

MS Chapter 9: Preparing a Strong Curriculum Vitae/Resume (Don) 15 pages

The Best Scholarships for the Best Students

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How a Resume or CV Is Used

A resume or a CV is often requested when applying for elite academic or experiential opportunities. In a packet with so much other information, a resume or CV may seem like a trivial and redundant document, but it is not at all. A resume or CV is often used as a tie breaker when everything else about a portfolio leaves a candidate sitting on the bubble of selection. When the committee cannot decide between advancing a candidate to the next stage—or rejecting her—they will often turn to the CV. A professional presentation full of relevant content tips the decision in favor of advancing the candidate, and a perfunctory presentation tips it the other way.

Remember, there are many opportunities to fail to advance, and you have to maximize the chances that you will be considered favorably. You can be knocked out at any stage, for failing to appear more attractive than the competition and even for seemingly small errors and omissions. So, no part of your application is trivial or redundant and, one may argue, especially your resume.

A resume or CV is an opportunity to shine in these two distinct areas: It is a chance to show professionalism, and to present meaningful information about your background, your accomplishments, your character, and your skills. A resume is also a useful tool for organizing your thoughts about your candidacy. What do you have to offer? Have you considered *all* your relevant experience? Have you practiced the art of thinking like a selection committee? Do you have the right emphasis on your various experiences, or have you allowed the wrong items to garner too much attention?

In this chapter we will walk you through preparing your resume or CV for your application.

Resume vs. CV

A “resume” is a document used to describe your prior experience relevant to a future opportunity, most usually a job. Resume comes to us from the French, *résumer*, which means to summarize. So by its very name a resume is a summary of one’s background, and not a full explication of it. Resume can be written resume, resumé, or résumé, although most editors today are leaning toward dropping the umlaut markings in favor of the simplified “resume.”

A CV is a particular type of resume, most commonly used in academic settings. CV stands for curriculum vitae, which is Latin meaning, literally, “racecourse of life,” more commonly interpreted as “the course of one’s life.” So a CV is a document reporting on accomplishments in “the course of one’s life.”

CVs and resumes differ in both content and style, and it is important for you to know which you need to present. This task is complicated by the fact that people use the terms interchangeably, in particular in Europe and Asia but even in the United States and Canada. Programs may request a resume when they mean a CV, or vice versa. Read and follow the instructions carefully! To provide the document that is requested you will need to look beyond what they are calling it, and you will need to know the differences yourself.

As a subset of resumes, all CVs are technically resumes, but not all resumes are CVs. Resumes tend to focus on jobs and internships, and CVs tend to focus on academic experiences that may not be related to any employment. Resumes often have an objective statement, but CVs never do. Resumes may read rather self-promotional in tone, with enthusiastic claims of skills and accomplishments, yet CVs are rather muted in tone, focusing more on bare listings of experiences without a lot of trumpeting of one's awesome contributions. CVs always have the education listings ahead of the experience listings, even for a 60-year-old scientist who obtained her final degree decades ago. Resumes can have either section first, "experience" ahead of "education," or the other way around. CVs feature academic honors and awards, such as *summa cum laude*, forever; but job resumes tend to drop academic awards after one has been in the job market for a number of years. CVs tend to have many more headings than resumes, for example, breaking "experience" into subsets of "teaching experience," "research experience," "service appointments," and so on. (One can also do this with resumes, but it is not as common.) Resumes, for college students, are expected to be one page long or, in rare circumstances, two pages. CVs can be any length and, indeed, a graduate student may have a CV that is ten or more pages in length; long CVs are perfectly acceptable as long as all the information conforms to the standard CV topics. On a resume, you usually don't have to mention your boss by name, although it is common enough to mention them by title, for example, "reported to the district sales manager." On a CV you normally mention your boss by name and title, in particular for any academic experiences; for example, this would be a typical citation: "research assistant in the biophysics laboratory under the supervision of Prof. L. Wilson, the William J. Danforth Professor of Biomedical Sciences." If the professor is famous, you list their whole name; if she is not famous, you usually just list her first initial and last name, as in "Dr. L. Wilson" or "Prof. R. Johnson."

