

## CONVERSATIONS

WITH ANGELIQUE MEDOW

Photograph By Tyler Oxendine

## Dr. H. Lee Martin

University of Tennessee College of Engineering clinical professor of engineering entrepreneurship, founder of TeleRobotics International (later known as IPIX), serial inventor, mentor, theologian, father, husband—and one mean musician of voice, tuba, trombone, and trumpet.

**LEE MARTIN** is a multi-degreed mechanical engineer and the creator of the engineering entrepreneurship discipline and minor at the University of Tennessee. In the early-1980s, while working at ORNL as a development engineer, Martin co-invented OmniView, a revolutionary video-pan-and-tilt fish-eye lens system (that led to the creation of the Oak Ridge-based IPIX)—a precursor to Google Street View and recipient of two *R&D Magazine* 100 awards and NASA's Small Business Innovation Research Technology of the Year Award for its top-notch research, development, and commercialization. Today, in addition to his teaching at UT, Martin is president of Trinity Health Foundation of East Tennessee and vice chairman of Global Media Outreach—an online source of inspiration through religious education. Martin holds 21 United States patents for products ranging from electric vehicle monitors to image processing. He also finds time to eat healthy foods, mentor hundreds of students and business owners, and create his own multi-track recorded songs—including cheery Christmas carols!

**ANGELIQUE MEDOW:** Currently, you have *two* inspirational careers. First, as volunteer president of Trinity Health Foundation of East Tennessee, you created a granting process that helps improve the physical, emotional, and mental health of Knoxville and surrounding counties by providing grant monies to worthy, non-profit organizations. How much money will Trinity award in 2014, and how is it allocated?

**LEE MARTIN:** Annually, we allocate approximately \$200,000 to planning

grants and \$800,000 to implementation grants. These grants are selected based on merit by the board members of Trinity. In the last two years, Trinity has received more than 200 proposals and funded 37 of these to East Tennessee organizations.

**AM:** In your second and equally prominent position, you are the creator and leader of the Engineering Entrepreneurship Program at the University of Tennessee, which gives students with technical expertise insights into starting their own

business. How many engineering students have taken advantage of this program?

**LM:** There are typically 80 students annually that take the key course in engineering entrepreneurship. The entrepreneurship minor consists of 18 additional hours of coursework and will graduate four to six students yearly. Students visit 16 companies that were started by engineers and hear first-hand from the owners about the process of starting the business, their struggles and accomplishments, and the makings of an average day. Students learn how to write business plans, financial plans, technical funding proposals, and market technical products.

**AM:** Would an entrepreneurship program be applicable to all fields of study?

**LM:** Cooperative efforts are underway within the university to create a university-wide entrepreneurship minor so that students from any major could pursue courses that will prepare them for an entrepreneurial journey.

**AM:** You also mentor students and business owners. Why?

**LM:** I am doing what was done for me. I wish to mentor with integrity, discernment, and by sharing wisdom about life experiences. East Tennessee venture capitalist Otto Wheeley taught me that no one gets to the top without help. Charlie Weaver, a dean of the University of Tennessee Space Institute in Tullahoma, Tennessee, and the first Chancellor at UT Knoxville, taught me how to make key career decisions with clarity. Larry Perry—a lawyer, author, psychologist, and true renaissance man—taught me that “the life you lead is the lesson you leave.” And Dr. Frank Speckhart, my professor in mechanical engineering at UT, taught me the practical lesson of creating value for the customer rather than charging by the hour. Each of these men, and others, poured countless hours into guiding me. I will forever be thankful to them!

**AM:** As a patent holder in electric vehicle monitors, do you think electric vehicles are easier on our environment?

**LM:** Knowing what I know about electric vehicles, I am not a proponent of them. If we want energy independence and significantly less pollution, natural gas is the answer. Unfortunately, several regulations have been strategically put in place that make conversion to natural gas for vehicles cost prohibitive.

**AM:** Why are patents important, and what is the key to getting one?

**LM:** Patents protect an idea like a title protects land ownership. If you did not own a title to land, you would never make the investment to develop its value. It's the same thing with patents—they provide the indication of ownership that allows for investment to develop the value of the idea. The process of obtaining a patent has changed dramatically in the last 18 months to align United States and international patent law. The United States now supports a “first to file” system rather than a “first to invent” approach, so it's very important to submit ideas quickly.

**AM:** As a tech-savvy engineer and entrepreneur, where do you see technology heading?

**LM:** We are headed into the age of “virtualization,” when all the things we used to do in person with “things” we now do remotely with “representations of things”—electronic displays—that can be experienced anywhere at the speed of light. Books are now e-books, audio records are now downloads, entertainment is now in your pocket, clubs are now social networks, and shopping is moving from bricks to clicks.

**AM:** You are known for knowing when to let go of companies and positions. What is the key to letting go?

**LM:** Not to be confused with a lack of perseverance or effort. There are times when the demands of the marketplace exceed one's ability to maintain personal balance—and then it's time to find a leader with greater experience or expertise to carry the banner.

**AM:** How do you maintain personal balance?

**LM:** I follow the principles in William Danforth's book, *I Dare You*. Danforth describes a theory of success based on personal balance of mental, physical, relational, and spiritual endeavors in life.

**AM:** Do you ever intend to “retire” from “work”?

**LM:** I am not working. My activities selfishly bring me life. I want to wear out, not rust out, and I am so blessed to have the opportunities and people to work with to touch the lives of others in a positive way.

**AM:** It's fun for you to sing and play the trombone, trumpet, and tuba. What songs do you play?

**LM:** All sorts! I've been using a personal recording system (Mac, Garage Band, and a microphone) to sequentially lay down different tracks and “produce” entire songs. Even Christmas carols! ✕

*Angelique Medow is a 2012 Cityview Entrepreneur and the Principal of Building Ideas, which provides design, decorating, consultation, and project management for commercial and residential properties. She also enjoys exercising her degree in journalism from Arizona State University.*