Walter Goedecke
732 W Wasp Ave
Ridgecrest, CA 93555
Evening Phone: 760-384-2925
Day Phone: 760-939-8487
Email: wgoedeck@dim.com

Country of citizenship: United States of America
Veterans' Preference: No
Highest Grade: NSPS-1310-YD-02, 02/2009-Present
Contact Current Employer: Contact me first

AVAILABILITY

Job Type:
Federal Career Intern
Detail
Term
Permanent

Work Schedule:
Intermittent
Part Time
Full Time

Desired Work Environment

Mid-Career Professional

Mission-Focused
Experienced Professionals
Telework
Alternative Work Schedule

DESIRED LOCATIONS

US

US-AZ-Flagstaff
US-AZ-Tucson
US-CA-San Bernardino/Palm Springs
US-CA-San Diego
US-CA-Santa Barbara
US-CO
US-NM
US-OR
US-UT
US-WA

US-WY
US-CA-Ventura County
US-CA-Oakland/East Bay
US-MD-Montgomery County
US-CA-Silicon Valley/Peninsula
US-AZ-Yuma
US-CA-Marin County/North Bay
US-MD-Columbia

WORK EXPERIENCE

US Naval Air Warfare Station
Ridgecrest, Ca US

2/2009 - Present

Grade Level: NSPS, YD-02
Salary: $68699.00 USD Per Year
Hours per week: 40

Physicist , 1310
Provided a range data quality assurance program for customers. Compared GPS with radar and other time-space-position information instruments. Toured and studied the GPS, radar, and other data acquisition systems very well, as well as the data flow process. I have written and assembled existing computer programs to streamline many program processes. Documented evaluation and operating procedures in an easy to use web-base format.

Embry-Riddle Aeronautical University

7/2004 - Present
Hours per week: 45

Adjunct professor
* Teach undergraduate classes in Navigation and Map Use in the Department of Earth and Atmospheric Sciences. Integrated GPS and GIS into the structure of both.
* Teach graduate aerospace classes in Space Applications, Earth Observation and Remote Sensing, Space Mission and Launch Operations, and GPS/GIS.
* Won a Faculty Course Development award from the Wyoming NASA Space Grant Consortium in 2005 to develop a Global Positioning System (GPS) course for Embry-Riddle.
* Won two project development awards in 2006, from the Wyoming NASA Space Grant Consortium and Embry-Riddle, to design, build, and launch a nano-satellite to demonstrate active orbital modification by including a thruster on it.
* 2008 - Won another project development award from Embry-Riddle to design and build a navigation system with IMU for tracking launched payloads; managed students to assist on project development.
* Serve on graduate capstone project committees, advise students, and referee results. (Contact Supervisor: Yes, Supervisor's Name: T. Denise Keiley, Supervisor's Phone: 719-576-6858)

Metro. State College, and Webster University

7/2004 - Present
Hours per week: 45

Adjunct professor
* Teach graduate aerospace classes in space environment, astrodynamics, remote Sensing, and spacecraft design fundamental.
* Taught two navigation classes that include GPS technology and GIS databases.

(Contact Supervisor: Yes, Supervisor's Name: James Savard, Supervisor's Phone: 303-470-8825)

Electromagnetic Applications, Inc. **5/2004 - 5/2005**
Hours per week: 45

Scientist and Engineer
Investigated GPS multipath problems for FAA LAAS proto-system intended for auto-land feasibility, and suggested solutions. Examined signal to noise characteristics from ground and building interference. Compared code and carrier errors (CMC) from numerous GPS satellites in airport environment. Evaluated GPS antenna characteristics, such as gain patterns, phase centers, linear and polarized (RHCP) types. Ran receiver computer models to evaluate errors and scattering from rough surface and random dipole distribution models.

Consultant & Independent Contractor **6/2001 - 5/2004**
Hours per week: 35

Consultant
Worked on projects, such as:
- Wrote proposal for to NASA for Quakefinder, LLC, to build and deploy ELF/ULF magnetometers along fault zones to investigate tectonic events such as earthquake magneto-seismic emissions, and possible ionospheric effects.
- Recommended ELF bands for a CubeSat magnetometer, and assisted in calibration for this satellite prior to launch.

