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## Robert J. Cody Markelz

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### Education:

- 2007-Present Ph.D. University of Illinois at Urbana-Champaign (expected 2012).  
Department: Plant Biology
- 2003-2007 B.S. University of Illinois at Urbana-Champaign.  
Major: Integrative Biology (Distinction) Minor: Chemistry.

### Scholarships:

- 2006-2007 P. & W. Heitmeyer Scholarship for Students in the Natural Sciences, University of Illinois

### Awards, Honors:

- 2007 Runner-up, Partial Stipend Winner, Proctor and Gamble Student Research Competition
- 2005 Deans List, UIUC, Fall Semester
- 2003 Deans List, UIUC, Fall Semester

### Research Experience:

- 2006-2007 *Plant-Water Relations at UIUC with Dr. Donald Ort and Dr. Andrew Leakey*  
I measured soil moisture and plant water status at the SoyFACE global change biology field site during the 2006 growing season.  
**Senior Distinction Project Title** – How will elevated [CO<sub>2</sub>] alter soil and plant water status of the C<sub>3</sub>-crop soybean and the C<sub>4</sub>-crop maize?
- 2005-2007 *Soybean nitrogen metabolism at elevated [CO<sub>2</sub>] at UIUC with Dr. Andrew Leakey*  
I sampled leaves of soybean grown at ambient and elevated [CO<sub>2</sub>] in the field as part of a team on 6 dates in 2006. I determined total leaf nitrogen content with an elemental analyzer. I extracted and visualized data on changes in gene expression related to nitrogen metabolism at ambient and elevated [CO<sub>2</sub>] from the microarray analysis of another team member.
- 2005 *Behavioral Ecology of Social Insects at UIUC with Dr. Sam Beshers*  
This research was focused on characterizing task interference behavior in the fungal growing ant colonies *Atta cephalotes*. I manipulated waste management activities within the nest of laboratory colonies to study task preference within the colonies' divisions of labor.
- 2004 *Microlepidoptera Systematics at UIUC with Terry Harrison and Dr. May Berenbaum*  
Collection and organization of micro-lepidoptera samples from various hill prairie sites along the Illinois River Basin.

### Publications:

- In Prep Leakey ADB, Markelz RJC, Ort DR. A novel mechanism of stimulated osmoregulation that directly improves leaf water status of soybean growing under Free-Air CO<sub>2</sub> Enrichment.

### Presentations:

- 2007 Markelz RJC How will elevated [CO<sub>2</sub>] alter soil and plant water status of the C<sub>3</sub>-crop soybean and the C<sub>4</sub>-crop maize? Oral Presentation. Proctor and Gamble Student Research Competition.

- 2007 Markelz RJC, Leakey ADB, Ort DR. Elevated [CO<sub>2</sub>] does not always improve soil and plant water status in the C<sub>3</sub>-crop soybean or the C<sub>4</sub>-crop maize. Poster Presentation. Environmental Horizons, University of Illinois, Urbana, IL.
- 2007 Markelz RJC. How will elevated [CO<sub>2</sub>] alter soil and plant water status of the C<sub>3</sub>-crop soybean and the C<sub>4</sub>-crop maize? Oral Presentation. Undergraduate Research Symposium-School of Integrative Biology, University of Illinois, Urbana, IL.
- 2006-2007 Enrich your IB Resume. Oral Presentation. A workshop to help Integrative Biology students to see what research opportunities there are for undergraduates. Urbana, IL.
- 2006 Volunteering Abroad Information Night. Oral Presentation. International Impact speaker on student volunteering opportunities in Ecuador. University of Illinois.
- 2004 Amazing Arthropods. Oral Presentation. Guest speaker on social insect colony behavior at the Plainfield High School Honors Biology Program.

### **Volunteer Experience:**

- 2006 Counselor at youth grief management camp, Monticello, IL.
- 2006-2007 Fundraising for the student run volunteering abroad organization International Impact, University of Illinois.
- 2005-2006 A 3 week service project in Ecuador building a school for a small indigenous village north of the capital city, Quito.
- 2004-present Bi-annual Illini Cycling Bicycle Fix-A-Thon bike mechanic.

### **Affiliations:**

- 2005-2007 University of Illinois, International Impact
- 2004-2007 University of Illinois, Illini Cycling
- 2003-2007 University of Illinois, Climbing Club (Secretary 2004-2006)

### **References:**

Available upon request.