



# Scientific Mind

A CHAMPION OF INNOVATION AND A HUGE BELIEVER IN THE ENTREPRENEURIAL SPIRIT, BROOKS WHITEHURST ALSO IS A BELOVED FRIEND OF ROANOKE COLLEGE.



BY KAREN DOSS BOWMAN

# Kind Heart

For scientist, engineer and entrepreneur Brooks M. Whitehurst, a lifetime of distinguished career achievements pale in comparison to the joy and gratification he receives from helping other people reach their potential.

“It’s very satisfying for me to help young people,” says Whitehurst, of New Bern, N.C., who holds 28 process and product patents. “I like helping them get along in life and become successful.”

A recipient of an Honorary Doctor of Science degree during Roanoke College’s Commencement ceremony in May, Whitehurst, 82, is a beloved benefactor, mentor and friend of the Roanoke College Children’s Choir and the College’s Business Administration and Biology departments. Whitehurst is described by Roanoke faculty and staff members as extremely intelligent, highly inventive, and most of all, kind. But among the College students and young choir members — whose questions he answers with patience, sage advice and possibly a joke — he’s seen as a grandfatherly figure.

“He’s grandfatherly — that’s the best way

I know how to put it,” says faculty member Dr. Michael Smith, director of the Roanoke College Innovation Challenge (RCIC). “Of all the people I invite onto campus to interact with my students, he’s definitely the one who gets the most hugs. He brings a smile to their faces.”

Without a doubt, Whitehurst’s professional achievements are remarkable. But it’s his modesty and kindness that people love most about him.

“If Brooks sees a need, and it’s a good cause, he’ll respond in a helpful, kind way,” says Roanoke President Michael Maxey. “He’s just a true-blue person who happens to be an outstanding and distinguished scientist, engineer and inventor. He likes to do good in the world.”

## AN INNOVATOR AT HEART

A 1951 graduate of Virginia Tech, Whitehurst began working for TexasGulf, Inc., in 1967. As manager of engineering services, he led a group of engineers responsible for the first development of ammonium polyphosphate, the primary ingredient in all liquid fertilizer. The group’s

work, spanning a 15-year period, helped to significantly increase crop yields and related agricultural production on an international scale.

After retiring from TexasGulf in 1981, he established Brooks Whitehurst Associates, Inc., with his oldest son, Garnett. In 1995, they made a discovery that could revolutionize agriculture. While attempting to develop new forest fertilization materials that maximize the delivery of plant-growth nutrients, (such as nitrogen and phosphate) they discovered a means of improving fertilizer uptake efficiency. This result means that farming operations — from small micro-farms in Third World countries to huge agri-businesses — could reduce their fertilizer costs by half and reduce their environmental impact, while maintaining crop production.

“The trees still get all the food they need, but unwittingly, we improved the efficiency of uptake,” explains Whitehurst, whose work was recognized earlier this year with an award from the College of Natural Resources and Environment at Virginia Tech. “This was an unexpected benefit. You have all the environmental and economic as-

pects that go along with that.”

The positive environmental impact alone was astounding — from the fuel and emission reduction of crop-dusting planes to the nitrogen runoff and evaporation.

The technology, and the products made from it, are licensed to the international forest products company Weyerhaeuser, and were first applied to North Carolina pine trees. It’s now used throughout the United States and is being evaluated for international distribution. The materials are currently being tested on a wide range of crops, including rice, cotton and corn, at a number of universities in the southeast United States. Roanoke’s biology department also is involved in the project, analyzing the materials to find scientific explanations for its efficiency.

Whitehurst, who has published numerous scholarly articles and delivered dozens of lectures around the world, was appointed Honorary Director General at the Interna-

Above, Whitehurst chats with a group of RCIC students on June 14. The students, from Roanoke College, Virginia Tech, the University of Virginia and Ohio State, discussed their business proposal with Whitehurst.

tional Biographical Centre in Cambridge, England, last year. The organization had listed him among the top 2,000 scientists and engineers of the 20th century in 2001.

Inspired by his father, who was an industrial arts teacher, Whitehurst has been an education advocate for the past 38 years. A past appointee to the North Carolina State Advisory Council, Whitehurst took a sabbatical from TexasGulf in 1978 to 1979 to serve as the North Carolina Governor's Liaison for Education and Business. In this role, he traveled throughout the state promoting the value of partnerships between educational and business entities.

