THAYER SCHOOL OF
ENGINEERING
AT DARTMOUTH

Resume Guidelines

Thayer Career Services
http://engineering.dartmouth.edu/career

Resume Guidelines

Most prospective employers will spend 30 seconds or less reviewing an individual resume. To ensure that your resume gets the attention it deserves, we recommend that all Thayer School students use the following guidelines in developing resumes.

Format

Length

Unless you are a Ph.D. student or have more than five years of work experience, your resume should not exceed one page in length.

A great resume is concise, yet also shows the depth and breadth of the skills and experiences that you offer employers. Career Services staff can assist you in what to include and what to exclude.

Appearance

Adapt the same formatting approach throughout your resume so that it looks clean and is easy on the eye.

Please avoid using Microsoft Word templates to create and modify resumes. These templates were designed in a table format that is very difficult to modify. We recommend that you type out your own document so that you can rearrange and update your resume easily.

Consistency of font + format = readability.

Format should be consistent. A few of our favorite formatting tricks: place school and company names in bold typeface, positions in italics, and dates in the right margin of your page. Use a typeface that is printer friendly i.e. Arial, Times New Roman and Tahoma are generally safe bets. You may use a different typeface for your name and subheadings, but do not use more than two separate typefaces throughout your document.

Font size should not look like the large print edition of a Reader's Digest, nor should your reader need a magnifying glass! Keeping your document between 10 and 12 point font is ideal.

Pay particular attention to state names if you spell out "New Hampshire" in your address, it needs to be spelled out throughout your resume. Alternatively, you can use state abbreviations throughout your document provided you also abbreviate state names in your header.

Print Quality

Unless you are submitting your resume electronically, it should be free of printing "skid marks" and on high quality paper. We recommend bond paper in ivory, pale gray or white. Avoid flecked paper as it doesn't copy well and is difficult to read.

Content

Resume Action Verbs

Your resume should include succinct phrases lead by action verbs. There is never a need for complete paragraphs or nouns such as "I" or "we". Example action verbs include:

Accomplished	Determined	Investigated	Promoted
Achieved	Developed	Judged	Recommended
Administered	Directed	Maintained	Reduced
Analyzed	Edited	Managed	Reorganized
Assembled	Established	Mapped	Researched
Budgeted	Evaluate	Measured	Selected
Calculated	Exhibited	Negotiated	Sold
Compiled	Expanded	Operated	Streamlined
Computed	Facilitated	Organized	Supervised
Conducted	Generated	Originated	Taught
Constructed	Identified	Oversaw	Trained
Contacted	Implemented	Planned	Troubleshot
Contracted	Improved	Prepared	Updated
Controlled	Initiated	Presented	Upgraded
Coordinated	Inspected	Produced	Verified
Created	Interpreted	Programmed	Won
Designed	Invented	Projected	Wrote

For more examples of action verbs visit: www.writeexpress.com/action-verbs.html

Education

Current degree and school should be listed, as well as any other higher education institutions from which you have graduated. Degrees should be listed in reverse chronological order (current degree first).

If you are receiving an A.B. degree, you should list "Dartmouth College" as your school. For all graduate level degrees (B.E., M.E.M., M.S. and Ph.D.), we recommend that you list your school as "Thayer School of Engineering at Dartmouth College."

With the exception of the Ph.D. degree, all degrees should be properly spelled out without abbreviation.

Example of A.B. degree:

Dartmouth College, Hanover, NH June 2011
Bachelor of Arts in Engineering Sciences modified with Biology.

Example of B.E. degree:

Thayer School of Engineering at Dartmouth College, Hanover, NH June 2011
Bachelor of Engineering concentrating in Chemical Engineering.

Example of M.S. degree:

Thayer School of Engineering, Dartmouth College, Hanover, NH March 2012
Master of Science in Electrical Engineering.

Example of M.E.M. degree:

Thayer School of Engineering at Dartmouth College, Hanover, NH December 2010
Candidate for Master of Engineering Management (M.E.M.)

*A collaborative program taught by faculty from the Thayer School of Engineering and the Tuck School of Business.