Here is a table to help you sort it out:

Resumes	CVs
objective statement okay	never has an objective statement
education <i>or</i> experience can be listed first	education always listed ahead of experience
limited to 1 page, maybe 2	no length limit
focuses on relevant jobs and internships	focuses on relevant academic experiences
features accomplishments and contributions at each assignment	generally just lists the assignment
limited number of headings, principally "experience" and "education"	many more heading options, e.g., "publications," "presentations," "teaching," "research," and so on
you may mention boss by title, but not by name	if it's an academic experience, you usually cite your supervisor by name
usually used to get a job	usually used in a science or academic setting

Anyone's experience can be presented in either style, as a CV or as a resume. Depending on your goals and the specific requirements of the programs you are applying to, you may need to prepare both types of document. For example, what follows are job listings for the same research experience, presented in typical CV and resume formats. You might use a CV approach to get into graduate school, to get a job in a lab, or for an academic fellowship or award, and you might use a resume-style listing to get a job in pharmaceutical sales or for a management-track position in industry.

For a CV:

School of Life Sciences, Stanton University
Research Assistant, Biomedical Engineering Lab, Fall 2011

Assisted in the design, prototyping, and testing of biomedical engineering devices, under the supervision of Prof. R. Simmons. Contributed to preparation of three journal articles. For more information, see first three articles under "Publications."

Or, a CV might just list the job citation alone, with no descriptive information at all:

School of Life Sciences, Stanton University
Research Assistant, Biomedical Engineering Lab, Prof. R. Simmons, Fall 2011

A resume will have more information on individual contributions, more description of the work itself, and more self promotion, as in this version:

School of Life Sciences, Stanton University

Research Assistant, Biomedical Engineering Lab, Fall 2011

Assisted in the design, specification, prototyping, and testing of biomedical engineering devices, mainly innovative electromechanical “helper” modules to improve coordination of large-muscle movements in patients with advanced Parkinson’s disease. Collaborated with engineers and technicians to fabricate the devices. Used bench lab skills to calibrate and test devices. Collaborated with animal lab technicians for animal trials phase. Designed data capture protocols for testing. Provided first-level data analysis for review by the principal investigator. Contributions earned recognition as co-author on three peer-reviewed journal articles (see “Publications”), the only undergraduate so honored.

Please note that the detailed and self-promoting style of a resume, when applying to some of the elite scholarships and fellowships, would grate on the ears of some readers. Can you imagine a reader from England, steeped in the tradition of self deprecation and understatement, reading an undergraduate American’s self-congratulatory resume listings? On the other hand, a manager in a technology company looking for aggressive, ambitious, smart, young people might be delighted to read such listings. Just remember to be sensitive to your reader, and be sure to provide a document that complies with all specified requirements. For example, many fellowships in business will specifically request a one-page business resume. Any other document you may submit will count against you.

With some practice you should be able to develop either style, or convert resume listings into CV listings, or vice versa, with some facility and confidence. We will use the terms somewhat interchangeably for the rest of this chapter, except when we are warning you about subtle differences that you should note.

Experience Means Way More Than Employment

For an older person with ten years or more of experience, the word “experience” in a resume usually refers to full-time, paid employment. For most young people, however, the word “experience” can mean full- or part-time experiences, paid or unpaid, from any form of internship or co-op or job, or even from a volunteer assignment, and may at times even refer to work done in a graded class. So before you prepare your resume or CV, your pre-writing task is to prepare a catalog of all the experiences that might be pertinent. What follows is a list of prompts to help you be thorough in this process.

Paid employment, co-op, and internship experiences. Obviously you will want to make a list of all your paid employment background and your co-op and internship experiences, full- or part-time, summer or during the school year, including casual employment such as doing some editing for someone as a favor. Make a complete list, including experiences that aren’t obviously

relevant. For example, you may want to forget about your history in fast-food employment from high school, but if your resume ends up having a heading "Management & Supervisory Experiences," then the fact that you were a shift supervisor in an ice cream shop may suddenly be more germane than you thought. For the purposes of preparing to write your resume, make a complete list. We'll address later how to sort and rank them, and when to omit irrelevant and distracting items.