Whitehurst and his wife of 61 years, Carolyn, always emphasized the importance of education to their children, Garnett, Anita and Robert. It was a given, Garnett says, that the Whitehurst children would eventually go to college. Garnett holds a Ph.D. in biochemistry; Anita earned an M.S. in business education; and Robert holds an M.D.

"Our parents have supported any educational endeavor that my brother and sister and I wanted to engage in, to the fullest extent they could," Garnett Whitehurst says. "It was highly valued to complete any educational program."

#### TIES TO ROANOKE COLLEGE

The Whitehursts first became acquainted with Roanoke more than 10 years ago, when their granddaughter was a member of the Roanoke College Children's Choir. The couple was so enamored with the ensemble and its role in enriching young lives that they began making annual donations to support the choir, continuing even after their granddaughter left the choir for college. The Whitehursts' support has been used to purchase music and equipment, and to allow the choir to participate in competitions and special events throughout the U.S. and abroad. Their contributions also fund 30 scholarships for children who otherwise would not be able to afford to participate in the choir — including children in foster care, children with family members facing serious illness and a Rwandan refugee.

"These children are able to come to choir and forget about all that tough stuff," says choir director Kim Davidson, who frequently sends Whitehurst cards and thank you notes from the children. "They get to sing and be with people who care about



Brooks Whitehurst, at center at the 2012 Commencement, shakes hands with Dr. Darwin Jorgensen after his reading of Whitehurst's honorary degree citation. To Whitehurst's left is Board of Trustees Chairman Morris Cregger (far left) and Dr. Richard Smith, vice president and dean of the College. President Michael Maxey is at the podium.

them and share the same joy they have for singing. It makes a world of difference for these children."

As Whitehurst's affection for Roanoke College grew, so did his support for academics. He has facilitated faculty-supervised student research through the establishment of the Whitehurst Growth Fund which has supported numerous scholarly projects over several years. Additionally, Whitehurst has been instrumental in making connections between Roanoke biology faculty and scientists at Weyerhaeuser and other companies to develop research partnerships and potential internship opportunities.

"The Whitehurst Growth Fund has supported numerous scholarly projects, engaging science faculty members on a variety of projects with a common theme," says Dr. Darwin Jorgensen, Roanoke's Thornhill Professor of Biology. "That allows faculty to apply their specific expertise to the work and demonstrate for our students the importance of collaboration in scientific research."

A registered professional engineer, Whitehurst's experience in all phases of product research, development and marketing has made him an asset to Roanoke College's Innovation Challenge. The program brings together 15 students from Roanoke College and other top academic institutions, including Harvard University, who work in teams to develop a comprehensive business plan for a new product innovation. At the end of the program, the students present their plans to bankers,

venture capitalists and investors to see if they can get start-up capital for the ideas.

"For undergraduates, this program is really like an eight-week MBA program," says Smith, adding that Whitehurst meets with the Innovation Challenge students each summer. "I don't think we'd have the Innovation Challenge now if it weren't for Brooks' support. He's been a part of the program, he's believed in it, and he's helped to keep it going."

Whitehurst believes in the importance of innovation and believes Americans have abandoned the entrepreneurial spirit that built this nation. When he meets with the Innovation Challenge students, he shares his remarkable acumen in business matters and enjoys telling them stories about American pioneers, such as Ford Motor Co. founder Henry Ford, whose ingenuity led to revolutionary advancements in the automotive industry.

"That innovation is the kind of thing that has been needed and is part of our economic problem today," Whitehurst says. "People are creative and they have imaginations — computers and iPhones don't. That's the thing that seems to have been forgotten in our country."

Then the man described by his son Garnett as a person who is "able to carry on a conversation for hours" pauses a moment and adds: "I do tell the students lots of stories. Grandparents are always supposed to tell the grandchildren stories. That technique apparently works for me." RC

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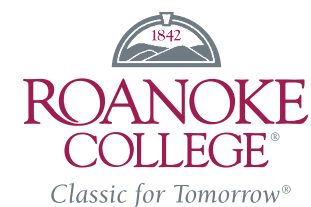
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