University of California at Los Angeles, Institute of Geophysics and Planetary Physics **7/1997 - 5/2001**
Hours per week: 45

Researcher and Systems Engineer
Designed, built, and deployed GPS-synchronized magnetometer data acquisition systems to observe global electromagnetic resonances. Planned and organized research & engineering to accomplish scientific objective of project. Designed digital and analog interfacing hardware and managed construction implementation. Programmed acquisition system, and processed signal in real-time to visually monitor. Set up LANs and networked acquisition systems to the Internet for fast data retrieval for group. Created data analysis routines in C++ and MatLab programs, also mentored groups to create additional routines. (Contact Supervisor: Yes, Supervisor's Name: Joe Means, Supervisor's Phone: 310-825-6868)

USGS **10/1993 - 8/1997**
Golden, CO US
Hours per week: 20

Research Intern
(10/1993-8/1997)
Designed & built GPS-synchronized remote magnetometer data acquisition systems for magnetospheric data, analog and digital interfacing hardware. Responsible for expanding network of research collaborators by including UCLA and NOAA Space Environment

Center. Planned, organized, and coordinated with US Air Force Academy, Los Alamos National Labs, and two Eastern European research institutes, and negotiated with private land owners to deploy and host remote observatory systems to deliver data for long periods. Wrote programming software for both the various acquisition systems and subsequent data processing. Instructed groups on use of hardware and software, and analyzed data for space physics and weather conditions.

University of Arizona
Tucson, AZ US

9/1988 - 11/1990

Hours per week: 20

Research Assistant
(9/1988-11/1990)
University of Arizona Tucson, Arizona
Engineered and tested cross-borehole electromagnetic systems, in the field and models, for Army project. Built dipole antennas for boreholes. Tested antennas and propagated high frequencies in lossy geologic media to analyze attenuation and phase. Constructed 2200-gallon saline water tank to test radio wave propagation with model borehole antennas. Analyzed data to generate antenna patterns. (Contact Supervisor: Yes, Supervisor's Name: Dr. Ben Sternberg)

Consultant & Independent Contractor
Boulder, CO US

9/1985 - 6/1988

Hours per week: 40

Consultant & Independent Contractor
Researched projects and conducted various geophysical surveys, such as:
- External acoustic detection of fluid levels, to monitor levels in borehole fracture tanks. Worked on mathematical propagation models of compression and shear waves.
- Wrote machine language program for microprocessor board to monitor operations for a printing press.
- Assisted electrical loop-on-loop surveys to determine the extent of contaminant flows from both the Rocky Mountain Arsenal and a gold mining heap-leach site in California.
- Conducted a magnetometer and seismic refraction survey in Nevada to map subsurface structures for mining interests.
- Conducted a magnetic gradiometer survey to find potential aquifer-polluting drilled and abandoned boreholes near a waste depository.
- Induced polarization (IP) survey to determine the depth to a permeable limestone layer hydrothermal source in Italy.
- Ground penetrating radar (GPR) to delineate subsurface soil disturbances at Casa Grande Nat'l Park.
- A VLF survey to map a landfill boundary.

Colo. School of Mines
Golden , CO US

5/1987 - 8/1987

Hours per week: 40

Teaching Assistant
(1987)
Colorado School of Mines Golden, Colorado
Assisted with geophysics field class. Organized and conducted gravity and magnetics

potential field mapping, to determine basement rocks (Colorado School of Mines, 1987).

Ophir Corporation **7/1984 - 5/1987**
Lakewood, CO US

Hours per week: 40

Electronics Technician and Engineer
(7/1984-5/1987)
Lakewood, Colorado
Designed and built proto-devices, e.g., radiometers. Designed and built model infrared hygrometer to measure water vapor in helium for nuclear power plant. Designed and built capacitive ice sensor device to measure liquid and solid components of ice, for use on aircraft. Evaluated additional projects.
(Contact Supervisor: Yes, Supervisor's Name: Dr. Loran Nelson)

Analog Micro Systems **9/1982 - 4/1984**
Boulder, CO US

Hours per week: 45

Electronics Technician and Engineer
Started out as electronic technician building protoboards, then assisted designing equipment, such as: a brain-wave monitor, a biofeedback temperature monitor, computer interface, etc. Also programmed in BASIC and machine language. Ram other facets of the company such as inventory, procurement, customer interfacing, etc.

Technetics, Inc. **4/1981 - 8/1982**
Boulder, CO US

Hours per week: 45

Electronics Technician
(4/1981-8/1982)
Boulder, Colorado
Tested and repaired power supplies. Also assisted in overcoming design problems and designed test jigs and circuits.

