JULIE A. BERT

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EDUCATION

2006-2012 **Stanford University**
PhD in Physics: *Superconductivity in Reduced Dimensions* GPA: 3.978/4.0
Operated and maintained a home-built electro-mechanical scanner with an integrated magnetic sensor for characterization of novel materials. Published results in *Nature Physics, Physical Review B.*

2001-2005 **Princeton University**
Graduated Magna Cum Laude with A.B. in Physics. Thesis: Built a microfluidic CCD detector for moving and sensing electrons on liquid helium. Published results in *Applied Physics Letters.*

Invited talks APS March Meeting (2012), International Conference on Low Temperature Physics (2011)

Awards First place poster at CPN nanoprobes workshop (2011), Excellence in teaching award (2007), Prize for outstanding undergraduate research (2005), Most outstanding student in Engineering Physics (2005)

SKILLS

Systems engineering Experience combining mechatronics and software for precise control of sensors and actuators in an extreme operating environment. Implemented finite state machines.

Mechanical design Experience designing mechanical assemblies in SolidWorks. Machining expertise including welding (TIG & oxy acetylene), lathe, mill, and sandcasting.

User-centered design Need-finding, brainstorming, storyboarding, rapid prototyping, gathering user feedback, and iteratively improving on an idea.

Electronics Analog and digital electronics, breadboard protyping, soldering.

Software Extensive programming experience in MatLab, including implementation of control systems, data processing and presentation, and physical modeling. Some experience programming in C/C++, Java and PHP. Comfortable in a linux environment.

EXPERIENCE

Jan 2011 **NINN International Winter School** Bangalore, India
A highly competitive program including a focused nanotechnology course and field experience in India. Interacted with rural Indians and developed a local perspective for informing future projects.

Summer 2009 and Fall 2010 **Design Thinking, Stanford** Stanford, CA
Formed interdisciplinary teams to incorporate aspects of human-centered design into technical fields. Pitched tested solutions to companies.

2009-2010 **Student Hosted Colloquium Board Member** Stanford, CA
Selected, invited, organized and hosted colloquium speakers for the Stanford physics department.

2005-2006 **Teacher: Shanghai High School** Shanghai, China
Taught middle school and high school physics and english. Generated curriculum.

2002-2004 **Outdoor Action Leader** Princeton, NJ
Lead a group of freshmen on a weeklong wilderness orientation trip. Earned Wilderness First Responder Certification.

Research Assistant: Scientific Research Projects

Summer 2004 **University of Colorado, Boulder, JILA and NIST** Boulder, CO
Constructed a mechanical break junction and measured electrical shot noise in atomic point contacts.

Summer 2003 **Princeton University and KEK High Energy Particle Accelerator** Tsukuba, Japan
Reconstructed the ratio between charged and neutral B mesons using data from the Belle detector.

Summer 2002 **Princeton University and Laboratori Nazionali del Gran Sasso** Gran Sasso, Italy
Detection of Solar Neutrinos. Constructed the scintillation vessels for the Borexino experiment.