If you would like to use the program's acronym (i.e. M.E.M.), the acronym should be listed after the degree is spelled out (as shown above). *(* The M.E.M. description above is the official program description to be used on resumes of M.E.M. students.)*

For each school from which you are receiving a degree, list only the month and year of graduation not the length of time in which you have been enrolled. Dates of attendance are not relevant, unless you are listing time spent at an institution at which you did not receive a degree. If, however, you are a transfer student or have participated in a study abroad program, this can also be noted. Examples:

Universidad de Belgrano, Buenos Aires, Argentina Spring 2010

Smith College, Northampton, MA Fall 2008-Spring 2009

If you are in a 3-2 program or in the M.E.M. program and want to include an explanation of your degree program, be sure it accurately reflects Thayer School and any other institutions involved. (Career Services will assist you with wording if you'd like.)

General notes: In listing Honors, list only those that are most relevant and/or important to you. This is particularly important in listing high school information. (If you were valedictorian, it's redundant to list that you graduated first in your class as this will be assumed).

Frustrated by having to take away information of many accomplishments? Consider the employer's perspective: providing strong focused descriptions of relevant experiences generally "trumps" a laundry list of past honors. For employers, it's all about the transferable skills and experiences you bring to a position.

Experience Section
Show, don't tell. Avoid descriptive adjectives unless absolutely necessary. Instead, provide concrete examples of your work that demonstrate your skills and personal attributes well-written resume and cover letter is a manifestation of superior writing skills!

Structuring the experience section of your resume is dependent on a minimum of two factors: what you are looking for and what you have done.

Regardless of how you to decide to organize your "EXPERIENCE" section, you should follow the following guidelines:

- All experience listings should include the organization name, your position with the organization, the location (city and state) and the dates of the experience.
- Try to describe your experience in as interesting a way as possible, being as brief as possible. Use active verbs to describe what you did (see verb list below). Be your own critic, and, if necessary, discard material that will have no meaning for your reader.

List what you've done in reverse chronological order, placing your most recent experience first and then working backwards.

Using Subcategories
For a majority of students, a general heading titled "WORK EXPERIENCE" will be appropriate

In some instances, however, you may want to divide your experience into sub-sections. For example, if you are seeking an engineering-related position, and most of your work experience to date centers around your experiences helping to run the family business in catering...you might create two separate headings one "ENGINEERING EXPERIENCE" and one "ADDITIONAL WORK EXPERIENCE" rather than a single "EXPERIENCE" heading. Within this context, you could include descriptions of your Thayer School related experiences before a section listing other work experiences i.e. the work that you've done with your family business.

Listing Unpaid or Non-Traditional Work Experiences
Depending on the amount of work experience you have and the position that you are applying for, it may be appropriate to include information about individual or team-based projects that you have participated in through your Thayer School coursework. It is also fair game to include unpaid internships and volunteer work along with paid employment in your "EXPERIENCE" section as long as you make sure to clearly indicate which experiences were gained through academic work (projects) and which from employment, either within the description or by listing them in separate sections.

One way of doing this is to describe what you've done on the project (i.e. your responsibilities, your findings, and the implications of your work) and then to add the phrase "Work completed in partial fulfillment of requirements for Engineering Design and Methodology and Project Initiation (ENGS190) course." If you've worked under the auspices of a company sponsored project for your coursework (i.e. ENGS190, ENGG290 or ENGG390), you can mention the company sponsoring the work provided that you have their permission.

Examples of engineering-related work that you might include run the gamut from team-based or individual projects undertaken as part of your coursework and extra hours spent volunteering in the Machine Shop, to research experience with professors, teaching assistantships, and SAE Formula Racing team participation. Organize the information in reverse chronological order (as mentioned above).

Activities / Interests
Most resumes contain a secondary section that provides information on interests and activities. The names of this section can vary from Extracurricular Activities to Leadership & Community Service. Thayer School Career Services can help you in determining the appropriate name for this section on your resume as well as what to include. When possible use the same formatting conventions in this section of your document as you do in other sections of your resume. For example, if you italicize position titles in your "Experience section" and you hold a leadership position in a student organization, it is suggested that you italicize that position titles also.

Skills & Certifications Section
It is always good to end on a "strength." For this reason, the SKILLS section is often listed last.

- Break out skills separately into subcategories. For example, if you have strong computer skills in both administrative applications and programming, you might create one "Software" category in which you list your knowledge of Microsoft Office and a "Programming" category in which you list programming languages. ("Language" is another popular subcategory.)

- Remembering that every item on your resume is fodder for a potential question for your interviewer, be honest about what you know. If you have taken one term of Italian, it is better to say "Familiarity with Italian" than "Fluent in Italian." You never know when you'll have an interviewer from Tuscany!

