Shaping our future

Meet some Boeing employees who contribute to engineering at work and in the community

Engineers make a world of difference.

That's this year's message for National Engineers Week, being celebrated throughout the United States and at most Boeing locations. Nationally the event is being held Feb. 17 to 23, but at some Boeing locations events will continue Feb. 25 through 29.

John Tracy, senior vice president of Engineering, Operations & Technology and Chief Technology Officer, said that Boeing engineers have improved the quality of life for millions of people everywhere. "The technical accomplishments of our engineers are embodied in the Boeing airplanes, defense systems and space technologies that are household names around the globe," said Tracy. "But equally important are the community and classroom efforts of our engineers to inspire students to take up math and science, pursue technical careers and help shape a better world in the future."

Mike Denton, vice president of Engineering at Boeing Commercial Airplanes and leader of the Enterprise Engineering Function for Boeing, said Engineers Week has special significance. "Our customers and suppliers are very important to Boeing," he said. "But we need a strong and diverse work force in order to meet our goals for productivity and growth in the future. We're relying on today's engineers to help produce the engineers of tomorrow."

Nan Bouchard, vice president of Engineering and Mission Assurance for Integrated Defense Systems and co-leader of the Enterprise Engineering Function for Boeing, said that the Engineers Week events will allow Boeing to reach out to and inspire all segments of the student population. "We need to spread the word that talented young engineers who join Boeing will be given engaging, challenging work and a clear path to future learning and career development. We need to send a message to everyone that this is a great place to work."

On the following pages, nine people who support engineering at Boeing talk about their work—and their roles in the community.

JOHN ***FOGARTY***

Most of John Fogarty's work involves exploring and making decisions about materials and technologies that lie 10 years or more into the future. What helps drive Fogarty, a St. Louis–based engineer specializing in structural analysis in the Manufacturing Technology division of Phantom Works, is to see something his team has worked on become part of an actual product. "Boeing gives me the freedom to be innovative," he said. "Not every idea I've come up with has turned into something real, but I've never been told that my idea didn't deserve consideration." And it's not just Boeing that benefits from Fogarty's visionary talent and expertise. He participates in Future Trek, a community program sponsored by the Academy of Science of St. Louis, where technical experts share with the city's middle-school kids what their jobs entails. This, he explained, introduces them to possible technical careers they've maybe never heard of, why they're fun, and how the right training can help them achieve an engineering career.

