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NEWS RELEASE

PRESTIGIOUS INTERNATIONAL SAMPE AWARD TO BE PRESENTED TO UDRI'S MICKEY McCABE

DAYTON, Ohio — In 58 years, the Society for the Advancement of Material and Process Engineering, an international organization for composites technology, has designated only 81 scientists as fellows, noted for their distinguished contributions. Michael V. (Mickey) McCabe, associate vice president for research and director of the University of Dayton Research Institute, will join their ranks Wednesday, May 15.

"They ask you to write a summation of your career," McCabe said. "It gives you a chance to sit back and reflect on what you've done, to see how the work you've done has affected other projects. That's a humbling experience as well as satisfying. No matter what you're doing, if you take it seriously, stay focused and work hard at it, the outcome will almost always make a difference."

His boss agrees. "Mickey's selection to a SAMPE fellow is well deserved and recognizes his many contributions to the complex field of composite materials and their application to aerospace systems," said Gordon Sargent, vice president for graduate studies and research and dean of the graduate school. "Mickey's knowledge in this area has enabled the University of Dayton Research Institute to become recognized nationally as a leader in this area."

McCabe's focus on composites — high-strength and light-weight combinations of fibers and other materials such as polymers, plastics and ceramics — started early. He began his professional career in 1975 at Armco Research Center in Middletown. Five years later, he was named director of research for HITCO Materials Group, an Armco subsidiary. Still an active researcher, he received a patent as sole inventor of polyacrylonitrile (PAN) fiber pretreatments that significantly reduced the amount of time needed to stabilize PAN fiber for conversion into carbon fiber.

McCabe served for a year overseeing technology applications for Armco Construction Products and then joined General Electric Aircraft Engines in Cincinnati in 1986 as section manager for composites.

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"When I was at GE Aircraft Engines, one of my first assignments was to discover why we were having some problems making aircraft engine components out of a high-temperature polymer composite called PMR-15," McCabe said. "Turns out we had five different suppliers of the same raw materials, and they were all making it differently. You can't make anything correctly if you start from five different places."

McCabe's solution was to develop a process control document specifically for composite polymer suppliers. The document, one that completely discloses a manufacturer's process, was the first for high temperature polymer composites and has since been adopted throughout the industry.

"Going in, I thought it would be a tedious project, but what came out of it was a new way of doing business," he said. "What I learned was that no matter what you think about an assignment, you can inject excitement and meaning into it."

McCabe found out about a subsequent project over his morning coffee while reading the *Cincinnati Enquirer*. "The president of the company was quoted as saying our new jet engine, the GE 90 for the Boeing 777, was going to have a composite fan blade. Well, at the time we didn't have one, so my group was tasked with creating a new composite material and figuring out how to make a fan blade from it."

Each 10-foot-diameter engine would have 22 fan blades, and the total weight limit was 45 pounds. Each fan blade was 4 feet long and 2 1/2 feet wide with a complex curvature. They had less than a three-year window to accomplish the goal, and they made it.

"We passed FAA specs, and it's still flying today," McCabe said.

He joined UDRI in 1993 as associate director for business development and brought his interests in composites with him.

"In 1994, the idea of the National Composite Center was born right here in this office," said McCabe, sitting at a small conference table in room 524 in Kettering Laboratories. Originally envisioned as a UD-based center, the idea was to capitalize on the 60 UDRI scientists involved in composite technology research to serve surrounding organizations such as the Air Force Research Labs, GE Aircraft Engines, Hartzell Propeller, Delphi and GM, among others.

By 1996, the base for the center was broadened to the Miami Valley Economic Development Coalition to obtain federal and state financial support. In 1996, the Kettering-based center received \$18 million in funding, and its client base is growing.

Today, as director of UDRI, McCabe is in charge of the region's leading research and development organization, one that specializes in the discovery, development and application of technology. It employs more than 340 engineers, scientists, technicians and support staff and, in fiscal year 2001, conducted more than \$41 million in sponsored research on 900 accounts.

About 85 percent of UDRI's projects are government-sponsored.

"Mickey has an impressive history of making contributions, from bench-level science to his leadership in various management roles," said George Schmitt, chief of integration and operations for the materials and manufacturing directorate of the Air Force Research Lab and a SAMPE fellow. "To get this recognition from the society — we understand the significance of what he has done."

"At 53 years old, I didn't expect to receive this kind of award," McCabe said. "It's so pleasing to get it, especially when you've worked in the composites field for most of your career. And it's a peer technical group that's awarding it, so that means even more."

Three others will be designated fellows on May 15 — Steve N. Loud of Composites Worldwide Inc. and Composites News International, Ching-Long Ong of Light's American Sportscopier Inc. and A. Brent Strong of Brigham Young University.

The SAMPE 2002 Symposium will be held May 12 to 16 in Long Beach, Calif.

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