Volunteer, leadership, and service experiences. Most students have unpaid volunteer and service experiences of one kind or another, from tutoring at the local high school to food drives sponsored by your fraternity or sorority to working as a peer counselor for the career center. List them all, even if it was just a short-term experience. Some important leadership experiences may be related to a special event, such as being the speaker coordinator for Drug & Alcohol Awareness Weekend or being the student representative to the Alumni Engagement Steering Committee, and so on. For many students, their volunteer experiences are more impressive and more relevant for their future than their paid employment. The fact that you worked 20 hours a week as a cashier in a convenience store is not as important as the fact that you started a new student club, or served as the media manager for a student body president election campaign. Think hard and remember all your volunteer, leadership, and service experiences.

Elected or appointed positions. Serving as student body president is, obviously, an item that should find its way onto a resume. There are many similar assignments that students may overlook, however. If you were selected by assistant residence life director to be the hall safety monitor in your dorm, that's an appointment. Being selected for any elected or appointed position shows that others hold a high opinion of your character, judgment, work ethic, maturity and/or responsibility. If you were elected student senator or appointed by the dean's office to a term as on the Student Academic Integrity Committee, then be sure to catalog it for possible inclusion in your resume or CV. List all such appointments, no matter how trivial.

Academic honors, awards, and merit scholarships. Make a complete list of recognition you may have received for your academic performance, whether monetary (merit scholarships) or simply ceremonial. Include campus-wide acknowledgement such as honor role or dean's list; departmental awards such as "Most Improved Junior in Biochemistry;" awards you may have won for an assignment within a single class, such as "Most Outstanding Business Plan 2011" for your work in a class called "Business Modeling 456." Be sure to list them all. You may have forgotten some of your awards or scholarships, so check with your dean's office and the office of financial aid, which often keep records of such awards on an ongoing basis. Finally, be sure to include national, extra-institutional honors, such as Golden Key or Phi Beta Kappa or election to some of the myriad iterations of the *Who's Who* concept. (We will have a warning about citing some of these national honors later, but for now make a complete list.)

Major academic projects, field studies, interdisciplinary projects, undergraduate research programs, and independent study. Have you conducted any major studies, larger or more profound than the typical undergraduate paper? These are important to include in your catalog of resume ideas. If you will write a thesis or deliver some kind of senior capstone project that should appear on your resume, but other types of academic projects can be prestigious, as well.

Have you had the opportunity to get involved in undergraduate research, whether designed and conducted by you or as part of a faculty member's ongoing research? List any field studies that you have conducted. Think if you have any labs or research projects that are particularly impressive, and make a list of them. If you have ever had an independent study designed and structured by you working under the tutelage of a professor, then that can be impressive. These types of projects indicate that the student is engaged, enthusiastic, capable of enlisting faculty support for his ideas, and unusually ambitious.

TA, RA, study group leader, lab instructor, tutor, or test proctor assignments. Being a teaching assistant, a research assistant, a study group leader, a lab instructor, or a tutor is a very positive sign for any student. It shows above normal enterprise, academic acuity, and familiarity with the discipline. Even serving as a test proctor, the police officer of the academic world, shows faculty trust in a student's maturity, judgment, and responsibility. Make a list of any experiences that you might have that would fit under this rubric.

Presentations. Of course if you present a paper or a poster topic at an academic meeting, that should be noted on your resume somewhere. Your presentations don't have to be so formal, however. Your department may offer opportunities to present papers to departmental meetings. Undergraduate research programs often have symposia or fairs where your research can be presented. Many undergraduate (and graduate) classes now feature opportunities for students to present their work to the class as a whole. Even if the presentation was only to the members of a class, include it in the list for now. Can you remember and log all the presentations you've made as a student?

Publications. Whether you are the primary author or deep in the co-author list, what publications do you have, if any? Articles in peer-reviewed journals are the pinnacle of academic publishing, but consider also other forms of publication. There are many journals of undergraduate research now, and perhaps your work has been featured there. Your abstract that appears in the proceedings of an academic meeting is a publication. Frankly, even a letter to the editor is a publication. A poem in the student newspaper is a publication. It would be at times unwise to include irrelevant publications in an academic CV, for example, a biologist might think twice before mentioning her story in the *Journal of Midwestern Erotica*, but as part of your preparation for writing your CV, include *everything* you have published. (Just as a trivia item, we know of a professor who got tenure with a collection of book reviews! but that was truly an extraordinary case.)