What Not to Include on Your Resume.

- **Personal information.** Resume writing conventions vary by country and by culture. In the U.S., it is illegal for employers to ask about your height/weight, marital status or other personal information. In the U.K., employers expect for a CV (curriculum vitae, or their catch phrase for resumes) to include both age and marital status. Thayer School Career Services Library owns several books which can help you in understanding application differences in different countries

  For reasons of personal protection, never list your Social Security number on your resume. You should also delete your street address and phone number from any resumes posted online outside of those sites with a direct connection to Thayer School On-Campus recruiting.

- **Citizenship status.** Employers for the most part only need to know if you are legal to work in the United States, not whether you're a citizen or permanent resident. In most cases in which citizenship status is critical to making a hiring decision, an employer will ask. In all cases, students should respect the qualifications requested by employers and only apply for those positions for which they are appropriately qualified. (Note: In some cases, students may wish to volunteer information about citizenship, i.e. particularly if the information is in the student's favor. See Career Services for more information.)

- **References.** A reference list should not be included with your resume unless requested by the employer. Guidelines for creating a list of references are available through Thayer School's Career Services website.

  Avoid the temptation to add the phrase "References available upon request" to the bottom of your page. Most employers will not hire you without asking for a list of references and making this statement generally leaves you open to producing a list of references immediately upon request.

Need Additional Help?

- Schedule an appointment with Thayer School Career Services. They can help you with all phases of the process, from figuring out how to write your first resume to proofreading your final copy.

Victoria Melborne

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EDUCATION

Dartmouth College, Hanover, NH — *Expected June 2012*
Bachelor of Arts in Engineering Sciences modified with Studio Art
GPA 3.48/4.0

June 2008

Ashberry High School, Brooklyn, NY
GPA 4.0/4.0
Member of National Honors Society, Comptroller, Female Student-Athlete of the Class of 2008

ACADEMIC DESIGN PROJECT EXPERIENCE *Dartmouth College*

Independent Study: Research and Iterative Design — *Winter and Spring 2012*
Researched the optimal intersection of architectural aesthetics, human comfort, and building efficiency.

Solid Mechanics (group project) — *Summer 2010*
Explored the mechanical design aspects of bridge building through loading analysis of different types of trusses and of wood. Designed and fabricated bridge that was awarded "most elegant."

Sustainable Design (group project) — *Winter 2010*
Designed commercial and residential development in Lebanon, NH. Executed extensive research and stakeholder analysis for implementation of technologies to meet the project guidelines of net zero energy consumption and waste water output. Project development included LEED analysis.

Architecture I (individual project) — *Spring 2009*
Designed adaptation of a 19th century building on campus to create Sustainable Living Center for students, incorporating technologies and materials to reduce energy use, water use, and waste.

WORK EXPERIENCE

Dartmouth College, Hanover, NH—*Research Intern* — *Fall 2009*
Managed parts ordering and assembly of circuit boards flown on aurora borealis research rockets with the Department of Physics. Exercised acute attention to and appreciation of detail.

A Few Cracked Eggs, Brooklyn, NY—*Line Cook* — *Winter 2011*
Prepared and cooked food in all organic restaurant kitchen, utilizing time and project management skills in a high-pressure work atmosphere.

Fiesty Kids' Day Camp, Brooklyn, NY—*Counselor* — *Summer 2007 and 2008*
Worked as part of a team to engage children during day trips around New York City.
Developed understanding of necessity of coworker collaboration, creativity, and energy in the workplace.

ACCOMPLISHMENTS & SKILLS

- Expertise in MS Office. Extensive design experience with MATLAB, FormZ, and ProE.
- Fluent in Norwegian.
- Recipient of the Green House Future Architect Award, 2010.

COMMUNITY ACTIVITIES & INTERESTS

• Dartmouth College Cycling Team; Bike & Build, cross-country bike trip that raises funding and awareness for affordable housing; Humanitarian Engineering Leadership Projects, a student-run organization at Dartmouth's Thayer School of Engineering that implements local and sustainable technologies to combat quality-of-life problems in the developing world; Traveling; Cooking.

