



2013 ASQ STEM Agenda Conference: Industry Making a Difference in Education

By Cindy P. Veenstra

The ASQ Education Division's 2013 Advancing the STEM Agenda Conference took place on the Grand Valley State University (GVSU) campus in Grand Rapids, MI, June 3-4. With the theme of collaboration with industry on STEM (science, technology, engineering and math) education, it was a great success. Continuing the program of the 2012 conference that was held at the University of Wisconsin-Stout in Menomonie, we featured keynote panel discussions on successful collaborations between industry, schools and universities. It was evident industry is sponsoring more internships, co-operative experiences and significant K-12 outreach programs.

With the need to educate future engineers on the global economy and ASQ's interest in global quality practices in education, the luncheon discussion on best practices for international, co-operative industry experiences added significant value to the conference.

Engineers from the following companies discussed their outreach programs in K-16 education:

- Aegis Sciences Corporation.
- Dow Chemical Company.
- Ford Motor Company.
- GE Aviation Systems.
- JR Automation.
- Raytheon Corporation.
- Rolls-Royce Corporation.
- NASA.

In addition, a special session discussion on industry-based projects included representatives from organizations in the Grand Rapids area, including Attwood Marine, Cameron, L3 Communications and SAF Holland.

As successful as these programs are, more programs are needed. The conference provided attendees with examples of successful initiatives to take back to their organizations. Most engineering companies require experience from prospective college graduates beyond the



completion of a degree. How will graduates get this experience? It is imperative that industry provides more opportunities to undergraduate students who have an interest in becoming scientists and engineers. Too many students cannot find summer jobs in STEM fields.

Like the activities of the companies listed above, we encourage engagement with students through corporate-sponsored K-12 outreach efforts. The rewards are immense—it's a contribution to the success of the community, future employees and you'll know that you are making a difference.

In the opening keynote, Reginald McGregor of Rolls-Royce discussed the three silos in STEM education: K-12, higher education and industry. He urged stronger collaboration with each other and encouraged us all to be “a STEM-er.”

As keynoter Glenn Walters of the New Mexico Higher Education Department showed us, we can and must achieve more. Improving STEM education and the STEM workforce is a multi-faceted endeavor and we can utilize quality thinking in making significant progress. There is no magic wand for STEM or improving education. Using Baldrige systems thinking and a process orientation towards STEM, student success will improve learning, high school graduation rates, college-readiness and retention in the workforce.

As this conference confirmed, we are facing a serious shortage of engineers and other STEM professionals now and in the future. I encourage the ASQ community, with its strong connection to advanced manufacturing and engineering, to get involved. Read our conference papers and consider how your organization can help your local school system.

I would like to take this opportunity to thank all the conference presenters and panelists who made the conference a success. Presenters from K-12 schools took time away during the busy end of the school year to present and tell attendees about their partnerships. I would like to extend a very special thank you for your efforts. The conference also introduced us to the inspirational efforts of the [Regional Math and Science Center](#) at GVSU and the Michigan STEM Partnership.

A special thanks to the keynote speakers who shared best practices and strategies we can apply to our STEM initiatives and collaborations: Paul Plotkowski, GVSU; Reginald McGregor,



Rolls-Royce, Carrie Houtman, Dow Chemical; and Glenn Walters, New Mexico Higher Education Department. And, a very appreciative thanks to the GVSU conference co-chair, Charlie Standridge, assistant dean of the Seymour and Esther College of Engineering and Computing at GVSU, for his leadership in co-planning the conference.

The slides from the keynote session and all conference papers will be available on the [conference website](#) and in the [ASQ Education Division library](#). I invite you to join the [ASQ Advancing the STEM Agenda LinkedIn group](#) and help us move forward as quality STEM-ers. Feel free to add a note about your school and industry collaborations.

K-12 teachers and administrators: I encourage you to continue your continuous improvement efforts. Your efforts will help students prepare for a STEM major in college. Join us at the National Quality Education Conference in November in Milwaukee to talk more about continuous improvement strategies.

About the author

Cindy P. Veenstra, Ph.D., was the ASQ Education Division 2013 conference co-chair for the ASQ Advancing the STEM Agenda Conference. An ASQ fellow, she is the immediate past chair of the ASQ Education Division. Cindy works at the University of Michigan's Center for the Study of Higher and Postsecondary Education in Ann Arbor as a researcher on K-16 student success. She can be reached at cpveenst@umich.edu.

ASQ Education Division's website is www.asq.org/edu/ and it tweets at [@ASQ_EduDiv](https://twitter.com/ASQ_EduDiv).