

# Jacob Clark Ruprecht

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## Education

**Duke University** – Durham, North Carolina

May 2016

Pratt School of Engineering, Bachelors of Science in Biomedical Engineering, minor in Economics

GPA: 3.72/4.0, Dean's List: Fall 2015, Spring 2015, Fall 2013, and Fall 2012

**University of Sydney** – Sydney, NSW, Australia

July 2014 – November 2014

Study Abroad Program

## Research and Engineering Competencies

- Tissue Engineering, Tissue Culture, and Monolayer Cell Culture
- Data Analysis and Statistics
- MATLAB, LS-DYNA, SolidWorks, LabVIEW, Statistica
- Biochemical Assays (Picogreen, DMB, and OHP)
- Confocal and Fluorescence Microscopy
- Flow Cytometry
- Histology and Staining
- Mechanical Testing (Push Out, Tension, Compression, Three-Point Bending)
- Lentivirus Production and Titering

## Professional Experience

**Duke Orthopedic Research Lab** – Durham, North Carolina

January 2015 – May 2016

*Pratt Research Fellowship: Innovations in Meniscal Repair*

- Collaborated with 5 team members to achieve project goals, trained less experienced team members in lab technique
- Utilized statistical analysis on large sets of data in order to compare the effectiveness of four different scaffolds for integrative repair in the meniscus
- Designed new experiments to evaluate the effectiveness of decellularized tissue scaffolds for meniscus repair by utilizing existing data and research
- Took initiative to write a Matlab program that automated data analysis and improved efficiency
- Practiced cell culture, microscopy, histology, biochemical assays, and mechanical testing
- Co-authored an abstract that was selected for a Paper Presentation at the ORS 2016 Annual Meeting

**Duke Developing World Healthcare Technologies Lab** – Durham, NC

May 2014 – July 2014

*Research Assistant*

- Used engineering knowledge to review documents in the lab's online biomedical resource library and created concise summaries to improve technicians' ability to search for and locate the correct document
- Investigated and tested translation methods for the database, determined the most effective translation method and how to adjust the design of the website to accommodate this method.
- Researched file types and successfully recommended the type that would maximize readability, accessibility in low-bandwidth areas, and ease of translation

**Beaird Consulting Group** – Naperville, Illinois

May 2013 – August 2013, December 2014

*Pricing and Data Quality Analyst*

- Tracked and analyzed data discrepancies between multiple pricing systems
- Performed extensive data analysis in Microsoft Excel including tools such as pivot tables and v-lookups.

## Leadership Activities and Recognition

- Pi Kappa Phi Fraternity, Duke University 2013 – 2016
  - Standards Board - Investigated and resolved conflicts with individual code of conduct
  - Warden - Developed program to reinforce fraternal values of scholarship, philanthropy, & respect for others
- Duke Training and Fitness, Executive Board 2015 – 2016
- Eagle Scout – Boy Scouts of America 2010

## Extra-Curricular Activities

- Duke University Club Volleyball Team 2012 – 2016
- Professional Association of Diving Instructors - Certified Divemaster 2014 – 2015
  - Professional diving certification requiring extensive training on leading groups of divers safely