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Education

Thayer School of Engineering at Dartmouth, Hanover, NH *June 2014*
Bachelor of Engineering focusing in Energy Conversion and Optimization

Dartmouth College, Hanover, NH *June 2013*
Bachelor of Arts, Engineering Sciences modified with Environmental Policy. *3.58/4.0 GPA*

Relevant coursework: Structural Analysis; Sustainable Design; Energy Conversion; Thermodynamics; Scientific Computing; Architecture; Statistical Methods in Engineering

Work Experience

Great Moon Consulting Energy Practice, *Summer Associate*, Washington, D.C. *Summer 2012*
• Worked in Energy Efficiency and Policy Analysis group on Department of Energy contract to create national efficiency standards for household appliances
• Created project management testing parameters for DOE Assessment including assessing test lab availability and proficiency, and number and type of appliances to be tested
• Developed testing database and automated reports for the DOE and researched cost-cutting measures to reduce the DOE's economic burden of the program

Office of Sustainability, *Skateboard Project Intern*, Hanover, NH *Fall 2011 – Spring 2012*
• Designed and developed solutions to eliminate accumulation of waste skateboards around campus and encourage community skateboarding culture
• Collaborated with administrators on new skateboard policy, organized pop-up skate workshops, and generated skate program model for 2012-2013

Plainwoods Design Engineers, *Engineering and Research Intern,* Cooksville, NJ *Summer 2011*
• Advised architecture firm on sustainable infrastructure facilities for city model with 5x typical suburban density and 3x typical suburban open space serving 13,000 people to be presented at Museum of Modern Art exhibit
• Researched water harvesting practices to provide engineering consulting to Silicon Valley company, and collaborated with engineers on other sustainable development projects

Architecture for Humanity, *DPCS Intern*, Freshwater, FL *Winter 2011*
• Received $4,000 grant from Dart Partners in Community Service to intern at nonprofit firm
• Led team of volunteers to design and build greenhouse for urban farming project, and contributed to other local projects including interactive kiosks for the downtown neighborhood and outdoor classroom for sustainable agriculture park

Academic Project Work

Treehouse Project: Structural Analysis Course, *Team Member,* Hanover, NH *Spring 2011*
• Designed and built treehouse for college-owned outdoor recreation area using calculations and construction plans that address environmental impacts, building codes, accessibility, security issues, and structural loads

Top Ivy Scholar Program, *Research Assistant,* Hanover, NH Summer– Fall 2010
• Researched collaboration of engineers, architects and builders to formulate structures with Engineering and Studio Art professors

Leadership Experience

Committee on Standards at Dartmouth College, *Student Representative,* Hanover, NH *Fall 2009 – Spring 2012*
• Elected to joint student and faculty committee to evaluate and make recommendations on undergraduate violations of student policy

Dartmouth Outing Club Orientation Trips, *Staff Member and Trip Leader*, Hanover, NH *Summer 2012*
• Managed Dartmouth's Moosilauke Ravine Lodge: cooking meals, coordinating transportation and gear logistics, and facilitating transition to college for new students through games and discussion
• Led climbing and biking trips for incoming freshmen along the Appalachian Trail

Summer Enrichment at Dartmouth (SEAD), *Mentor* • Hanover, NH *Summer 2011*
• Offered advice and moral support to student from under-resourced school

Skills

Microsoft Office and Access, Matlab, SolidWorks, Basic AutoCAD 2011,MiniTab, Rhinoceros, Vectorworks, Basic Lathe/Drill Press Skills, Proficient in Spanish

Interests

Dartmouth Men's Club Hockey, Competitive Bowling, Horticulture

(411) 534-6565
Siegfried.S.Wagner@dartmouth.edu

Siegfried S. Wagner

12 Harpoon Bay Street
Hanover, NH 03755

Education

Thayer School of Engineering at Dartmouth College, Hanover, NH — March 2013
Master of Science in Engineering & Bachelor of Engineering
Concentration in Electrical Engineering

Hamilton College, Clinton, NY — May 2010
Bachelor of Arts in Physics, Minor in Mathematics; GPA: 3.7/4.0
Honors: Phi Beta Kappa, Sigma Xi, Summa cum Laude, Concentration Honors
Senior Thesis: Cold Fusion Reactor Development in Frozen Climates

Recent Research

Real-Time Audio Beamforming with Ideal Binary Mask Noise Cancellation — 2011 -Present
- Developing FPGA-based audio processing unit for spatial localization of speech
- Implementing noise cancellation algorithms using analog and digital filtering

Electroencephalography Integrated Circuit Amplifier — 2011
- Designed and tested low-power low-noise EEG IC amplifier

Power Electronics & Electromechanical Energy Conversion Final Project — 2011
- Engineered and analyzed power converter circuit to efficiently recycle mechanical energy