Gem Cutting **7/1978 - 4/1982**
Boulder, CO US

Hours per week: 40

Gem Cutting & Lapidary
(1978-1982)
Sole Proprietorship Boulder, CO
Bought rough gem grade minerals and cut cabochons and faceted gems, then sold to jewelers and gem dealers. Also custom cut material on order.

Electronic Repair **6/1972 - 12/1981**
Boulder, CO US

Hours per week: 40

Repair person

Sole Proprietorship
Repaired consumer electronic equipment, such as televisions, radios, stereos, and some scientific instruments. Occasionally designed and built instruments, such as radio transmitters, computer interfaces, etc.

EDUCATION

Florida Institute of Technology
Melborne, Florida US
Master's Degree - 12/2007
30 Semester Hours
Major: Engineering Management
Minor: Aerospace Engineering
GPA: 3.8 out of 4.0
Relevant Coursework, Licensures and Certifications:
Principles and methods of technical management covering topics in: leadership, strategic planning, product management, entrepreneurship, finance, value chains, management of R&D, and economic environments. Project management principles and topics include work planning, organization design, requirements analysis, project control, and PERT/CPM. Designing and developing products and services within budget, on time, and to specification. Alternative methods for project managers to plan, schedule, and control multi-projects within an organizational setting.

System engineering component covered the application of system management techniques to manage multidiscipline technical teams engaged in development programs. Systems engineering topics also include: requirement analysis, function allocation, cost engineering, risk management and analysis, system-level design, discrete event simulation, and systems analysis using computer models.

Aerospace component covered dynamics of spacecraft, orbital dynamics, and satellite communications. Rotational motion of spacecraft studied, including attitude parameters and spacecraft torques. Euler equations applied to the attitude motions of simple spacecrafts and their stability. Other topic include: normal modes, controllability and observability states, and quaternions. Computer examples worked with MatLab.

Satellite communications with emphasis on digital communications. Topics include signal performance degradation caused by band limiting, nonlinearities, phase noise, etc. Existing operational satellite systems, including the GPS constellation studied.

Orbital dynamics class developed the theory of batch and sequential (Kalman) filtering, including a review of necessary concepts of probability and statistics. Term project included that applies classroom theory to an actual satellite orbit determination problem.

Colorado School Of Mines
Golden, CO US
Doctorate - 5/1999
67.5 Semester Hours
Major: Geophysical Engineering
Minor: Physics
GPA: 3.6 out of 4.0
Relevant Coursework, Licensures and Certifications:

Took many physics classes, such as: mathematical physics, quantum and classical mechanics, statistical mechanics, electrodynamics, and quantum chemistry. Also took specialty classes, such as plasma physics, synchrotron radiation - studying beam particle generation in storage rings and applications. Another class in computational physics covered the application of computers to solve complex physics problems, with several class computer assignments. Geophysical classes include: geothermal energy and geophysical methods. Took astrophysics classes, such as: planetary magnetospheres and magnetohydrodynamics.

My PhD thesis was on solar-terrestrial geophysics: studying the effects of the solar wind on the geomagnetic field. I designed, built, and deployed several magnetometer stations at several locations and wrote several Fortran and C++ programs to analyze the data.

Univ. of Arizona
Tucson, AZ US
Master's Degree - 11/1990
32 Semester Hours
Major: Geophysical
Minor: Electrical engineering
GPA: 3.6 out of 4.0
Relevant Coursework, Licensures and Certifications:
Took inverse theory, and the application to deriving parameters to a system from large datasets. Many classes in electromagnetic engineering and applications, including microwave engineering, antenna design, propagation through lossy media, and boundary value problems. Seismic data processing classes, laser engineering, and circuit analysis covering integrated circuit components in filter and amplifier design.

Master’s thesis on geotomography and detecting voids in ground. Designed and built antennas and assembled high frequency radio instrumentation for extensive field work. Assisted with several geophysical surveys.

Colorado School Of Mines
Golden, CO US
Bachelor's Degree - 5/1987
124 Semester Hours
Major: Geophyiscal Engineering
Minor: Geology and Elec. Eng.
GPA: 3.3 out of 4.0
Relevant Coursework, Licensures and Certifications:
Took many geophysics, electrical engineering, and geology classes. Geophysical engineering included seismic, electrical, and potential methods of mineral exploration. Specialty classes include: x-ray mineralogy, digital analysis, advanced engineering mathematics, and meteorology and air quality.