Academic meetings, conferences, and symposia. If you present at an academic meeting, that experience may appear in a CV under presentations, but even meetings that you attend simply as an attendee can be listed on a CV. Make a list of all the academic meetings, conferences, and symposia that you have attended relative to your academic discipline, and those that are not related to your academic discipline but may be of interest for other reasons, such as leadership development. So even if you're an anthropologist, your attendance at the Post-Oil Energy Future Summit in Washington, D.C., should be noted.

Certifications. Do you have any professional or academic certifications? Certified public accountant? Chartered financial analyst? Member of the state bar? Certified phlebotomist? Hazmat certification for your Commercial Drivers License (CDL)? (Just kidding.) If you have any certifications, list them, whether they are obviously related to your current goals or not.

Laboratory skills; other special or technical skills. Can you do DNA sequencing? Operate the latest and greatest fMRI equipment? Any background in a machine shop or in prototyping of scientific devices or apparatus? Do you have experience using specific equipment that would be of interest to readers of your CV? Do you have experience in laboratory animal husbandry? Make a list any applied skills that would fall into this category.

Computer skills. It is passé to list basic computer skills on most resumes, but sometimes it will be pertinent, especially if you're proficient in the use of common academic applications, such as the SPSS statistical application. Make a list of computer skills, platforms, programs, and applications that may be of interest to readers of your resume or CV. We'll decide later what to include.

Study abroad, travel, languages, inter- and crosscultural experiences. List all languages you know, and consider describing your skills according to this taxonomy: bilingual/bicultural, fully fluent, proficient, conversational, basic. Some academics who follow research in a language may designate their skills this way: "read, write, translate, but do not speak." Also, make a list of your study abroad and travel experiences, and any other exposure to other cultures.

Sports. List all the organized and informal sports that you have participated in, from varsity table tennis to intramural flag football. You should note that physical prowess and participation in sports is actually a requirement for some of the most prestigious global academic honors programs, such as the Rhodes.

Anything else? Can you think of other parts of your background that might make important content in a resume for you? If so, list them as well. Some examples might be patents; speeches, keynotes, and workshops; hobbies (if interesting and relevant); significant experiences from church, mosque or temple; and community organizing or political campaigns. Where else have you gained or demonstrated skills and abilities?

"Going to Do" vs. "Already Completed" Experiences

In making your listings, be sensitive to the fact that you need to include things you are *going to do* as well as those things you have already done. For example, if you are going to write a senior thesis, then you should write in your listing that you are *going to* develop a topic, gain approval for your research idea and methodology, conduct research, write up your findings, and defend your work at an oral examination. Don't rob yourself of significant CV information that has not taken place yet, as long as it is something that you are definitely going to do.

technique to highlight impressive experiences that took place in a classroom setting. Even if you only have one project, you can use this heading in the singular, that is, “special project.”

Here is one example:

EDUCATION

B.A., Interior Design, Academy of Art College, San Francisco, 2011

Honors:

- Dean's List
- Merit Scholarship
- Senior Design Award (see first project below)

Activities:

- Membership Officer, College Chapter of ASID
- Usher, 2010 ASID National Meeting, San Francisco

Special Projects:

- Plans for 2000 s.f. multilevel mixed-use design project, a 24-hour space supporting three businesses, a high-end retail by day, a wine bar and dance club in the evening, and a coffee shop in the early morning. Concept, drawings, surfaces, model.
- Remodel plans for 4600 s.f. hospital ER waiting room, including business analysis of patient flow, triage, security, and daily cycle of use. Presented to hospital board of directors. Concept, as-built drawings, renderings, floor plan, utility trunks.
- Researched scents to brand a university admissions office. Mixed and tested scents, and created “Bookish,” the smell of a library with a hint of coffee, which was adopted by Stanton University undergraduate admissions.

Choosing the Best Categories and Content for CVs and Resumes

As you can see, there are many design choices you will have to make. Resume items can be effectively placed in more than one category.