Big Green Bus Energy Metrics Monitoring System — 2010-2011
- Developed fuel and electrical monitoring system for student-led sustainability project
- Created website and database for real-time visual feedback of data
- Devised microcontroller-based sensor communication network for data collection and logging

Work Experience

Sonar Metric Design, New York, NY — 2011
Independent Consultant
- Designed, programmed, and tested and low-voltage, long run-time lighting units for artwork
- Fabricated printed circuit boards for microcontroller circuitry

NASA Marshall Space Flight Center, Huntsville, AL — June-August 2010
NASA Academy Research Associate
- Programmed graphical interface for processing and analyzing cylindrical Hall thruster behavior
- Designed, machined, and tested ignitron switch for high voltage pulsed power applications

Hamilton College Physics Department, Clinton, NY — June-August 2008-2009
Research Assistant
- Automated fusion reaction measurement system -developed firmware and user interface
- Redesigned measurement algorithms for optimized noise reduction and signal tracking

Oak Ridge National Laboratory, Oak Ridge, TN — June-August 2008
U.S. Department of Energy
- Constructed optically stimulated fusion system
- Researched, designed, and implemented method to measure fusion using Scoville theory

Leadership/Activities

After School Science and Engineering, Manchester, NH — 2011-Present
- Organize and lead weekly science activities for elementary and middle school students

Competitive Ballroom Dancing — 2007 -Present
- Dartmouth: Assistant Coach (2011), Secretary (2010-2011); Hamilton: Co-Captain (2009)

Dartmouth Formula Racing, Hanover, NH — 2011
- Worked with team building formula-style race cars for formula hybrid competition
- Assembled and tested printed circuit boards, and wrote firmware in C

The Young People's Project, Utica, NY — March-May 2010
- Trained as College Math Literacy Worker to develop and facilitate student workshops

Software Skills

Languages: C\C++, Python, HTML, PHP, MySQL, LaTeX
Software: Matlab, Maple, Igor, Eagle, ExpressPCB, Cadence, PSpice, SIMetrix, Xilinx ISE, Autodesk Inventor

Janet Vichtenstein

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EDUCATION

Thayer School of Engineering at Dartmouth College, Hanover NH

Master of Engineering Management *December 2012*
Bachelor of Engineering, Structural Concentration *December 2011*

Dartmouth College, Hanover, NH

Bachelor of Arts, Engineering Science Major GPA: 3.30/4.0 *March 2009*

Coursework Includes: Solid Mechanics, Intermediate and Advanced Structural Analysis, Engineering Material Science, Thermodynamics, Machine Engineering, Environmental Engineering, Classical and Modern Control Theory, Applied Dynamics, Project Management, Computer Science, Systems Analysis

ACADEMIC PROJECT EXPERIENCE

Structural Feasibility Study of the "Lightning Tolerant" Exam Table. Reanimation, Inc., Dairy, Maine *Sept. – March '10*

- Designed the elevated table support components, monster restraints and user friendliness of system.
- Analyzed the behavior of each proposed design in static and dynamic loading situations.
- Success of study crucial factor in initiation of the next project phase and an operational proof-of-concept.

Student Investigator/Independent Study. Dartmouth-Hitchcock Medical Center, Lebanon, NH *Feb. – June '07*

- Investigated malfunctioning DHMC Animal Resource Center automatic watering system.
- Designed experiments to investigate malfunctions with advisors at the DHMC and at Thayer School.
- Conclusion of human error important in facility's decision not to pursue $100,000+ removal process.

WORK EXPERIENCE

Engineer/Team Leader. Solaflect Energy, Inc., Norwich, VT *June '10 – Present*

- Leads development team during production of first operational solar power prototype.
- Successfully develops product installation methods that achieved business plan delivery goals.
- Performs modeling and structural analysis, allowing preemptive design changes to high-risk sections.
- Designs instrument package to monitor the structural behavior of the prototype during operation.

Assistant Site Manager/Carpenter. J. McCarter, Brooklyn, NY *Feb. '05 – March '06, June – Sept. '06, '07*

- Worked on a variety of renovation and restoration projects at several properties.
- Assisted employer in project design, setting budgets as well as long and short-term deadlines.
- Managed work crews on day-to-day tasks.

Carpenter/Electrician. Dartmouth College, Hanover, NH *Sept. '05 – Present*

- Design, construct and install lighting and scenery for student theater productions.
- Train new employees in proper use of power tools and proper carpentry techniques.

