



College of Engineering and Applied Sciences



Dr. Bradley J. Bazuin

Associate Professor, Electrical and Computer Engineering

Degrees: M.S & Ph.D., Stanford University (1982,1989),

B.S., Yale University (1980)

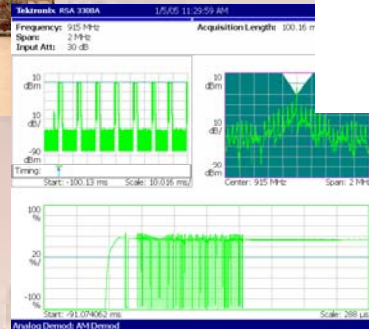
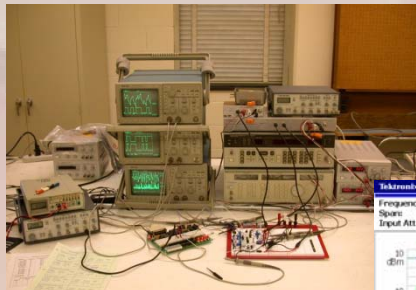
Specialty Areas: Wireless Comm., Adv. DSP, Printed Electronics

Industrial Experience: 19+ years, SIGINT/COMINT, WLL, Anti-Jam GPS

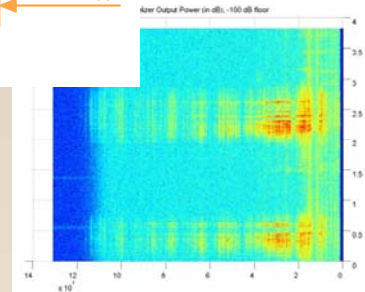
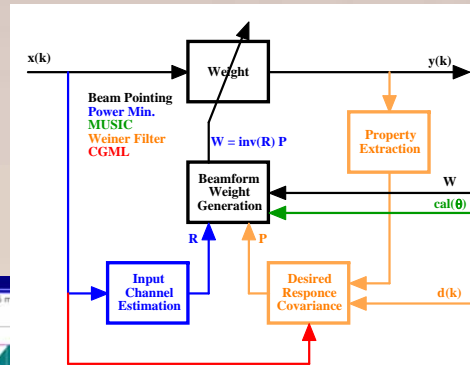
WMU Affiliations: CAViDS, CAPE, Sunseeker

Research Highlights

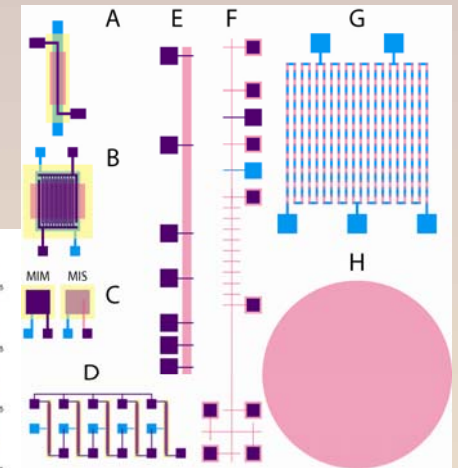
Wireless Communication



Temporal and Spatial Signal Processing



Printed Electronics





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Wireless/Radio Frequency Systems

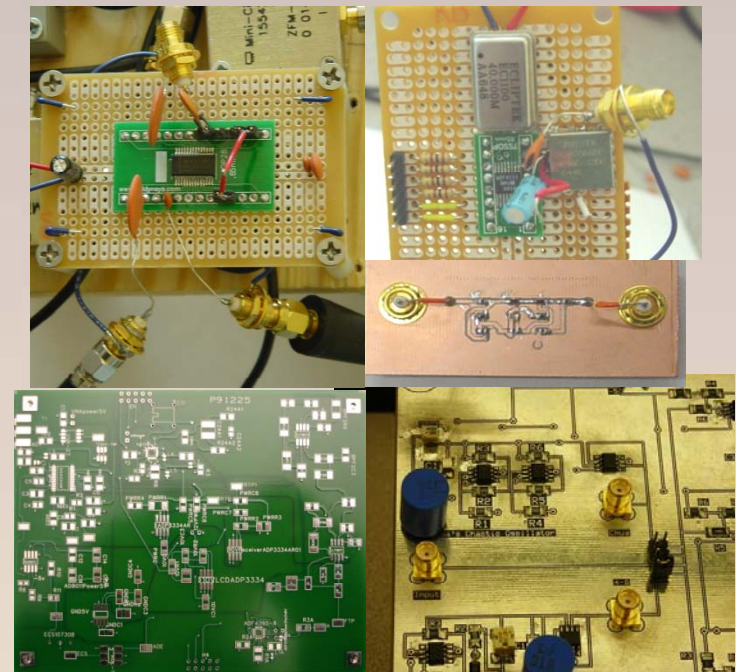
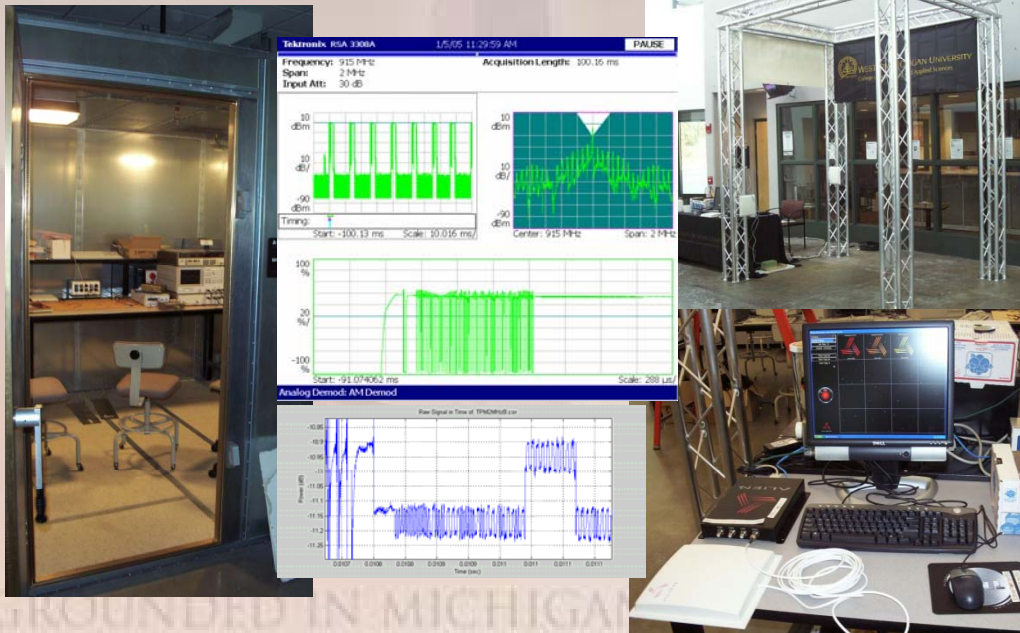
- Analysis, Simulation, Characterization
- Design, Prototype Implementation, Test
- Instruction, Demonstration, Hands-on Training

