Julie A. Wolf, PE, PhD

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OBJECTIVE:

My primary area of interest is the nonlinear analysis of the dynamic behavior of structures. However, work involving any computational structural analysis is of interest. I perform at my best when working in a diverse work environment where new challenges are often presented and positive team interaction is commonplace.

EDUCATION:

BS Mechanical Engineering	UCSD	06/99	4.0 cumulative GPA
MS Civil Engineering	Caltech	06/00	3.6 cumulative GPA
PhD Civil Engineering	Caltech	01/08	

Thesis Title: A Plasticity Model to Predict the Effects of Confinement on Concrete

LICENSING:

EIT	passed April, 1998
PE - Civil	passed October, 2005

WORK EXPERIENCE:

Winter 2008--present

Alliance Spacesystems – Structural Dynamics Analyst. Performed finite element analysis on a variety of structures and loading types. Worked closely with designers to perform stress analysis on robotic arm components for load cases from launch all the way through to performance on Mars. After failure under dynamic testing on components of a satellite borne telescope, performed buckling analysis on the thin walled support tubes and stiffness analysis of the supporting bipods to aid in determining the root cause of the failure and feasibility of different retrofit strategies. Other work included analysis of mechanical support ground equipment and testing fixtures for flight hardware. Finite element analysis was performed using FEMAP (running NX Nastran) and Cosmosworks.

Fall 2000--Summer 2001

California Department of Transportation (Caltrans) - Transportation Engineer-Civil in the Office of Earthquake Engineering. Performed nonlinear finite element analysis of bridges to determine the performance of various earthquake retrofit designs. Involved in the proof testing of different base isolation systems as well as calibration/testing of proposed finite elements to model the isolators. Both of these tasks utilized ADINA Finite Element Software. Assisted in the selection and comparison testing for a new analysis software package for the bridge design floor, SAP2000 was chosen. Performed bridge design check as well as miscellaneous quantity calculations.

Spring 1998, Fall 1998-Summer 1999

ATA Engineering, Inc. - Student Co-op in the engineering consulting-analysis division. Worked in close cooperation with project engineers designing, simulating, and analyzing various structures including tactical mobile electronics shelters, amusement park rides, and rocket nozzles. Finite element models were built and analyzed using the I-DEAS Master Series 6 software.

Summer 1998-Spring 1999

Member of the UCSD Formula SAE racecar team. Completely student run project to design, build, and race a scaled formula racecar. I was the CAD/FEA team leader responsible for ensuring that a solid model was created for the entire car. Worked with each individual team member to perform finite element analysis on the different components of the car to optimize the design. Used this analysis to justify our design decisions to the judges at the annual international competition in Detroit, MI.

Summer 1998

Hewlett Packard - Research and Design Intern. Member of the design team that integrated a new printer into an existing All-In-One product. Updated and maintained CAD models of combined product. Identified necessary changes to the existing All-In-One to accommodate the new printer. Designed the electronics box and determined the mechanical layout for the main printed circuit assembly board. Project required ongoing coordination between the different disciplines involved in developing the new product.

Summer 1997

Hewlett Packard - Manufacturing Engineering Intern. Responsible for the top level Manufacturing and Audit Verification System (MAVS). This consisted of identifying problems with the current set-up and initiating solutions for these problems. These solutions involved designing, implementing, and maintaining a Microsoft Access database, training test operators in the correct procedures, and creating forms necessary for the operation of MAVS. Training included courses in ME10, ME30 and Solid Designer as well as attending a Tool and Model Shop class on how to use a mill, lathe, drill press, etc.

Fall 1995- Spring 1997

KIDSAT program at UCSD (now called EarthKAM) - Internship. The KIDSAT program is sponsored by the California Space Institute and NASA. This program is a student run project geared at educating middle and high school students about space and the Internet by photographing the earth from space during shuttle missions. Duties included planning, coordinating and directing two KIDSAT missions, STS-76 and STS-81. I was sent to Johnson Space Center (JSC) to collaborate and educate JSC Mission Controllers about the KIDSAT project. While there, I participated in the final testing of the KIDSAT flight hardware and software and briefed astronauts Linda Godwin and Marsha Ivins regarding the KIDSAT program. Specific positions and duties held in the KIDSAT program:

Fall 1995

Mission Control and Gateway team member - Worked with programmers in the development of flight software and hardware for management of camera and picture taking during shuttle mission

Winter-Spring 1996

Payload Team Leader - Managed and problem solved camera and computer software during the STS-76 mission

Summer 1996

Payload and Data Interface Team Leader - Managed the redesign and development of new software and hardware for STS-81. Converted flight software to Windows 95. Catalogued photographs for the Internet from STS-76.

Fall 1996

Gateway Director (Mission Position Only) - Responsible for management and coordination of the Mission Operation Center during STS-81 mission

Winter-Spring 1997

Payload and Data Interface Team Leader - Worked on training new interns on the flight software and hardware. Processed and archived photos from STS-81.

References available upon request.