Back in the day things were a bit simpler. A traditional resume had only two categories: “experience” and “education.” In contemporary practice, resumes usually have an “objective” statement, but this is optional. They also now have a “profile” or “skills” section at the top that summarizes a candidate’s skills and experience relative to a particular job or type of job. Some resumes now may break experience into subcategories, like “sales experience” or “management experience” or similar.

CVs have *many* more category options. It is routine to have a section on areas of research, for example, “research interests,” to have dedicated sections for “publications” and “presentations,” and to have separate sections for typical academic endeavors such as “teaching experience” and “research experience.” Also, for a variety of reasons, a person can combine or break out sections,

You may be *going to* prepare a paper for publication, or take a language intensive in Mexico City, or be a research assistant to Dr. Wilson. These items, also, need to be listed in each of the categories above.

The Education Listing: The Incredibly Elastic Category

Your education can be listed in complexly variable ways. Normally, you list all the universities and colleges you attended, but you don't have to; you can just list the ones granting you a degree. You omit high schools unless (a) you are applying for a job on Wall Street and you went to an elite boarding or day school, (b) someone explicitly asks you to include high school experiences on your resume or CV.

You can include honors and awards, political appointments, TA and RA assignments, Greek life, field studies, service and leadership experiences, presentations, theses, and special projects *under the education listing* or you can make some of this information into full resume categories and feature the experiences at length. In some cases you can do both.

For example, being vice president of the pre-med club could be listed under "education," or under "leadership." Being captain of the rowing team could be mentioned under "education," or it could be part of a section titled "sports and activities," or it could also find a home under "leadership."

You can make tables of pertinent classes if you think it will help you establish certain skills for your reader. This is an effective technique when your major or minor doesn't tell the whole story. Here's just one example:

The University of Maryland, College Park
B.A., Musicology & Music Theory

Coursework included:

-Music & Recording Industry	-Marketing	-Arts Administration
-Business Writing	-History of Rock 'n' Roll	-Introduction to Accounting

We have a much better understanding of this student because he lists these courses than we get simply from his major. By using the term "coursework included" instead of "classes included," you don't have to use the official title for each class. For example, "Music & Recording Industry" might have had an uninteresting or even misleading title, like "How to Earn a Living in Music," or "Senior Symposium: Open Topics."

A particularly useful category for college resumes is "special projects." Related headings are be "thesis," "capstone," or "field study," but special projects can include a wider range of content. Special projects can fall under education, or can become a whole section of their own. These headings are popular with artists and designers, but can be used to effect by any type of student, from economics and business majors to architects and engineers. This is a particularly effective

for example, “honors and awards” can be combined or separated, “teaching and tutoring assignments” can be combined or separated, ad infinitum.

The classic organizational principal for resumes and CVs is to put the information *within each section* in reverse chronological order, that is, to put the latest experience at the top, then the prior experience below that, and so on going back in time.

By carefully manipulating the order of the sections, an applicant can change the emphasis of a resume or CV without changing a single word in the document. For example, in applying for a job or fellowship emphasizing teaching, a candidate might start all experience listings with a section “teaching and tutoring experiences” even if her last job was in admissions. **The order of the information is just as important as the information itself.**

Finally, you now understand that the same item of information can be presented in many different places, depending on whether you want to emphasize it or not. For example, if you are a McNair, MARC, or SROP scholar, that fact could be presented under academic honors, under research experiences, under experience in general, under presentations or academic conferences (if your program had you involved in these), or even in more than one place. Many appointments, honors and awards can be presented in more than one place, for example, being a student senator could be a one-line item under “honors and awards,” or it could be a whole listing under “leadership experiences.”

For example, under “education,” you might mention being a McNair scholar this way:

The University of California, Berkeley, California
B.S., Chemistry, expected May 2012

Honors & Awards:

- McNair Scholar
- Dean’s List (every semester)
- Watkins Distinguished Science Undergraduate (2011)
- Faculty Scholar (Spring 2010)

Then, later, the same experience might be explicated more fully under “research experiences”:

