

# CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

## Education:

### Montana State University

Bozeman, Montana

*Bachelor of Science, Microbiology, 1999*  
*Bachelor of Science, Biology, 1999*

## Awards and Relevant Coursework:

- graduated with honors (both degrees), College of Letters and Science
- consistently included in the Honor Roll
- received a research grant for participation in Undergraduate Research Opportunities from the Mountain Research Center and Undergraduate Scholars Program, 1999
- received the William G. and Mary H. Walter Scholarship Award twice, 1998 and 1999
- received the Energy Laboratories Chemistry Scholarship, 1997
- received the E.E. Frahm Award, 1996
- member Golden Key National Honor Society throughout undergraduate career

course name (level)	institution	grade
Insect Biology (204)	MSU	A
Integrated Pest Management (401)	MSU	A-
Behavioral Ecology (514)	MSU	B
Invertebrate Pathology (463)	Cornell	A
Chemical Ecology Workshop	WSU	NA

## Continuing Learning:

I regularly attend meetings and conferences in my field in order to keep abreast of current happenings and research in orchard management. I try to attend relevant workshops when available.

## Teaching Experience:

I TA-ed a section of the Insect Biology (204) laboratory at MSU as a senior, 1999.

## Related Experience:

### (04/01 – present) Associate in Research

*Tree Fruit Research and Extension Center, Washington State University*

Wenatchee, Washington

- design and conduct various research projects concerning leafrollers, codling moth, and their parasitoids
- help with design and conduct research projects concerning the external marking of insects in the field to collect insect movement and distribution data
- community outreach; working to educate people in our area about orchard workings through programs such as the Awesome Apple Adventure as well as giving small presentations to elementary classes, library groups and Master Gardeners
- write and edit scientific documents
- maintain a functional laboratory; including hiring and managing the lab staff, ordering laboratory supplies, monitoring inventory and coordinating experiments

# CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

- attend pertinent conferences in the field of orchard management and share our data

(05/99 – 03/01) **Laboratory Technician**

*Entomology Department, Cornell University* Ithaca, New York

- design and conduct multiple research projects concerned with the use of an entomopathogenic fungus for the biological control of gypsy moth
- write and edit scientific documents for publication
- manage the undergraduate lab assistants
- coordinate staff and graduate student projects
- in charge of ordering laboratory supplies and monitoring inventory
- interpersonal relations management duties, coordinate the research conducted in our laboratory with concurrent research being conducted elsewhere

(01/99 - 05/99) **Independent Undergraduate Researcher**

*Entomology Department, Montana State University* Bozeman, Montana

- designed and conducted a research experiment aimed at determining rates of movement of the grain weevil, *Sitophilus zeamais*, at differing temperatures – this serves the purpose of increasing the accuracy of probe trap estimations of beetle numbers in grain bins
- participated in the Undergraduate Scholars Conference where I presented my research

(09/98 – 05/99) **Undergraduate Research Assistant**

(07/97 – 05/98) *Center for Biofilm Engineering, Montana State University* Bozeman, Montana

- worked on a project aimed at characterizing chitin degradation by a marine bacterium and studied the colonization of hematite by an iron reducing bacterium
- designed and conducted a project studying *Serratia marcescens*, a common bacterium in the environment, and its potential for chitin degradation
- edited scientific documents for publication

(07/98-08/98) **Student Fellow**

(05/97-07/97) *Idaho National Engineering & Environmental Laboratory* Idaho Falls, Idaho

- designed and conducted experiments aimed at the utilization of an acid-producing bacterium to degrade radioactive concrete
- worked closely with a team on a project to characterizing biofilms growing in geothermal power plant lines
- analyzed and summarized data for future publication

(08/95-05/96) **Undergraduate Research Assistant**

*Center for Biofilm Engineering, Montana State University* Bozeman, Montana

- worked on a project aimed at maximizing the toxin degradation rates of naturally occurring bacterial strains found in contaminated areas, chemicals focused on were benzene, toluene, ethyl-benzene and xylene
- equipment used included a respirometer and a gas chromatograph (FID)

## CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

### Publications/ Proceedings:

- Jones VP, JR Hagler, JF Brunner, CC Baker and TD Wilburn. 2006. An inexpensive immunomarking technique for studying movement patterns of naturally occurring insect populations. *Environ Entomol.* 35:827-836.
- Jones, VP, CC Baker, TD Wilburn. 2006. Movement of codling moth between abandoned and commercial orchards. *Proc Wash State Hort Soc.* 102.
- Jones, VP, CC Baker, TR Unruh. 2006. Movement of the leafroller parasitoid *Colpoclypeus florus* between rose/strawberry gardens and apple orchards. Orchard Pest and Disease Management Conference, Portland, OR.  
<http://entomology.tfrec.wsu.edu/wopdmc/site.php?pn=7>.
- Jones VP, CC Eastburn, TD Wilburn and JF Brunner. 2005. Instar specific phenology of *Pandemis pyrusana* and *Choristoneura rosaceana* in Washington apple orchards. *J Econ Entomol.* 98:862-874.
- Jones VP, TD Wilburn, CC Baker. 2005. Codling moth movement in mating disruption and non-mating disruption orchards. *Proc Wash State Hort Soc.* 101.
- Jones VP, CC Eastburn, TD Wilburn and JF Brunner. 2005. Sampling leafrollers in apple orchards: Effect of sample frequency and number of samples. *Proc Wash State Hort Soc.* 101.
- Jones, VP, D Horton, CC Baker, TD Wilburn. 2005. Using a novel marking technique to answer an old question: Do predator populations in the ground cover move into the canopy and affect pear psylla? *Proc Wash State Hort Soc.* 101.
- Jones VP, JR Hagler, JF Brunner, CC Eastburn and TD Wilburn. Developing marking systems for study of landscape-level movement patterns of insects. (*Oecologia*, submitted)
- Jones VP, MD Doerr, JF Brunner, CC Eastburn, TD Wilburn and NG Wiman. 2005. A synthesis of temperature-dependent developmental rate for obliquebanded leafroller, *Choristoneura rosaceana* ((Harris) Lepidoptera: Tortricidae). *J. Insect Sci.* 5:24, available online: [www.insectscience.org/5.24](http://www.insectscience.org/5.24)
- Jones VP, JF Brunner, CC Eastburn, TD Wilburn. 2005. New and improved models for OBLR and PLR. *Proc Wash State Hort Soc.* 101.
- Jones VP, JF Brunner, CC Eastburn, TD Wilburn. 2004. Pest supermodels – new ways to improve our pest management programs. *Proc Wash State Hort Soc.* 100.
- Hajek AE and CC Eastburn. 2003. Attachment and germination of *Entomophaga maimaiga* conidia on host and non-host larval cuticle. *J Invertebr Pathol.* 82 (1): 12-22.
- Jones VP, CC Eastburn and NG Wiman. 2003. IPM of Leafrollers: It's all in the timing – sampling, phenology, and efficacy of mating disruption. *Proc Wash State Hort Soc.* 99.
- Hajek AE, CI Davis, CC Eastburn and FM Vermeulen. 2002. Deposition and germination of conidia of the entomopathogen *Entomophaga maimaiga* infecting larvae of the gypsy moth, *Lymantria dispar*. *J Invertebr Pathol.* 79 (1): 37-43.

## CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

- Hajek AE, MM Wheeler, CC Eastburn and LS Bauer. 2001. Storage of resting spores of the gypsy moth fungal pathogen, *Entomophaga maimaiga*. *Biocontrol Sci Tech*. 11: 637-647.
- Hajek AE and CC Eastburn. 2001. Effect of host insects on activation of *Entomophaga maimaiga* resting spores. *J Invertebr Pathol*. 77 (4): 290-291.
- Baty AM III, CC Eastburn, S Techkarnjanaruk, AE Goodman and GG Geesey. 2000. Spatial and temporal variations in chitinolytic gene expression and bacterial biomass production during chitin degradation. *Appl Environ Microb*. 66(8):3574-3585.
- Baty AM III, CC Eastburn, Z Diwu, S Techkarnjanaruk, AE Goodman and GG Geesey. 2000. Differentiation of chitinase-active and non-chitinase-active subpopulations of a marine bacterium during chitin degradation. *Appl Environ Microb*. 66(8):3566-3573.
- Baty AM III, Z Diwu, G Dunham, CC Eastburn, GG Geesey, AE Goodman, PA Suci and S Techkarnjanaruk. 2001. Characterization of extracellular chitinolytic activity in biofilms. *Method Enzymol*. 336: 279-301.
- van Ommen Kloeke F, AM Baty III, CC Eastburn, Z Diwu and GG Geesey. 1999. A Novel method for screening bacterial colonies for phosphatase activity. *J Microbiol Meth*. 38(1-2):25-31.

