

# Christi Johnson

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## Areas of Interest

- Physics, Electrical Engineering, Mechanical Engineering, Computer Science/Engineering/Software Development

## Education

**BACHELOR OF SCIENCE | MAY 10, 2014 | UNIVERSITY OF TENNESSEE, KNOXVILLE**

- Major: Physics

**MASTER OF SCIENCE | IN PROCESS | TENNESSEE TECHNOLOGICAL UNIVERSITY**

- Electrical Engineering

## Publications and Presentations

- Abstract and Research Report Paper: *Infrared Airport Runway Lighting is in Your Future*
- Presentation at Scientific Undergraduate Laboratory Internship Symposium: *Airport Infrared Lighting*
- Abstract and Research Report Paper: *Emissivity-Compensated Infrared Optical Pyrometer*
- Presentation at Scientific Undergraduate Laboratory Internship Symposium: *Emissivity Independent Temperature Measurement*
- Invention Disclosure: *Induction Power Supply for Small Heating Systems*
- *Quarterly Research Performance Progress Report (2015 Q3): Ultrasonic Phased Arrays and Interactive Reflectivity Tomography for Nondestructive Inspection of Injection and Production Wells in Geothermal Energy Systems*

## Employment and Experience

**INTERN | OAK RIDGE NATIONAL LABORATORY | AUGUST 2014 – DECEMBER 2014**

- Project: Infrared Airport Runway Lighting, Duties: Circuit design, simulation (LTSpice), modeling, fabrication, assembly, testing
- Project: Portable Induction Heater for 3-D Printers, Duties: Assembly, fabrication, testing, technical drawings (ORCAD Schematic Capture)

**INTERN | OAK RIDGE NATIONAL LABORATORY | JANUARY 2015 – MAY 2015**

- Project: Infrared Airport Runway Lighting – Generation II, Duties: Circuit design, simulation (LTSpice), modeling, fabrication, assembly, testing, technical drawings (ORCAD/SPICE/Eagle Schematic Capture)
- Project: Emissivity-Compensated Infrared Temperature Measurement, Duties: Software development (LabVIEW), experimental testing, data analysis, spectrometer calibration

**POST-BACHELOR RESEARCH ASSOCIATE | OAK RIDGE NATIONAL LABORATORY | MAY 2015 – MAY 2016**

- Project: Ultrasonic Phased Arrays and Interactive Reflectivity Tomography for Nondestructive Inspection of Injection and Production Wells in Geothermal Energy Systems, Duties: Software development (LabVIEW and MatLab), Transducer testing and characterization, data collection and analysis
- Project: Portable Induction Heating, Duties: Circuit design, fabrication, assembly, testing

- Project: Ultrasonic Clothes Dryer, Duties: Amplifier design, software development (Arduino/Open Source), circuit design, fabrication, assembly, testing
- Project: Calibration of Ultrasonic Flow Meter, Duties: Technical Drawings (P&ID, Visio), Instrumentation and control design, fabrication, assembly, testing

#### **TECHNICAL PROFESSIONAL | OAK RIDGE NATIONAL LABORATORY | MAY 2016-PRESENT**

- Project: Ultrasonic Phased Arrays and Interactive Reflectivity Tomography for Nondestructive Inspection of Injection and Production Wells in Geothermal Energy Systems, Duties: Software development (LabVIEW and MatLab), Transducer testing and characterization, data collection and analysis
- Project: Portable Induction Heating, Duties: Circuit design, fabrication, assembly, testing
- Project: Ultrasonic Clothes Dryer, Duties: Amplifier design, software development (Arduino/Open Source), circuit design, fabrication, assembly, testing
- Project: Calibration of Ultrasonic Flow Meter, Duties: Technical Drawings (P&ID, Visio), Instrumentation and control design, fabrication, assembly, testing
- Project: Inspection of Waveguide tubes for ITER Fusion Reactor, Duties: Mechanical setup, Software development (LabVIEW), Image processing
- Project: Magnet Recycling from Disassembled Computer Hard drives, Duties: Mechanical System Design, Method testing and evaluation

### **Scholarly or Professional Memberships**

IEEE, American Physical Society, National Society of Collegiate Scholars, Phi Eta Sigma National Honors Fraternity, Society of Physics Students

### **References**

Roger Kisner

Oak Ridge National Laboratory

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David Fugate

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