RICH RAU PHOTO

TAMAIRA ***ROSS***

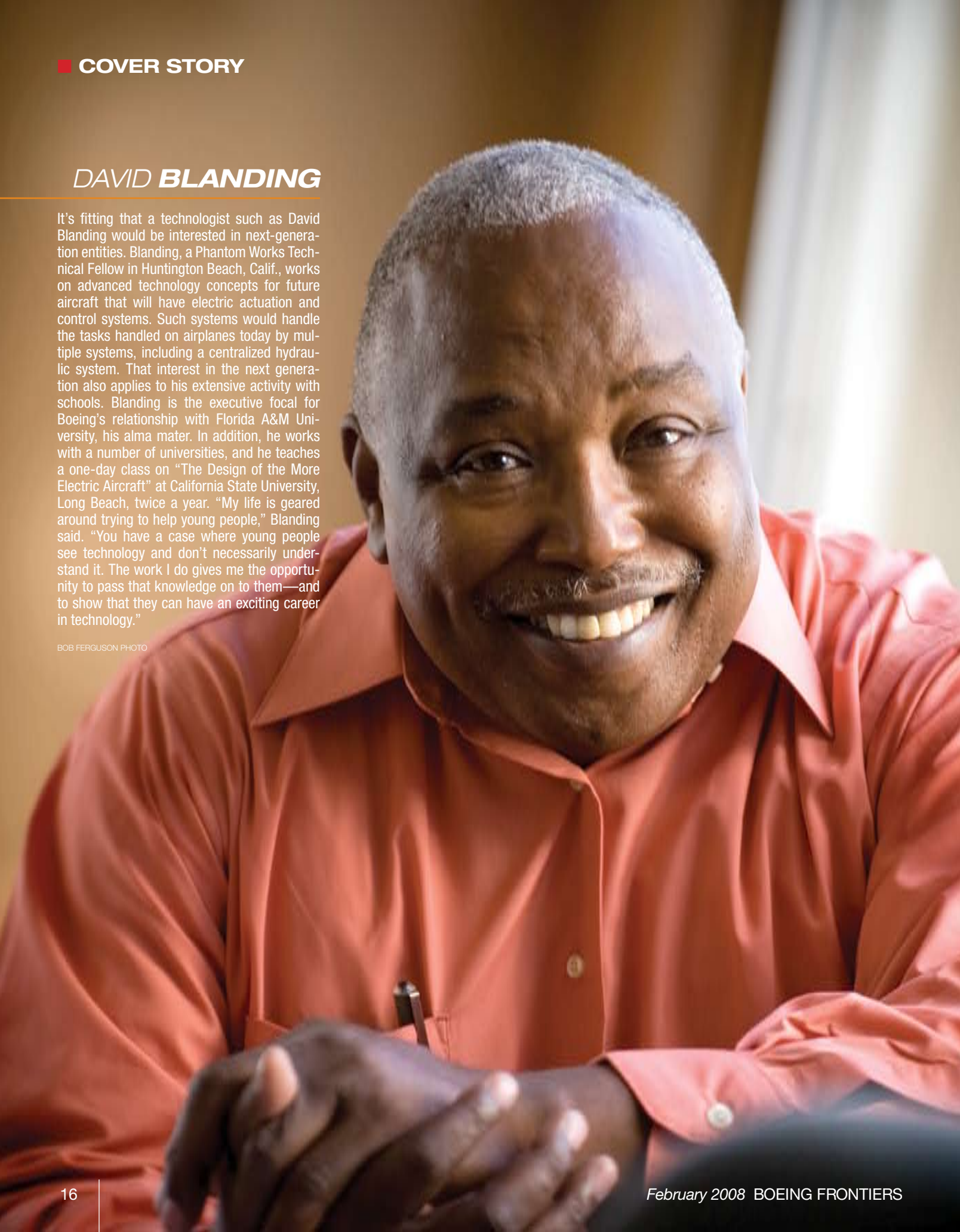
Like many of us, Tamaira Ross appreciates the feeling of accomplishment when she helps things come together. As a design engineer in the Advanced Technology Development organization of Integrated Defense Systems, she's in charge of coming up with the complete vehicle design of an aircraft or a spacecraft. "I get a great deal of satisfaction from designing products, building those designs as prototypes, and seeing the prototypes get tested," said Ross, based in Kent, Wash. And through her efforts in teaching and mentoring, Ross is also helping the careers of budding engineers come together. She's taught classes and seminars through the American Association of University Women's Expanding Your Horizons program, in which middle-school girls attend college campuses for a day to take classes in science and technology areas. She also has established a mentoring program for engineering students at the University of Washington and Seattle University through the Society of Women Engineers. "To continue to do amazing things at Boeing, we need to maximize all resources. And that includes women," Ross said.

ED TURNER PHOTO

CAROL **ANWAY**

Since lightning strikes the average aircraft once a year, the occurrence needs to be an ordinary event. That's one of the major focus areas of Carol Anway, a physicist with Phantom Works, and her teammates in the electromagnetic effects group. One key tool used to test a part's ability to withstand lightning is a Marx generator, which makes a giant lightning bolt. "We tie theoretical analysis to the testing, so that we can build a coherent analytical underpinning to the work," said Anway, based in Seattle. "You can test and test parts, but if you don't have that analytical underpinning, you can't prove that you've tested enough." Before joining Boeing, Anway said she once envisioned herself being a professor. She still works with students—though they're younger than college age. She's been a guest speaker at a sixth-grade class in a suburban Seattle school and at a program for high schoolers at the DigiPen Institute of Technology in Redmond, Wash. "In a way, all kids are scientists, exploring the world around them. Some of us are lucky enough to keep our scientific side going as we grow up," Anway said.

MARIAN LOCKHART PHOTO



DAVID **BLANDING**

It's fitting that a technologist such as David Blanding would be interested in next-generation entities. Blanding, a Phantom Works Technical Fellow in Huntington Beach, Calif., works on advanced technology concepts for future aircraft that will have electric actuation and control systems. Such systems would handle the tasks handled on airplanes today by multiple systems, including a centralized hydraulic system. That interest in the next generation also applies to his extensive activity with schools. Blanding is the executive focal for Boeing's relationship with Florida A&M University, his alma mater. In addition, he works with a number of universities, and he teaches a one-day class on "The Design of the More Electric Aircraft" at California State University, Long Beach, twice a year. "My life is geared around trying to help young people," Blanding said. "You have a case where young people see technology and don't necessarily understand it. The work I do gives me the opportunity to pass that knowledge on to them—and to show that they can have an exciting career in technology."