McNair Scholars Program, U.C. Berkeley, Fall 2010 to Present
Research Assistant

Designed and conducted an original research project into a novel method to flip parts of sucrose molecule rendering them indigestible but with the same taste effect as regular sugar, a National Science Foundation project carried out in the Watkins Laboratory at U.C. Berkeley under the supervision of Prof. L. Wilson, the Maudie J. Sternberg Distinguished Professor of Research Chemistry, and funded in part by the Ronald E. McNair Postbaccalaureate Achievement Program. Findings will be presented at the McNair Scholars National Conference in

If your first step is to assemble all your pertinent information, your second step is just as important: to decide what to feature, what to omit, what to combine, and what to downplay. For example, you may have worked your way through college as a dishwasher at IHOP for the last four years, and have more hours of experience at IHOP than in any other experience on your resume, but a reader of your resume or CV may be far more impressed that you were a student senator or a part-time research assistant or the winner of an academic award. Your restaurant experience can be relegated to a line near the bottom of your resume:

ADDITIONAL EMPLOYMENT WHILE STUDENT:

IHOP, Boston, Massachusetts, 2008-2012

You could even combine several less-than-relevant jobs into one line:

ADDITIONAL EMPLOYMENT WHILE STUDENT:

Boston-area Restaurants & Eateries, 2008-2012 (including supervisory roles)

Careful consideration of your reader is important for knowing what to feature and what to deemphasize. Think more about your future than your past. What's going to be important in the future? Leadership and research experiences? Or washing dishes on the graveyard shift?

A resume or CV is a document designed to impress. By carefully choosing and organizing your categories, you can maximize the impact of your document.

Common Versions of CV Categories

You can experiment with the best formulation of these headings for your CV. For example, you could have a heading, "Teaching Experience," or you could combine several related experiences under a single heading, as in "Teaching, Tutoring, and Training Experiences."

Research Interests	Dissertation	Committee Appointments
Education	Capstone Project	Elected Positions
Other Schools Attended	Special Projects	Academic Conferences
Honors & Awards	Sample Research Projects	
Scholarships &	Research	Symposia
Fellowships	Teaching	Practica
Assistantships	Tutoring	Experience
Activities	Training	Management Experience
Coursework	Lectures & Presentations	Other Student Employment
Study Abroad	Table Topics	Patents
Field Studies	Publications	Certifications
Major Papers	Service	Laboratory Skills
Thesis	Leadership	Technical Skills

Computer Skills
Licensure
Languages

Affiliations
Sports
Travel

Additional

Tobias W. Wilson

twwilson@stanton.edu / (413) 555-0195

255 Elm Street, South Arbor, Massachusetts, 01074

OBJECTIVE:

A trading assistant position with Smith & Wollstein.

Skills:

- Two Wall Street internships with strong recommendations.
- Advanced analytical and research skills.
- Proven work ethic.

FINANCIAL

EXPERIENCE:

Financial Analyst (Intern), The Opus, NY, NY, Summer 2010

- Co-developed a schema for analysis of sovereign debt risk, in collaboration with a senior partner.
- Identified multiple sources to obtain sovereign debt data, researched and cross-referenced discrepancies.
- Created a country-by-country risk profile for the Euro zone, with hedging strategies on multiple scenarios.

Trading Assistant (Intern), Brubaker-Haan, NY, NY, Summer 2009

- Served as the “on-demand” research assistant to a trader specializing in REITs and construction- and real estate-related equities.
- Responded to cascades of information requests in a real-time environment during a period of market crisis.
- Simultaneously used Bloomberg terminals, live news feeds, and an array of research tools, including LexisNexus.

A/R Accounting Clerk, Wilson Bros., South Arbor, MA, Summer 2007

- Prepared requests for progress payments for this high-end residential home builder with projects in Massachusetts and Connecticut.

ADDITIONAL:

Campaign Worker, Wilson for City Commissioner, Summer 2008

Construction Laborer, Wilson Bros., Summer 2006

EDUCATION:

B.A., Political Science, Stanton University, expected May 2011

- Double minor in **Mathematics** and **Business**

Activities & Awards:

- Dean’s List (every semester, will graduate with honors)
- Investment Club (president 2010, treasurer, 2009)
- Habitat for Humanity (service spring break 2007)
- Sports: Ultimate Frisbee Team, Intramural Flag Football

Special Project:

- Conducted a major research project for Macroeconomics 345: “International Influences on the U.S. Housing Bubble”

