

# Connecting the future

Boeing's Technical Fellows help inspire new generations of scientists and engineers

By Candace Heckman

As a curious high school sophomore, Gary Foss learned how to make a Tesla coil and entered it in the local Spokane, Wash., science fair. The high-voltage, low-current electricity machine won first place. Part of the prize was a 300-mile (480-kilometer) bus trip to Seattle to tour the Boeing manufacturing plant.

"This was in 1966, so I got to see the supersonic transport mock-up, and that was pretty impressive for a young kid to see," said Foss, now an Associate Technical Fellow and structural dynamics engineer for Boeing Test & Evaluation.

Those high school experiences propelled Foss on a life's journey dedicated to engineering innovation at The Boeing Company. Like some 2,200 others in Boeing's Technical Fellowship Program, his calling also drives a commitment to reaching further, such as inspiring young people to study science, technology, engineering and math.

The Technical Fellowship is a network of experts in multiple fields who have experience throughout the life cycles of Boeing products. In addition to their regular engineering and technical jobs, Fellows are tasked with working across the company, bridging teams and organizations to solve major technical challenges.

"Technical Fellows have long been a driving force behind the technical excellence that sets Boeing apart from its business competitors," said Allen Adler, vice president of Boeing Enterprise Technology Strategy. "Fellows are chosen in the first place because of their exceptional success in the programs they're assigned to. Maintaining that level of excellence and meeting the commitments to our customers is Job One."

But being available on the other end of the phone to help is another way Fellows prove their value and fulfill their sense of purpose.

"A lot of people think of a 'Tech Fellow' as a kind of professor—someone who knows a whole lot and is an expert at one specific thing. But in truth, Tech Fellows get to where they are in their careers because of their wide network of knowledge and people, and a keen ability to figure stuff out," said Brian Tillotson, a Senior Technical Fellow and expert in advanced space propulsion in Kent, Wash. "When you raise your hand to be a Fellow, you're asking for the challenge, any challenge."

At any one time, Tillotson, who works for Engineering, Opera-



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tions & Technology, plays a part in a dozen different projects—getting an engineering team in Florida past a technical obstacle, helping an inventor in California develop a patent disclosure, mentoring a half-dozen young engineers from Seattle to St. Louis, teaching classes and seminars—all in addition to his regular job.

Fellows come from diverse backgrounds and disciplines. In addition to their engineering or technical contributions, all are dedicated to fostering three principles across the company:

- Upholding technical excellence
- Demonstrating innovation
- Sustaining technical knowledge across generational boundaries

For many, this means cultivating a wide network to help the most experienced people transfer their knowledge to new generations of engineers and technical experts.

"Those of us in the Technical Fellowship understand that it's our duty to nurture the future, the new generation of scientists and engineers," said Foss, who also serves as the vice president of the Boeing-sponsored Washington State Science & Engineering Fair.

This year, the program specifically asked Fellows to invigorate the way the company seeks technical solutions, to make themselves more visible, more available, and to actively seek ways to share their know-how and support. This often means reaching across geography, business units and skill codes to identify the right people who will arrive at the right answer.

"There's no way one person, whether you're a Senior Tech Fellow or a senior vice president, can possess all the knowledge Boeing needs—not even a tenth of it," Tillotson explained. "It's not a Tech Fellow's job to know the answer, but it's our job to try to find one." ■

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**PHOTOS: (Clockwise, from top left)** Tenth-grader Gary Foss with his Tesla coil at the Washington state science fair in 1966. COURTESY OF GARY FOSS Brian Tillotson, right, a Senior Technical Fellow with Boeing Research & Technology, teams with (from left) technical analyst Mark Chisa, and Associate Technical Fellow Tamaira Ross, Defense, Space & Security, in work on a next-generation array of photovoltaic cells. MARIAN LOCKHART/BOEING Associate Technical Fellow Gary Foss listens to a presentation by 6-year-old Hariharan Mulmurugan at the 2011 Washington State Science & Engineering Fair in April. MARIAN LOCKHART/BOEING