LANGUAGES

German

Spoken:	Advanced
Written:	Advanced
Read:	Advanced

Russian

Spoken: Novice
Written: Novice
Read: Novice

Spanish
Spoken: Intermediate
Written: Intermediate
Read: Intermediate

AFFILIATIONS

American Institute of Physics Member
American Geophysical Union Member

PROFESSIONAL PUBLICATIONS

Le, G., P. J. Chi, W. Goedecke, C. T. Russell, A. Szabo, S. M. Petrinec, V. Angelopolous, G. D. Reeves, and F. K. Chun, Magnetosphere on May 11, 1999, the day the solar wind almost disappeared: II. Magnetic pulsations in space and on the ground, Geophysical Research Letters, 27, no. 14, 2165-2168, July 15, 2000.

Russell, C. T., P. J. Chi, V. Angelopoulos, W. Goedecke, F. K. Chun, G. Le, M. B. Moldwin, and G. Reeves, Comparison of three techniques of determining the resonant frequency of geomagnetic pulsations, J. Atmos. Solar Terr. Phys., 61, 1289-1297, 1999.

Green, A. W., E. W. Worthington, T. A. Plyasova-Bakounina*, A. Kormendi*, L. Hegymegi*, W. Goedecke* and Z. Voros*. Field line resonance studies in North America and Central Europe. Geophysical Transactions = Geofizikai Kozlemenyek = Geofizicheskiy Byulletin', 42, no. 3-4, 181-193, 1999.

Presentations
Goedecke, W., Nano-Satellite De-orbiting Project, presentation given to University of Wyoming Student Chapter of the American Institute of Aeronautics and Astronautics, Cheyenne, Wyoming, October 26, 2006.

Chi, P. J., C. T. Russell, W. Goedecke, and H. Kawano, Comparison of the Cross-phase Spectrograms of Ground ULF Waves and the Field Line Resonance Theory, Poster presentation given to American Geophysical Union (AGU), Boston, MA, Spring 1999.

Goedecke, W. and C.T. Russell, Validation of the Phase Gradient Technique for Inferring Magnetospheric Resonance Frequencies, presentation given at the International Union of Geodesy and Geophysics (IUGG), University of Birmingham, UK, July 26, 1999.

Goedecke, W., Z. Voros, A. Kormendi, and C.T. Russell, Simultaneous Dayside Broad-Band Spectra Observed over Two Different Magnetic Latitudes in Eastern Europe, poster presentation at the Geomagnetic Environment Modeling Conference (GEM), Snowmass, Colorado, June 23, 1999.

Chi, P., W. Goedecke, and C. Russell, Initial Results from the IGPP/LANL Ground Magnetometer Array, poster presentation, American Geophysical Union (AGU), Boston, MA, Spring 1998.

Goedecke, W., P. Chi, J. Clemmons, and C. Russell, Simultaneous Measurements of Pc3-4 Pulsations on the Ground Using the Phase Gradient Technique from Magnetometer Pairs and in Space Using the POLAR Spacecraft, presentation given at the

annual National Radio Science Meeting (URSI), University of Colorado, January 7, 1998.

Goedecke, W., Comparison of Pc3-4 Pulsations Observed at Two Magnetometer Station Pairs in Colorado and Eastern Europe, using the Phase Gradient Technique, poster presentation, American Geophysical Union (AGU), San Francisco, California, December 9, 1997.

REFERENCES

Cathy Skokan	Colorado School of Mines	Professor
Phone Number:	303-273-3960	
Reference Type:	Professional	
Diane Hollenbeck	Metropolitan State College	Office director
Phone Number:	303-556-3679	
Email Address:	hollenbd@mscd.edu	
Reference Type:	Professional	
James Savard	Embry-Riddle Aeronautical Univ & Webster Univ.	Center Faculty Chair
Phone Number:	303-470-8825	
Email Address:	jsavard@comcast.net (personal)	
Reference Type:	Professional	
Howard Singer	Space Environment Center at NOAA - DoC	Chief of Research and Development Division
Phone Number:	303-497-6959	
Email Address:	Howard.Singer@noaa.gov	
Reference Type:	Professional	

ADDITIONAL INFORMATION

Certifications and special training:
* Registered Professional Engineer (PE) in the State of Colorado (Electrical Engineering).
* Completed OSHA Hazardous Waste Operations and Emergency Response 40?Hour Training Program class.
* Advanced SCUBA classification

Volunteer experience and leadership:
* Organized large annual event, now with over 500 participants, in Boulder, Colo. area (1995-present). Event is now a large fundraiser for Alzheimer's disease.
* Work on environmental and campaign issues each election cycle.