# RAWLEY GREENE

## ENGINEER, SCIENTIST, TEACHER

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Columbus, Georgia

***Former Mechanical, Civil, Materials Science and Engineering university-level instructor with a Doctorate and over 15 years of experience within multiple disciplines. Seeking to enter industry applying my eclectic range of experience and knowledge. Experience ranges from college level instruction, data analysis, research and experimentation, design, machining, programming, electrical, design of components, metallurgy through materials testing and characterization.***

## SUMMARY OF QUALIFICATIONS

- Knowledgeable in many classes of materials, from composites to ceramics and metals.
    - Experienced with characterization of material properties: mechanical, optical, etc., and the equipment to do so: mechanical testing frames, scanning electron microscopes (SEM), etc.
    - Developed and implemented experimental procedures for testing of materials.
    - Specialized in prediction and forensics of material failures via fracture and fatigue.
    - Adept at numerous materials processing techniques
    - Focused studies in wood-based composites; polymer chemistry; fracture and fatigue
- Experience consulting with industry clients in heat exchanger design, material testing, failure analysis, and material development.
- Proficient in computer-based technologies
    - Programming: LabVIEW; C/C++/C#; MATLAB
    - 3D modeling software/CAD; Finite Element Analysis (FEA)
    - Microsoft Office Suite, Adobe Creative Products (Premier Pro, Illustrator, Photoshop, etc.)
    - Online presentation tools (Zoom, Teams, etc.)
    - Developed control software for Instron materials testing equipment.

## PROFESSIONAL HIGHLIGHTS

**Instructor of Materials Science and Mechanical Engineering, MIME Department** 2014 – 2021
Oregon State University, Corvallis, OR

- Instructed and developed various mid- to upper- and graduate-level Mechanical Engineering and Materials Science courses.
- Produced four complete series of online classes with complete video instruction during the switch to COVID mandatory remote learning.
- Managed multiple teams of 3 to 4 graduate teaching assistants per year.
- Consulted with various organizations in industries such as aerospace and insurance to test materials and designs in fracture and fatigue; conduct forensic analysis of material failure; and aid in material design.
- Assisted students with various design problems for senior design classes and student organizations such as the Formula Racing Team and Rocketry Club
- Faculty Adviser for Cubing Club (able to solve a Rubik's Cube in less than a minute.)

**Instructional Lab Manager (Postdoctoral)** 2013 – 2014
Oregon State University, Corvallis, OR
- Trained students, graduate assistants, and faculty in safety procedures and laboratory techniques
- Maintained safe, clean, and functioning instructional laboratories.
- Conducted troubleshooting and repair of equipment and material testing machines.
- Assisted development of laboratory class curricula.
- Instructed lab-based classes such as Mechanical Properties of Materials.
- Budgeted and procured funding for lab equipment and expenses.

**Graduate Research Assistant** 2006 – 2012
Oregon State University, Corvallis, OR
- Conducted experiments, completed research, and published in scientific journals for doctoral-level degree requirements.
- Developed fatigue testing control software to implement the ASTM E399 standard for Instron materials testing equipment, which performed with accuracy an order of magnitude better than commercially available software.
- Experienced in the operation of various material testing equipment: Instron and Bose fatigue testing equipment; Instron static testing equipment; Scanning Electron Microscopes; Electron Microprobe; Micro-Raman Spectroscopy; Impact and Hardness testing.
- Developed various unique electrical and mechanical testing apparatus.
    - Servo-controlled micro-compact tension test stage for in situ micro-Raman spectroscopy strain measurements and SEM imaging.
    - Active signal filters for aligning load and strain signals in fatigue testing.
- Designed and machined parts for laboratory testing equipment.

## EDUCATION

**Ph.D. in Materials Science and Engineering** 2012
Oregon State University, Corvallis, OR
Dissertation: Fatigue Reliability Predictions in Silicon Nitride Ceramics Based on Fatigue Behavior, Bridging Stresses, and Fracture Data (September 2012)

**Bachelor of Science in Mechanical Engineering** 2006
Southern Illinois University, Carbondale, IL
Minor in Mathematics
Delyte Morris Scholarship

**Associate of Science in Computer Science, and Business Administration** 2001
Parkland College, Champaign, IL

## PUBLICATIONS

***Fatigue Threshold R-curves Predict Fatigue Endurance Strength for Self-Reinforced Silicon Nitride,*** 2013
***A Highly Fatigue Resistant Zr-Based Bulk Metallic Glass,*** 2013
***A Direct Comparison of Non-Destructive Techniques for Determining Bridging Stress Distributions,*** 2012
***Fatigue Behavior, Bridging Stresses, and Fatigue Reliability in Silicon Nitride Ceramics,*** 2011