Radio Frequency Identification (RFID)

- RF Test and Measurements Laboratory with multiple RFID Systems
- Relative 3D Antenna Pattern Testing

RF Circuit Design, Prototyping and Test

- Graduate and Undergraduate Development
- Network/Spectrum Analysis, Signal Sources
- RF Modules, PCBs, Surface Mount Device Capability





Advanced Digital Signal Processing

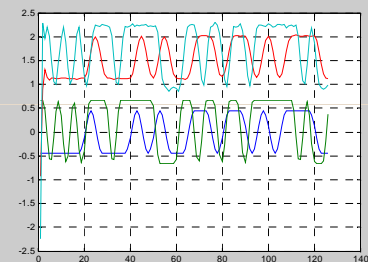
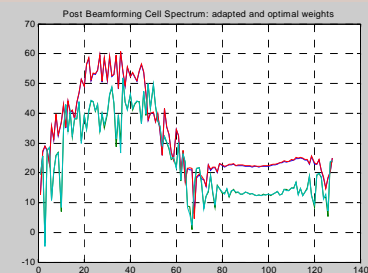
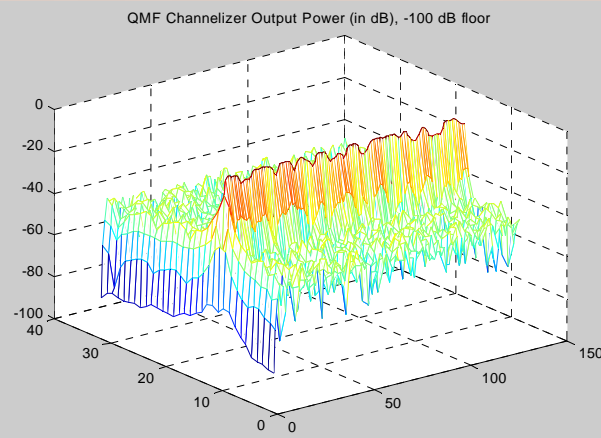
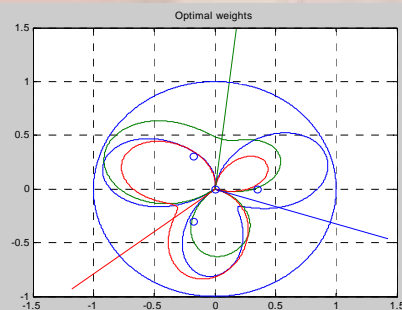
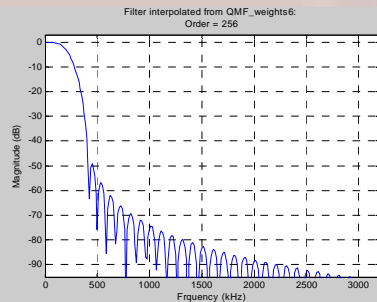
- Time-Spectral Analysis and Filtering
- Signal Direction of Arrival Estimation and Position Location
- Spatial Beamforming and Interference Cancellation

RF/Wireless Communications

- Software Radio Modulation and Demodulation Algorithms
- Environmental signal monitoring with signal and interference characterization and identification
- Multirate Signal Processing, Adaptive Smart Antenna, Spatial Beamforming

System Architecture

- Identify system level trade-offs for implementation
- RF/IF Transceiver Spectral Planning
- Algorithm alternatives and processing performance trade-offs
- Theoretical and implementation based system simulation and performance analysis





Printed Electronics & Sensors

- Printed RFID Antennas
- Roll-to-Roll Printed Electronics Test Patterns and Devices
- PE and IC Test and Measurement Capabilities

IC Physics, Fabrication, Layout, and Testing

- Device physics and IC fabrication
- Graduate work involved Silicon IC design, layout, process characterization, fabrication and component/device testing
- Industrial work included ASIC design, macrocell placement, ASIC test lab debugging, and circuit testing

Printed Electronics

- Pattern design and RF testing of printed Ag RFID antenna
- Test structure design, test fixtures and characterization of PE functional layers, multiple layer interaction and components
- Discrete and IC analog and digital circuit design experience

