

Think Like An Inventor

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Faculty Host: Prof. Scott Merkle

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Abstract

Intellectual property is a work or product that is the result of human creativity. Like buildings, facilities and equipment, various types of intellectual property may be important and valuable assets that enable businesses to operate and compete in the marketplace. Technology oriented businesses are often originated and based on one or more key ideas that serve as the foundation for the products and services that differentiate the business from others. Patent law provides a means to prevent others from making, using, or selling these key ideas for a period of time to allow the owner of a patent to realize profit from their invention, after which time the invention is freely available for all to utilize. Formal education in the engineering disciplines prepares graduates to analyze and solve problems from small to large. Curiously, a skilled, competent engineer may have a successful lifelong career, yet create no noteworthy inventions or patents along the way. Another similarly skilled engineer with the same training may create a rich portfolio of valuable inventions during his or her career. What is the difference? This presentation will describe different types of intellectual property, with an emphasis on inventions and patents. An overview of patents will be presented, including basic patent law, prosecution, elements, ownership, searching and enforcement. The presentation will further discuss some of the particular skills, and importantly, thought processes and methodology that I have found helpful in creating inventive solutions to substantial problems encountered in my engineering career. My hope is that these insights will assist and encourage the future inventive efforts of the attendees of this seminar.

Biography

Steve Koenck is a Principal Systems Engineer retired from Rockwell Collins (now Collins Aerospace) in Cedar Rapids, Iowa. Mr. Koenck received the BSEE and MSEE degrees in 1973 and 1974 from Iowa State University. He was employed by the Norand Corporation in Cedar Rapids, Iowa from 1974 to 1996, serving in positions ranging from Design Engineer to Director of Research and Development. His product development responsibilities included hand-held battery powered computing systems, networked point-of-sale retail systems, optical bar code scanners, and radio frequency communication systems. He joined the Rockwell Collins Advanced Technology Center in 1996 and retired in 2017. Mr. Koenck performed research and development in multiple aerospace and defense technologies including the Avionics Full-Duplex Switched Ethernet (AFDX) network standard, the Joint Tactical Radio System (JTRS) Software Defined Radio (SDR) technology, Digital Night Vision System technology, and flight deck and dismounted head trackers for advanced situation awareness systems. Mr. Koenck holds 156 US patents in the areas of battery powered systems, energy efficient computing, electro-optics, communications, and food and material irradiation systems. He has extensive experience in patent prosecution and litigation, and has appeared in trial and served as an expert witness in various patent litigation matters.

This seminar counts towards the ME 600 seminar requirement for Mechanical Engineering graduate students.