



## HALL OF FAME INDUCTEE

BILL ROECH

EXPERT IN MANUFACTURING OF SEMICONDUCTORS

Pendleton Chapter

In the late 1990s, when the smart phone was just an idea and not available to the masses, William J. "Bill" Roesch was at work becoming a world expert in the manufacture of the semiconductor that would make the smart phone possible.

A Senior DeMolay from Pendleton Chapter, Pendleton, Oregon, Bill Roesch became a world-renowned expert in the manufacture of gallium-arsenide chip technology. While computer manufacturers were routinely using silicon chips, the use of silicon in more portable devices, like cellphones, was impractical. Silicon was ill-suited to the rigors of a small device that was envisioned to be carried around in pockets, purses, dropped, and used in many other difficult environments like space probes.

Roesch, a graduate of Oregon State University, started his career in semi-conductor engineering at Beaverton, Oregon based Tektronix, Inc. It was there that he was given the opportunity to transfer to a subsidiary, TriQuint Semiconductor, which was beginning to develop gallium-arsenide technology.

During those years at TriQuint (later, and now known as Qorvo), Roesch was given great latitude to perfect the manufacture of gallium-arsenide chips using a strategy of making the product work best by comprehensively learning what makes it break. Early in development he approached potential users of the technology and, among other accomplishments, became a consultant to the Jet Propulsion Laboratory, NASA, and the European Space Agency.

One of Roesch's greatest achievements was developing the semiconductor technology necessary to successfully retrieve data from the Huygens Space Probe (part of the Cassini exploration project) which landed on Saturn's moon, Titan. While gallium-arsenide was largely untested in such real-life harsh conditions as those on Titan, Roesch became a world expert



who helped prove that gallium-arsenide was well-suited to harsh rigors, and would be a primary component in the advent of many other life-changing applications—like the smart phone.

Over 100 times Roesch has been requested to share his knowledge in college classes and industry forums around the world, and in numerous research publications.

During Roesch's career he encouraged young people to pursue interest and excellence in semiconductor technology. From 5<sup>th</sup> graders, to high school-age at-risk youth, and college students around the world, he has shared and mentored the great accomplishments of the gallium-arsenide semiconductor technology he helped to pioneer.

Bill Roesch attributes his attitude toward excellence to his years as a DeMolay Master Councilor, and DeMolay State Officer in Oregon. His summary of one of the greatest things he learned in DeMolay is this: "If you're going to set goals, have a vision to be the best." That DeMolay principle, he says, is what set him on his course to be a top world leader in semiconductor engineering.