Design/Prototype Engineer. Physical Mind Institute, New York, NY *Feb. – June '05*

- Designed and built fully functional fitness device prototypes.
- Optimized product design through feedback sessions with employers and test subjects.
- Produced fully rendered and detailed models of company products with Pro/Engineer software.

ACTIVITIES AND AWARDS

- Engineer-In-Training (EIT) Accreditation, New Hampshire *April '10*
- Hypertherm, Inc. Fellow *Nov. '09*
- Dartmouth College Puppet Choreography Team, Captain *Sept. '07 – June '09*
- Rock Lobster College Radio, Training/Program Director *Sept '06 – Sept. '07*

SKILLS

- Lean Six Sigma Certified (Green Belt).
- Proficient in Excel, ProEngineer, SolidWorks, MATLAB; working knowledge of AutoCAD, FLUENT.
- Working knowledge of German, Italian and Latin.

Oswald Henry

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EDUCATION

Thayer School of Engineering, Dartmouth College, Hanover, NH — March 2012
Ph.D. in Engineering Sciences

- Thesis title: The effect of hydraulic outflow on the dynamics of coffee brewing convection
- Relevant coursework: numerical methods, computational fluid and plasma dynamics, magneto-hydrodynamics, thermodynamics, applied mathematics, electromagnetic fields and waves

University of Bath, Bath, UK — June 2005
Master of Engineering in Aerospace Engineering

- Graduated with First Class Honors
- Thesis title: Entrainment of a free convection plume to a neighboring surface in a porous media
- Relevant coursework: heat transfer, thermodynamics, computational fluid mechanics, fluid power systems, aerodynamics, engineering feasibility and cost analysis, aircraft propulsion

RESEARCH EXPERIENCE

Thayer School of Engineering, Dartmouth College, Hanover, NH
Post-Doctoral Research Associate (Space Plasma Physics) — April 2012-September 2012
Research Assistant (Space Plasma Physics) — January 2008-March 2012

- Modified computational plasma (fluid) models to improve understanding of plasma mass, momentum, and energy transfer in the magnetosphere
- Implemented novel and creative diagnostic tools to aid in the analysis of simulation data and to develop clear, quantitative arguments
- Validated numerical simulations through comparison of simulated and empirical data
- Communicated research to both professional and general audiences at conferences, seminars, and open house events
- Collaborated closely with a multi-institutional research team on a wide range of projects to improve global models of geospace, with the goal of advancing space weather forecasting
- Identified limitations of current space weather models and developed physics-driven numerical solutions to improve key characteristics of the system
- Discovered new insights related to plasma convection in the magnetosphere leading to publication of the results in the journal, Science
- Advised and designed research projects for three graduate and undergraduate students

University of Bath, Bath, UK
Research Assistant, Department of Mechanical Engineering — January- June 2005

- Developed a system of partial differential equations which describe the dynamics of a convection plume rising through a porous media
- Solved the equations numerically in order to examine the factors which affect the entrainment of the plume to a neighboring wall

TEACHING EXPERIENCE

Thayer School of Engineering, Dartmouth College, Hanover, NH — November 2011-March 2012
Co-Instructor (Fundamentals of Space Systems)

- Collaborated with co-instructors to develop course curriculum and content aimed at undergraduate and graduate physics and engineering students
- Designed and taught approximately twenty-five percent of course lecture content, including the physics and thermodynamics of rocket propulsion and orbital maneuvers
- Researched and specified requirements for group design coursework project
- Planned, wrote and graded homework assignments

Teaching Assistant (Magnetohydrodynamics) — January-March 2011
Teaching Assistant (Mathematics for Engineers and Physicists) — September-December 2009

- Provided group and one-to-one assistance on course lecture topics
- Graded homework, accommodating a diverse range of problem solutions and approaches

AWARDS AND PROFESSIONAL MEMBERSHIPS

- New Hampshire Time Grant Award, Dartmouth College — June 2011
- American Geophysical Union (AGU), Student Member — September 2008-April 2012
- Teaching Assistant Award, Dartmouth College — January 2009
- First Class Honors, University of Bath — June 2005
- Institute of Mechanical Engineers, Associate Member — 2005-2007

