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PEOPLE

Rocks, Jeans, and Busy Machines

By HE&IT

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Alane Alvarez de Rivera has 13 years experience in civil engineering and her husband, Raymundo, has more than a dozen years of engineering design experience. Both Alane and Raymundo are registered professional engineers in the state of Texas. In 2009, they wrote, and Rivera Engineering published, their first book in "The Engineering Kids Storybook" series. Recently, Alane spoke to HE&IT about the book and her mission to recruit future engineers.

HE&IT: Why did you write Rocks, Jeans, and Busy Machines?

Alane Alvarez de Rivera: [One] reason why my husband and I decided to write a children's book was to teach youngsters about the world of engineering. In writing Rocks, Jeans, and Busy Machines, Raymundo and I hoped to be able to encourage children to pursue engineering, just as mentors influenced us when we were young.

As two professional engineers who are passionate about what we do, we also wanted to reach out to children to help them learn about a profession that is challenging, invokes creativity, and encourages teamwork. [Plus] after discovering that tools to expose young children to engineering were limited in nature, we decided to create our own product that targets children ages 5-9 and introduces them to the different fields of engineering.

HE&IT: How do you reach children at this age?

Alane Alvarez de Rivera: We have been fortunate to have opportunities to share our book at elementary school libraries here in San Antonio. I typically read Rocks, Jeans, and Busy Machines to the children, and follow-up with a presentation that includes photographs of construction projects on which I have worked. The students seem to particularly enjoy seeing the large pieces of equipment in the field. I always enjoy these school visits. It is wonderful to see the students come to the realization that an engineer, with the intent of safety and utility, designs objects they see in their neighborhood.

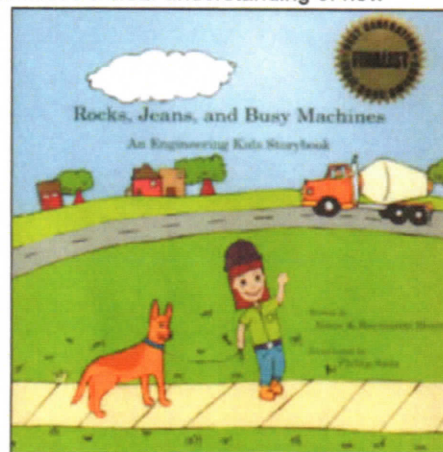
On several occasions, teachers have approached me to let me know that they didn't have a clear understanding of how engineers helped people until after seeing my presentation. I am always grateful when I have been able to effectively communicate with an audience.

HE&IT: In Rocks, Jeans, and Busy Machines, a trip to the park for Engineering Kids Pedro and Violet turns into an adventure when they come upon a construction site. Violet teaches Pedro about concrete and how engineers use it for buildings, and Pedro learns about an engineer's responsibility to design buildings that are strong and safe for people to use. Can you talk some more about how engineers help?

Alane Alvarez de Rivera: Engineers are responsible for maintaining infrastructure and developing innovation. Research shows innovation acts as the basis for a strong economy and keeps the United States a leader in technology. Over the past several years, we have become aware of the increasing shortage of engineers. This shortage is only expected to increase in the future—a trend, which should cause concern since engineers are responsible for maintaining deteriorating infrastructure, developing "green" technology, and sustaining our economy through innovation. [We] began the book series to educate and recruit young children (5-9) to become future engineers.

HE&IT: You have a bachelor and master's degree in civil engineering and your husband has bachelor's in electrical engineering, an MBA, plus a master's degree in biomedical engineering. That's quite an investment in higher education.

Alane Alvarez de Rivera: We have made a point to contribute to the higher education of students in our community. This will mark the fourth year that we have funded a scholarship program for one senior student from each of our respective alma



mater high schools. Each scholarship is for a complete computer system or, an equivalent cash award, to be used for college expenses. We felt it was important to establish this scholarship since we were both fortunate enough to receive generous scholarships when we supported ourselves through college. I would also like to mention my other involvement with my alma mater, Providence Catholic School. I have served on the Board of Directors for the last two years and thoroughly enjoyed "giving back" to the school that gave me such a solid educational and spiritual foundation.

For more information please visit Engineering Kids Storybooks www.engineering-kids.com

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