts and opening new high-tech career pathways for students who do not have traditionally.” This is indeed what was originally proposed for this project. Moreover, the Workshop reveals that there are considerable challenges ahead of the project team, including,

- retaining momentum among students and parents sparked at the Workshop in the coming fall semester;
- attaining more funds to meet the program’s needs for covering participating costs and advanced hands-on training.