

Ken Youssefi

Mechanical and Aerospace Engineering Department

Education

Ph.D.	Mechanical Engineering Design	University of California, Berkeley	1978
MS	Mechanical Engineering,	University of California, Berkeley	1974
BS	Mechanical Engineering,	Sacramento State University	1973

Academic Experience

1985-present Lecturer, Mechanical & Aerospace Engineering Department, San Jose State University. Teaching senior and graduate level courses in product design, computer-aided design, machine design, mechanism design, stress analysis and graphics communication.

1983-present Lecturer, Mechanical Engineering Department, UC Berkeley
Teaching courses in mechanical engineering design, mechanism design, product design, graphical communications in engineering, including design project.

1979-1982 Associate Professor, Mechanical Engineering Department, University of Engineering and Science, Iran. Teaching Mechanical Engineering courses at the undergraduate and graduate level. In addition, chairman of the design curriculum and laboratory development committee.

Industry Experience

1989-Present Consultant and Developer, Space Sciences Laboratory, Berkeley, CA
Member of long-duration balloon flight team (Antarctica flight), responsible for design of gondola's payload structure, solar sensor and solar panel pointing system to maximize power generation, and thermal analysis of scientific payload; member of Explorer satellite (FAST) team, responsible for finite element and vibration analysis of the payload. Projects funded by NASA.

1983-1985 Senior Mechanical Engineer, Failure Analysis Associate, Palo Alto, CA
Project manager for development of an interactive computer program for fatigue and corrosion fatigue data analysis. Also, project engineer in charge of numerous litigation cases involving design and failure analysis of mechanical components and systems.

1982-1983 Staff Scientist, Lawrence Berkeley Laboratories, Berkeley, California.
Conducted a study of sliding wear mechanisms and developed a testing procedure to simulate the sliding wear action.

Research Interest

Assessment tools for undergraduate design courses, investigating effectiveness of different product design process techniques, evaluating various design optimization techniques, fatigue and fracture mechanics, finite element analysis, dynamic systems.

Areas of Expertise

Computer-aided design and manufacturing, mechanism synthesis and analysis, machine component design, failure analysis, finite element analysis, solid modeling using various modelers such as Unigraphics, SolidWorks, Pro/Engineering, and AutoCAD., and design optimization.

Product design cycle; selection, conceptual design, concept selection, modeling, detail design and analysis, design for manufacturing and assembly, integration of modern technology tools into design process.

Develop design curriculum for undergraduate engineering and design disciplines.

Professional and Academic Activities

- 2002-present Co-PI, Product Design and Development Curriculum, Hewlett-Packard grant. Design and develop a three course sequence on product design in collaboration with Art and Design and Technology departments. Including product design process, advanced parametric solid modeling, manufacturing techniques, material selection and CNC.
- 2000-present Course coordinator for graphics communication course (250 students) at San Jose State University mechanical engineering department.
- 1998-present Committee member, Design Curriculum Committee, UC Berkeley
- 1995-present Committee member, NSF Synthesis Coalition Group, UC Berkeley.

Society Membership

- Board member, Region IV, ASME 2000-2003
- Member, American Society of Mechanical Engineers (ASME), 1982-present
- Chair, Santa Clara Valley section of ASME, 1995-1996
- Chair, Professional Development Committee, Santa Clara section of ASME, 1989-1993
- Chair, Sections and Programs, Region IX, ASME, 1990-1995
- Treasurer, Santa Clara Valley Section, ASME, 1993
- Board member, California Association for Cooperatives, an umbrella group for all Co-ops in California, 1989-1993

Honors and Awards

- Mechanical Engineering Honor Society Outstanding Professor of the year, 1997 and 1989
- American Society of Mechanical Engineers, Regional Interests Activities Award, 1997

Recent Publications

- Weiss, M.P., Peles, S., Finnie, I. Youssefi, K., "Exhibit of Step by Step Fatigue Crack Propagation on the General Fatigue Diagram" presented at the 8th International Fatigue Congress, June 2002 at Stockholm, Sweden.
- McMartin, F., McKenna, A. and Youssefi, K., "Scenario Assignments as Assessment Tools for Undergraduate Engineering Education", University of California Berkeley, NSF Engineering Synthesis Coalition Group 1999, published in IEEE transactions.
- McMartin, F., McKenna, A. and Youssefi, K., "Establishing Trustworthiness, Dependability, and Credibility of Scenario Assignments" to establish the trustworthiness of qualitative tools to assess students' knowledge of engineering practices, teamwork, and problem solving by faculties in design courses. University of California Berkeley, NSF Engineering Synthesis Coalition Group 1998, presented at FIE conference in Puerto Rico in Dec. 1999.
- Pelling, M., Lin, R.P., Youssefi, K., et al, "A High Resolution Gamma-Ray and Hard X-Ray Spectrometer for Long Duration Balloon Flights", NASA Report, 1992.