### Presentations:

- Jones VP, CC Baker, TD Wilburn and TR Unruh. 2006. Movement of the leafroller parasitoid *Colpoclypeus florus* between rose/strawberry gardens and apple orchards. Western Orchard Pest and Disease Management Conference. Portland, OR. 11-13 January.
- Jones VP, CC Baker, TD Wilburn. 2005. Using a novel marking technique to study CM movement patterns. Presentation to TRÉCÉ visiting group 1 July. (international scientists from Europe and South America).
- Jones VP, TD Wilburn, CC Baker. 2005. Codling moth movement in mating disruption and non-mating disruption orchards. Washington Hort. Society Ann. Meeting. 6 Dec. Wenatchee, WA (invited speaker).
- Jones VP, NG Wiman, CC Eastburn, TD Wilburn. 2005. Studies of codling movement and mechanisms by which mating disruption acts. Presentation to French Scientist visiting TFREC. 24 October.
- Jones VP, D Horton, CC Eastburn and TD Wilburn. 2005. Using a novel marking technique to answer and old question: Do predator populations in the ground cover move into the canopy and affect pear psylla? Western Orchard Pest and Disease Management Conference. Portland, OR. 5-7 January.
- Jones VP, JF Brunner, CC Eastburn and TD Wilburn. 2005. New and improved models for OBLR and PLR on apple. Western Orchard Pest and Disease Management Conference. Portland, OR. 5-7 January.
- Eastburn CC and VP Jones. 2004. Effect of sublethal doses of *Bt* and Intrepid™ on OBLR: Implications for model timing. Western Orchard Pest and Disease Management Conference. Portland, OR. 14-16 January.

## CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

- Jones VP and CC Eastburn. 2004. It's all in the timing for sampling leafroller parasitoids. Western Orchard Pest and Disease Management Conference. Portland, OR. 14-16 January.
- Jones VP, CC Eastburn, TD Wilburn and JF Brunner. 2004. Sampling leafrollers in apple orchards: Effect of sample frequency and number of samples. Western Orchard Pest and Disease Management Conference. Portland, OR. 14-16 January.
- Jones VP and CC Eastburn. 2004. Geostatistical analysis of Pandemis and Oblique-banded leafroller distribution in apple. Western Orchard Pest and Disease Management Conference. Portland, OR. 14-16 January.
- Jones VP, CC Eastburn, NG Wiman and TD Wilburn. 2004. Using population biology and behavior as a framework for design of IPM in tree crops. WSU Department of Entomology Seminar. Pullman, WA. 17 September.
- Jones VP, JF Brunner, CC Eastburn and TD Wilburn. 2004. Pest Supermodels. Washington State Horticulture Association 100th Annual Meeting. Yakima, WA. 7-8 December.
- Eastburn CC and VP Jones. 2003. Effect of *Bt* on the development of leafrollers: Implications for IPM and organic production of apples. Western Orchard Pest and Disease Management Conference. Portland, OR. 15-17 January.
- Jones VP and CC Eastburn. 2003. Geostatistical analysis of Pandemis and Oblique-banded leafroller distribution in apple. Western Orchard Pest and Disease Management Conference. Portland, OR. 15-17 January.
- Jones VP, CC Eastburn and NG Wiman. 2003. IPM of leafrollers: It's all in the timing – sampling phenology, and efficacy of mating disruption. Washington State Horticulture Association 99th Annual Meeting. Wenatchee, WA. 1-3 December.
- Jones VP and CC Eastburn. 2003. Understanding the tools used for codling moth management: Models. RAMP/IFAFAF Area-Wide Grower's Workshop. Wenatchee and Yakima, WA. 13 & 19 February.
- Eastburn CC, VP Jones and JF Brunner. 2002. Effect of *Bt* on leafroller development. WRCC43 meeting, Riverside, CA. 23-25 October.
- Eastburn CC, VP Jones and JF Brunner. 2002. Effect of *Bt* on the development of leafrollers: implications for IPM and organic production of apples. Washington State Horticulture Association 98th Annual Meeting. Yakima, WA. 2 December.
- Jones VP, CC Eastburn and JF Brunner. 2002. Spatial distribution of leafrollers attacking apple & implications for sampling programs. 2001. Western Orchard Pest and Disease Management Conference. Portland, OR. 9-11 January.
- Jones VP, CC Eastburn and JF Brunner. 2002. Biological control of leafrollers. WRCC43 meeting, Riverside, CA. 23-25 October.
- Jones VP, CC Eastburn and JF Brunner. 2002. Interaction of DA and pheromone in non-mating disruption situations on apple. WRCC43 meeting, Riverside, CA. 23-25 October.
- Jones VP, CC Eastburn and JF Brunner. 2002. Leafroller spatial distribution. WRCC43 meeting, Riverside, CA. 23-25 October.

# CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

Jones VP, JF Brunner and CC Eastburn. 2002. Developing sampling plans for leafrollers and their natural enemies. Washington Tree Fruit Research Commission Meetings, Yakima, WA. 24 January.

Jones VP, CC Eastburn and JF Brunner. 2001. Spatial distribution of leafrollers in apple. Ann Meeting of Entomological Soc Amer. San Diego, CA. 9-12 December.

Jones VP and CC Eastburn. 2001. Leafroller development and parasitism. WRCC-43 Meeting, Portland, OR. 4-16 Nov.

O'Neill K, DK Weaver, JH Turnbow and CC Eastburn. 1999. Behavior of *Stiophilus zeamais* on a laboratory thermal gradient. Entomological Society of America, National Meetings, Atlanta, Georgia.

## Extension/Outreach Activities:

I was asked to give another entomology lesson to some first graders at St. Paul's Elementary school in Wenatchee. On 27 May 2005 I spent the morning talking with the first graders about insects and how they impact our lives.

Lewis and Clark Elementary School in Wenatchee asked that I come and give a "noon enrichment" talk to their 3rd through 6th graders on the topic of entomology. On 5 March 2004 I spent a few hours talking with the children about entomology and playing show and tell with our traveling insects.

I was asked to give an entomology lesson to some first graders at St. Paul's Elementary school in Wenatchee. On 20 April 2004 I spent the morning talking with the first graders about insects and how they impact our lives.

I was invited to give a talk on insects to the Waterville Public Library on 4 August 2004. The audience was mostly children of elementary age and some of their parents. The presentation focused on insects in our area.

I am a repeat volunteer at the "Awesome Apple Adventure", a program held here at TFREC for second graders in the area. The purpose is to introduce the children to the apple industry. They are given crash-courses on the topics of entomology and pest management, harvest, irrigation and horticulture among others. 8-10 October 2002, 30 September-1 October 2003, 29-30 September 2004. Unfortunately in 2005 I was out of town and could not participate.

I was invited to, and subsequently gave an Entomology lecture to the Okanogan chapter of the Master Gardeners Society, 21 May 2002.

## Conferences/ Meetings Attended:

Washington State Horticulture Association Meetings. Wenatchee, WA. 5-7 December 2005.

Washington State Horticulture Association Meetings. Yakima, WA. 6-8 December 2004.

Western Orchard Pest and Disease Management Conference. Portland, OR. 14-16 January 2004.

Washington State Horticulture Association Meetings. Wenatchee, WA. 1-3 December 2003.

Western Orchard Pest and Disease Management Conference. Portland, OR. 15-17 January 2003.

## CALLIE C. BAKER

---

141 W. Benton St.  
Leavenworth, WA 98826

Phone: 509-548-1257  
e-mail: callie\_e@wsu.edu

Codling Moth Symposium 2003. Wenatchee, WA. 9 January 2003.

Washington State Horticulture Association Meetings. Yakima, WA. 2-4 December 2002.

Western Orchard Pest and Disease Management Conference. Portland, OR. 9-11 January 2002.

Washington State Horticulture Association Meetings. Wenatchee, WA. 3-5 December 2001.

### Memberships:

- Western Orchard Pest & Disease Management Conference (2002 - current)