SKILLS&INTERESTS

- Computer Language Experience: MATLAB, FORTRAN, C, IDL, LaTeX
- Computer Software: Microsoft Office, Adobe Photoshop, Adobe Illustrator, AutoCAD, STK, Linux, Microsoft Windows, ANSYS Fluent
- Interests: hiking, cricket, golf, alpine & nordic skiing, tennis, banjo, folk guitar, photography

PUBLICATIONS

- Henry,O., W. Levenworth, M.J. Walhberg, B. Zimmern, J. Lemon (2011). Microbial cultures, Science.
- Henry,O., W. Levenworth, P. A. DePaul, B. Zimmern, M. Walhberg, J. Lemon (2010), Effects of causally driven Mars Rovers, J. Geophys. Res.-Space Physics.
- Henry,O.J. and D.A.S. Rees (2007), Curved balls in the classroom, IDOJARAS. (0324-6329).
- Henry,O., W. Levenworth, M.J. Walhberg, B. Zimmern, J. Lemon, J. Ouellette (2012). Effects of isotonic radiation on the unsuspecting hedgehog.
- DePaul, P. A., O.Henry, W. Levenworth, B. Zimmern, M. Walhberg, J. Lemon (2010). Effects of solar flares on average days, J. Geophys. Res.-Space Physics.
- Zimmern, B., W. Levenworth, O.Henry, P. DePaul, M. Walhberg, and J. Lemon (2012), Magnetic aftereffect of the aurora, J. Geophys. Res.
- Zimmern, B., W. Levenworth, M. J. Walhberg, O.Henry, P. A. DePaul (2010). A statistical study of the success of substituting artificial sweeteners for sugar in gas tanks, J. Atmos. Sol.- Terr. Phys.

SELECTEDPROFESSIONALPRESENTATIONS

- Henry,O., W. Levenworth, B. Zimmern and M. Walhberg (2011). Effects of causally driven Mars Rovers (Invited), AGU Fall Conference, San Francisco, CA.
- Henry,O., B. Zimmern, W. Levenworth, M. Walhberg and J. Lemon (2011). Effects of causally driven Mars Rovers, the revenge, Oral Presentation, CEDAR-GEM Conference, Santa Fe, NM.
- Henry,O., B. Zimmern, W. Levenworth, M. Walhberg and J. Lemon (2010). Thoughts of the sea sponge, AGU Fall Conference, San Francisco, CA.
- Henry,O., B. Zimmern, W. Levenworth, and P. A. DePaul (2010). Sea sponges as astronauts, Poster Presentation, GEM Workshop, Snowmass, CO.
- Henry,O., B. Zimmern, W. Levenworth, and P. A. DePaul (2010). Effects of using sea sponges in astrophysics, Oral Presentation, GEM Workshop, Snowmass, CO.
- Henry,O., B. Zimmern, W. Levenworth, and P. A. DePaul (2009). Effects of causally driven Mars Rovers, Poster Presentation, AGU Fall Meeting, San Francisco, CA.
- DePaul, P.A, W. Levenworth, O.Henry, M. Walhberg, J. Lemon (2009), Global MHD simulations of the relative effects of Mars Rovers, Poster Presentation, AGU Fall Meeting, San Francisco, CA.
- Dunlap-Shohl, W. A., O.Henry, W. Levenworth, B. Zimmern (2010), Effects of isotonic radiation on the unsuspecting hedgehog, Poster Presentation, AGU Fall conference, San Francisco, CA.
- Levenworth, W., B. Zimmern, O.Henry (2010), Magnetotail-Ionosphere coupling in isotonic radiation on the unsuspecting hedgehog, Oral Presentation, AGU Fall conference, San Francisco, CA.
- Levenworth, W., O.Henry, P. DePaul, M. Walhberg (2008), November 7-8 2004 Superstorm: LFM Simulations with causally regulated coffee houses, AGU Fall conference, San Francisco, CA.
- Levenworth, W., O.Henry, B. Zimmern, M. Walhberg (2010), Impacts of isotonic radiation on the unsuspecting hedgehog, Santa Fe, NM.
- Xi S., W. Levenworth, O.Henry, B. Zimmern, M. Walhberg, J. Lemon, V. Merkin (2010), Implementation of bombarding isotonic radiation on the unsuspecting hedgehog, Poster Presentation, AGU Fall conference, San Francisco, CA.
- Zimmern B., W. Levenworth, O.Henry, M. Walhberg, W. Wang, P. Schmitt and J. Lemon (2011), Effects of soft rains on grassy knolls, Oral Presentation, AGU Fall conference, San Francisco, CA.
- Zimmern B., W. Levenworth, O.Henry, M. Walhberg (2010). Broadband internet customer service study, poster presentation, Fall AGU meeting, San Francisco, CA.
- Zimmern B., W. Levenworth, O.Henry, M. Walhberg (2010). Modeling broadband internet customer service using hedgehog simulations, poster presentation, GEM workshop, Snowmass, CO.
- Zimmern B., W. Levenworth, M. Walhberg, O.Henry, P. A. DePaul, (2009). Climatology of the average hedgehog centric universe, poster presentation, GEM workshop, Snowmass, CO.
- Zimmern B., W. Levenworth, M. Walhberg, O.Henry, P. A. DePaul, (2009). Secondary effects of hedgehogs on tropical climents, Fall AGU meeting, San Francisco, CA.

