

# Jerrod L. Young

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**OBJECTIVE:** Working toward a graduate degree in the field of optical science with the intent joining industry as an opto-mechanical engineer upon graduation.

## EDUCATION

**Doctor of Philosophy in Optical Science** May 2015  
University of Arizona (U of A), Tucson, AZ **GPA: 3.0/4.0**

**Bachelor of Science in Optical Engineering** May 2010  
Norfolk State University (NSU), Norfolk, VA **GPA: 3.47/4.0**

## PROFESSIONAL EXPERIENCE

**Research Assistant**, Large Optics, Fabrication, and Testing (LOFT) Research Group, College of Optical Science (OSC), U of A, Tucson, AZ (August 2011- Present)

- Conducting research on the optimization of Computer Controlled Optical Surfacing technology
- Developing new techniques for super polishing optical surfaces
- Searching for solutions to enhance the capabilities of current optical polishing tools to improve the polishing process for large aspheric optics

**Engineering Co-op**, Optics Division, NASA, Greenbelt, MD (May 2010 – Present)

**Components Group** (May 2011-August 2011)

- Conducted an analysis on the long the long term stability of the spare filters from Wide Field Camera 3 (WFC3) of the Hubble Space Telescope (HST) in preparation for the design of the filter wheel for the Wide-Field Infrared Survey Telescope (WFIRST)
- Test were done at ambient and cryogenic temperature using a Perkin Elmer spectrometer
- Results were submitted in the form of a technical report upon the conclusion of the research

**Fabrication Group** (May 2010-August 2010)

- Used diamond turning machine in order to produce mirror on various metal and alloys
- Conducted experiment geared towards determining the operating parameter that will allow for the optimal optical surface finish
- Performed optical metrology using various interferometers
- All finding were submitted in a technical report upon the conclusion of the term

**Senior Project**, Department of Engineering, NSU, Norfolk, VA (August 2009 – Present)

- Designing and fabricating an optical MEMS pressure sensor based on a Fabry-Perot interferometer
- Learning and applying IC and semiconductor processing techniques
- Conduct testing and analysis of device

**Tutor**, Science and Technology Academicians on the Road to Success (STARS) Tutoring Center (August 2007 – Present)

- Provides free tutoring service for all science and technology courses to Norfolk State University students
- Tutor Calculus III and all course below

**Research Intern**, CREOL: College of Optics and Photonics, University of Central Florida, Orlando, FL (May 2009 – August 2009)

- Conducted etching experiments in preparation to attempt to fabricate micro-devices on the tips of optical fibers
- Experimented with particle separation and characterization using the technique of optical chromatography
- Conducted bi-weekly presentations and participated in poster session

**Research Intern**, Materials Research Sciences and Engineering Center (MRSEC), University of Maryland, College Park, MD (June 2008 – August 2008)

- Modeled motion of crystal surfaces and derive continuous equations to describe the surface
- Performed a technical presentation as well as present research in poster session
- **Published paper:** J. Quah, J. Young, and D. Margetis, "A Macroscopic View of Crystal-Step Transparency", Physical Review E, Vol. 78 (2008), 042602 (4pp)

**Research Intern**, Science and Technology Academicians on the Road to Success (STARS), Norfolk State University, Norfolk, VA (June 2007 – July 2007)

- Conducted research on multiple scale mathematics using the equation for a damped harmonic oscillator as the overall governing equation
- Performed a technical presentation as well as present research in poster session

## **AFFILIATIONS**

**National Society of Black Engineers (NSBE)**

**Region Six Southwest Zone Chair** (August 2010-Present)

- Took part in the planning, organizing, and the on-site execution of the 2010 Region Six Fall Regional Conference
- Responsible for provide contact between the chapters in the Southwest Zone and the Regional Executive Board
- Facilitated communication between the collegiate chapters and the alumni chapter throughout the zone

**U of A Chapter**, Tucson, AZ (August 2010 – Present)

**Chapter Adviser** (August 2010-Present)

- Meet with the chapter executive board bi-weekly to provide guidance, feedback, and provide answer for any questions in moving the chapter forward
- Active member in all chapter programs and events

**NSU Chapter**, Norfolk, VA (September 2007 – May 2010)

**Vice President** (May 2009 – May 2010)

- Performed the duties of the president in the occasions in which she was unable to be present
- Acted as head of all standing committees in occurrence of a vacancy until the position was filled
- Manage and delegate task to the chapter executive board
- Oversaw the planning and execution of all programs and events during the 2009-10 academic school year
- Region 2 O-zone chapter of the month for September and October

**Pre-College Initiative (PCI) Chair to the Executive Board** (May 2008 – May 2009)

- Responsible for stimulating the interest to pursue technical degrees among children grades K-12
- Created partnership between Ingleside Elementary School to participate in Student Mentorship Program

**Christian Student Fellowship** (September 2008 – May 2010)

- Campus ministry for students to fellowship with one another

## **COMMUNITY SERVICE**

**Video Ministry**, Tucson Church International, Tucson, AZ (November 2011-Present)

- Operate the video board and the main camera in the taping and live streaming of Sunday service

**Workshop Presenter**, Optical Science Academy, OSC, U of A, Tucson, AZ (Saturday 22, October 2011)

- Children from middle schools and high school in Tucson visited the U of A to be introduce to the field of optics by virtue of workshops that illustrated basic optical principals
- Demonstrated the concept of a two-way mirror with a 50-50 partially reflecting mirror and a light up pumpkin

**Workshop Presenter, NSBE PCI Day, U of A NSBE Chapter, U of A, Tucson, AZ (April 2011)**

- High School students in Tucson visited the U of A in order to be introduced into the world of engineering via interactive workshops
- Workshop presenter for the bridge building workshop in which the students were placed in groups who competed against each other to construct the most stable structure with marshmallows and spaghetti
- Sat on a panel of college students for an open forum in which the student could ask any questions about the transitioning from high school to college

**Tutor, Tucson Unified School District (TUSD), Tucson, AZ (September 2010-Present)**

- University of Arizona NSBE chapter and Tucson Alumni NSBE chapter team up to tutor children of Tucson from grade 3- 12 in their math classes

**Mentor and Tutor, Ingleside Elementary, Norfolk, VA (January 2008 – May 2010)**

- Acted as a mentor as well as a math tutor for the kindergarten, fourth, and fifth grade
- Representative as well as liaison between Ingleside and NSU

**Mentor and Tutor, STARS Summer Bridge Program, Norfolk, VA (June 2007 – July 2007)**

- Mentored freshmen on how to transition from high school to college
- Tutored freshmen in pre-calculus to help them with summer classes

**AWARDS/HONORS**

- Honor student and recipient of the Dozoretz's National Institution for Math and Applied Sciences (DNIMAS) Academic Scholarship (July 2006)
- DNIMAS Senior Award for Leadership and Service (April 2010)
- Dean's List, Norfolk State University (Fall 2007, Spring 2008, and Fall 2008)
- Nominated to join Golden Key Honor Society and Beta Kappa Chi Honor Society
- DNIMAS Service Award (May 2008)
- NSBE Region 2 Fall Regional Conference: "2 Hype Award" (Nov. 2008)