

Overview

Bryan Tropper is a Principal in, and founder of, Tropper Technologies, Inc.

Bryan has expertise across the entire spectrum of technologies inherent in the wireless communication link.

Bryan is a Senior member of the IEEE, the Chapter Chairman of the Antenna and Propagation Society for the LI Section of the IEEE, and applies 20+ years of hands on experience in RF/Microwave system and circuit design to a broad array of customer assignments.

- Deep expertise in all facets of the communications business
 - Wireless and Wireline
 - 2G / 3G / 4G and Emerging
- Extensive knowledge of GPS UE technologies and testing methodologies
- Experience with patent analysis/valuation and licensing
- Hands on commercialization experience
- Recognized name in the wireless technology sector
 - Tropper Technologies
 - Two time IEEE USA Region 1 Award Recipient
 - Past Vice Chairman Software Defined Radio Forum
- Chairman LI IEEE APS
- Sr. Member IEEE
- MSEE

As a seasoned specialist in the wireless field, Bryan's expertise is helping to "bring laboratory technology into the marketplace". He accomplishes this via a mixture of deep technical domain expertise coupled with years of engineering management experience. In affirmation of his accomplishments, Bryan is a two time IEEE USA Region 1 Award Recipient.

Bryan is certified in Earned Value Measurement techniques, trained in SEI CMMI guidelines as they apply to ISO 9000 Development and trained in the use of FAGAN processes for quality inspections. This permits Bryan to achieve an optimal balance between project scope, schedule and budget.

Bryan is very familiar with Infrastructure and User Equipment terminal designs for 2/3/4G communications technologies. His company has used his expertise to develop field measurement and analysis tools that are considered the "benchmark" in certain areas. These tools are used in ultra wideband technology, GPS, software radio and Cellular/PCS applications.

Some of his most recent work includes:

- Signal processing method and apparatus to mitigate aperture induced impairments in a GPS receiver. Both the existing L1/L2 GPS bands as well as the modernized GPS L5 Safety of Life band.
- Robust simulation of modernized GPS M-code auto/cross correlation properties and the code's immunity to various real world impairments.
- Design of a Tetra Digital Trunked Radio system in the European civil (low UHF) band.
- Design of a UHF Satcom system (DAMA terminal, LNA/Diplexer and Satcom antenna) using off the shelf technology compatible with small ground vehicle space and power constraints.
- Design of a high data rate microwave backhaul using LOS Ku band technology.
- Design of prototype low power, short range Wireless Sensor Network (WSN) using IEEE 802.15.4 COTS technology with a custom Zigbee protocol stack.
- Analysis of several multiple antenna technologies (SIMO, MISO, MIMO) and their applicability to small form factor terminals.
- Analysis of OFDM technique to mitigate susceptibility to multipath induced ISI at the expense of increased computational burden. Study results show that the chosen technique should be dependent upon the optimality criterion and the characteristics of the operating channel (RMS Delay Spread, Multipath Direct to Reflected ratio, etc.)
- Field trials of achievable switched diversity gains for an antenna electrically close to the ground, in the unlicensed ISM (2.4 Ghz) band. Measurement data shows good correlation with predictions in the $1/R^4$ region using the Two Ray Flat Earth model.
- Platform surveys of several Army Aviation rotary wing helicopters to accommodate upgrade to Doppler / GPS navigation subsystems. (DoD customer).
- Design and prototype of terrestrial Ku band and satellite Ka band Communication on the Move (COM) Systems. (DoD customer).
- Customer requirements flowdown to architecture definition for a state-of-the-art defense communications receiver. Noise/Gain/IP3 cascade analysis and measurements.
- Comprehensive link budget trades.
- Design and optimization of several antenna structures (microstrip, helix, dipole and Yagi) for a major manufacturer of mobile and base station equipment.
- CDMA measurement receiver joint development (Agilent).
- Wireless network infrastructure (Motorola) and handset (Qualcomm) Tool development.
- Coverage/Capacity model creation and fine-tuning (based on measurement data) for a nationwide commercial PCS system (QWEST).
- Past Vice-Chairman Software Defined Radio Forum. Tool development for Software Radios.
- Ultra Wideband Tool development (Time Domain Corporation).
- Consulting on Wireless system design/deployment/optimization for many established as well as emerging communications services (software radio/ultra wideband/telematics). Clients include both providers as well as manufacturers.

Education

Bryan holds a Master's Degree in Electrical Engineering from the University of Illinois at Chicago (1995) and a Bachelor's Degree in Electrical Engineering from the New York Institute of Technology (1985).

Personal

Bryan holds a 2nd degree Blackbelt in Ju Jitsu and is a Life Member of the United States Judo Association