Language:

- Conversational Spanish

Charyn Watkins

Curriculum Vitae

121 Valentine Circle
Lansdale, CA 95461

cwat@alumni.michigan.edu
(916) 555-0827

RESEARCH INTERESTS

Animal Nutrition (mammalian nutrition, including pathologies)

Parasitology

Organic and Biochemistry

Microbiology

EDUCATION

University of Michigan, Ann Arbor, Michigan

B.S., Zoology, *summa cum laude*, 2010

Honors Project:

Mammalian Animal Husbandry Investigation of Metabolism and Exercise

Bench Lab Skills

Recombinant DNA technology, protein synthesis and regulation, plasmids and cloning, restriction endonucleases, organic chemistry, spectrophotometer, autoclave, chromatography titration, dissection, nutrient plate preparation, analysis of blood/urine/fecal/tissue samples.

Language

German (read, write, speak, translate)

RESEARCH EXPERIENCES

Prof. R. Heihricht, University of Michigan, Summer 2009

Research assistant on field study in Kenya to investigate ecosystem coefficients to an outbreak of equine fever among Grevy's zebra, *Equus grevyi*. Site laboratory equipment manager (specimen collection and preparation). Sponsored in part by the Government of Kenya and NSF Grant 2009061/b.

Prof. W. Derr, University of Michigan, Spring 2009

Laboratory assistant in insect-insect parasitology research that served as the foundation for Prof. Derr's paper, "A micro-model of co-evolution,"

Jour.Bio.Sci. Dec., 2009, which won the NSF Lamarck Award for best paper on evolution.

Prof. Y. Yang, University of Michigan, Fall 2008

Conducted a literature survey to catalog abstracts and articles on all known water-producing fauna for a period of the last twenty years.

PUBLICATIONS & PRESENTATIONS

Watkins, C. (2010). *Metabolism and Exercise, or Why Laboratory Nutrition Data Don't Work Out.* Unpublished undergraduate thesis, University of Michigan, Ann Arbor. Findings also presented at the U of M Annual Conference on Undergraduate Research, May, 2010, Ann Arbor, MI.

Watkins, C. (2009, December). *A Surprising Analysis of the Nutritional Properties of Major Brands of Rat Block: The Sum of the Parts \neq Effect of the Whole.* Paper presented at the annual meeting of the Central States Association of Research Animal Husbandry Professionals, Madison, WI.

Derr, W., Harmon, K. A., Wallace, M., & Watkins, C. (2009). A micro-model of co-evolution. *Journal of the Biological Sciences*, 45(2), pp. 289-306.

Watkins, C. (2009, Summer) Toward a new taxonomy: Some logical challenges as a result of recent advances in genetic engineering and steps toward 'artificial' life. *Michigan Undergraduate Science Journal*, 128-136. (Selected as Best Undergraduate Paper of 2008-2009.)

Watkins, C. (2008, May). *Metabolism and Exercise: Why You and Your Rats Are Getting Fat in Spite of Your Caloric Calculations.* Paper presented to the U of M Zoology Department Annual Colloquium, Ann Arbor, MI.

Watkins, C. (2007). *How I Learned to Love Science.* Paper presented to the Seymour Hall Day School, Lansdale, CA.

TEACHING & TUTORING EXPERIENCE

University of Michigan, Ann Arbor, Michigan, 2009-2010
Department of Zoology
Teaching Assistant & Laboratory Assistant, for Prof. Y. Yang

University of Michigan, Anne Arbor, Michigan, 2007-2010
Athletics Department
Science Tutor

ANIMAL HUSBANDRY EXPERIENCE

University of Michigan, Ann Arbor, Michigan, 2006-2010
Husbandry Caretaker
Cared for rats, mice, cats, and monkeys for the Depts. of Psychology, Biology, and Zoology. Relief caretaker in School of Agriculture and School of Veterinary Medicine, including working with raptors and ungulates. Initiated "Rats on Loan" program with local school district.

Lansdale Animal Hospital, Lansdale, California, Summers 2005, 2006
Veterinarian's Assistant (Volunteer)

Assisted a general practice veterinarian with small animal care. Attended at visits to area farms, ranches, and a private zoo for large animal care.