Frank H. Pats

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EDUCATION

DARTMOUTH COLLEGE Hanover, NH

Ph.D. in Engineering Sciences (GPA: 4.0/4.0), fellowship support December 2012

Technical skills developed: stochastic process modeling, Monte Carlo simulation, optimization, numerical methods, statistical data analysis and machine learning.

Finance knowledge: *Investments, Derivatives Markets, Fixed Income, Corporate Finance and Accounting*

MISKATONIC UNIVERSITY Acton, MA

B.S. in Mathematics (GPA: 4.0/4.0), graduated with highest honor July 2008

Von Junzt Honors Scholarship for top 5% students, selected into Honors Class of 60 students from 3500 freshmen

RESEARCH

GAME-THEORETIC NEGOTIATION BASED ON TRANSDIMENSIONAL RISK ATTITUDES

Supported by U.S. National Science Foundation Sept 2010-Present

- Fit empirical consumption return data of 16 major countries to a statistical hierarchical model and conduct probabilistic estimation of model key parameters based on Gibbs sampling method
- Analyzed the risk attitudes of different countries towards time travel and predict their implied country-specific policies, submitted a paper to the journal of *Risk Analysis* (under review)
- Provided an automated game-theoretic negotiation mechanism for decision-makers to reach win-win agreements
- Implemented both shortest-distance and Pareto-optimal mediating proposing mechanisms with negotiation participants not knowing their utility functions but only being capable of telling preference under limited choices

AN AQUATIC SIMULATION MODEL AND ITS PARAMETER UNCERTAINTY ANALYSIS

Supported by U.S. Environmental Protection Agency July 2009-July 2010

- Designed and coded a computational model to simulate physical and biochemical dynamics of an aquatic system
- Estimated the model key parameters by maximum likelihood method and obtained their kernel probability densities by Monte Carlo simulation, presented the paper at International Congress on Environmental Modeling and Software

MACHINE LEARNING ALGORITHMS APPLICATION

Computer Science Department, Dartmouth College March 2009-June 2009

- Applied naïve Bayesian learning and decision tree methods to detect spam email with over 90% successful rate
- Trained a computing agent to play a board game against human agent based on a reinforcement-learning algorithm

INTERNSHIPS

BOCOM INTERNATIONAL HOLDINGS COMPANY LTD Hong Kong

Investment bank arm of China's fifth-largest commercial bank with US$45b market cap June 2011-Aug 2011

Summer Associate

- *Research Department (Beijing office)*
  Co-developed a passive investment strategy based on the relative strength of small-cap stock index (CSI500) to large-cap one (CSI300), created BOLL-like thresholds for signaling a holding switch between the two indexes
  Achieved a 511% return rate, far exceeding CSI500 346% and CSI300 227% from Jan.2005-Feb.2010
- *Investment Banking Department*
  Conducted due diligence, including building revenue and cost models and performing customer background checks
  Prepared valuation materials based on comparable companies

HAITONG SECURITIES CO., LTD Shanghai

China's second-largest public traded securities firm with over US$18b market cap June 2010-Aug 2010

Summer Intern, Fixed Income Division

- Worked on a market-tested credit risk rating model, applied generic algorithm to estimate parameter values, obtained a 84% consistency with a number of main domestic rating agencies
- Provided trading team with internal risk management reports, collected and analyzed macroeconomic data

SKILLS & INTERESTS

- MATLAB, R, C/C++, Java, Microsoft Office, Mac OS and Windows, passed CFA level 1
- Half-marathon runner, collector of obscure antiquities, international travelling and pubic speaking