BOB FERGUSON PHOTO

KAMI ***MOGHADDAM***

Behind the power of technology are the abilities of people. That fact has helped shape how Kami Moghaddam contributes to engineering. He represents Engineering Integration in Long Beach, Calif., for Global Mobility Systems, a segment of Integrated Defense Systems. Yet Moghaddam also takes part in activities rooted in the concept of helping others work together to excel. He's the lead in Long Beach Engineering for Employee Involvement, Employee Engagement and the Lean+ growth and productivity initiative. He also participates in other Long Beach and IDS program-level technical and collaboration-based activities. His philosophy: give back to the company and the community by using his advanced technical knowledge combined with his knowledge in strategic management and organizational leadership—the subject in which he received his doctorate. Moghaddam mentors many college students who are pursuing advanced degrees. He also helps organize a regional engineering-week event, in which hundreds of engineers visit schools to explain what engineers do and about "the value of engineers to society." "I've committed myself to make a difference in people's lives and their performance," he said.

BOB FERGUSON PHOTO

WILL ***PANG***

As a systems engineer on the 787 Dreamliner program, Will Pang has a front-row seat seeing this revolutionary airplane come together. "I like how my job gives me a top-level view of what's going on. I appreciate the opportunity to coordinate with design teams, so we can all work together to meet the airplane's requirements," said Everett, Wash.–based Pang. His job also dovetails with his interest in figuring out how things work—and why they work the way they do. During National Engineers Week in recent years, Pang made presentations to high school classes in the hopes of inspiring students to become engineers. He'll be doing the same this year. Pang said he gives these presentations to inspire students to continue pursuing their education, to do his part to help Boeing fill its future need for engineers, and to instill pride among co-workers. "Boeing isn't just making airplanes, it's making a difference in the community," he said.

ED TURNER PHOTO

BEAR ***McLAUGHLIN***

As Bear McLaughlin sees it, the Boeing of today is more responsive to adopting a Lean+ culture. In his role as an organizational Lean+ leader with the Technical Services–Modification Engineering group of Commercial Aviation Services within Commercial Airplanes, McLaughlin works with teams, as well as managers at various levels, to help them work toward continuous improvement of their processes and their value streams. "People know it's not punitive and it's not taking away their time. And they can get their work shown to higher levels of people who recognize and appreciate their efforts," said Everett, Wash.–based McLaughlin. "So now the perception of Lean+ is, 'This isn't so bad.'" McLaughlin also is active in the Boeing American Indian Society's Puget Sound chapter. "We're looking at how do we work with future engineers and help tribal members and communities understand what value they bring to Boeing and what value Boeing brings to them," he said.

BOB FERGUSON PHOTO

BOB **ROBINSON**

What does Bob Robinson, an Integrated Defense Systems Advanced Systems associate technical fellow in embedded software in Huntsville, Ala., enjoy about his career? The challenging work and the opportunity to expand his capabilities through networking with subject-matter experts in various fields across Boeing, he said. But he also shares his technical knowledge with the community. Robinson stages robotics contests, builds Web pages and organizes engineers to help in local, regional and statewide science and technology events for students of all ages. "Huntsville and Boeing have top-notch engineering talent, and tapping into those resources is important for the future of science and technology in the U.S.," Robinson said. "I enjoy working with the students, who are our future technologists and who will very likely build a better world tomorrow."

ERIC SHINDELBOWER PHOTO

KAREN **REINSVOLD**

Karen Reinsvold's mother was a teacher, and her father was the first person in his family to attend college. So it's fitting that her job at Boeing and her community activities revolve around learning. As a staff analyst in Huntington Beach, Calif., for C3 Networks Engineering in Integrated Defense Systems, Reinsvold supports engineering teams by coordinating university training programs. She's also assisting diversity efforts in engineering by participating in events conducted by technical organizations such as the National Association of Black Engineers and the Society of Women Engineers. In the community, Reinsvold supports the organization TEAM Science, which works to help teachers educate students about science and to increase student interest in math and science. Not only does the organization offer teachers experience and tools for teaching science, but it also runs summer science camps, where Reinsvold has taught classes. "We've found that if kids think by sixth grade that science is fun, they're more likely to decide on a science and engineering career in high school," she said.

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