

Afsaneh Cooper's Research Experiences

During 1980 – 2002 [22 years]

Ref	Year	Title of Research
1	2002	References in Fatigue in Composite Materials , I did this research in 9 months under supervision of Professor James Trevelyan in UWA-Mechanical Engineering department. 14 pages report was the outcome of my research which was done over references in UWA, Curtin, Murdoch, ECU and LISWA Library Catalogues. This research did not end up to get the required mechanical engineering supervisor from UWA, however it gave a blow to UWA mechanical engineering department to start working on composite materials. Flywheel of my PhD thesis at Murdoch University had to be made of composite materials. Still even UWA could not provide me with a mechanical engineering supervisor, not even Curtin University.
2	1990 - 1993	Flywheel Energy Storage System was designed. Technological investigation for initiating a new technology in WA in this field lead to lack of funding and personnel for completing the thesis. A content list of the required know-How was written down and a summary of the investigation in 30 pages.
3	1985 - 1988	A Code for Computation of Aerodynamic Coefficients of Flight Vehicles using semi empirical rapid methods , was the title of my M.Sc. thesis. The thesis book is 320 pages which includes 2,840 lines FORTRAN program that I wrote for this code.
4	1985	CFD (Computational Fluid Dynamics) Codes in the last decade, a Seminar in M.Sc. course that I presented for part of my degree in School of Engineering at Shiraz University. This involved a three months research work.
5	1985	Model Study of Submerged Tunnels , which was a summer three months project I did under supervision of the Dean of School of Engineering at Shiraz University. I built a plexiglass and wood model and tested it to measure drag coefficient and etc. in hydraulic channel at Engineering lab.
6	1985	Design of Directional Control Valve, Solenoid Operated , It was for Iranian factories to manufacture it. The work was done at IROST.
7	1984	A Code for Computation of the Gear Correction Factors , was a 1300 lines FORTRAN program I wrote for Iranian Gearbox factory to manufacture 650 worn out Gear boxes. The work was done at IROST.
8	1983	A Code for Computation of the experimental Curves formulas , was another FORTRAN program I wrote for Iranian Gearbox factory for manufacturing. The work was done at IROST.

9	1983	A Code for Computation of the initial Parameters of the Standard Gears, It was one FORTRAN program I wrote for reading the curves by computer. The work was done at IROST [Iranian Research Organization for Science and Technology].
10	1982	A Code for Computation of Strength of Materials of Standard Gears, was my B.Sc. final project, which was researched and written down in 18 months during cultural revolution. At that period all Iranian universities were closed by the new regime. I worked under the supervision of a German/Iranian Doctor Engineer at IROST [Iranian Research Organization for Science and Technology] for that period. My main responsibility was to write a long computer program for Gearboxes and technical reports about these activities.
11	1981	Design and Construction of three Solar Air Heater Collectors, was a research and construction I did under supervision of Vice Chancellor of my university Sharif University of Technology. This research was done at Tehran Power Ministry building for renewable energy research. Three technicians built the collectors with different profiles I designed. We tested them for comparison. The work was done at Centre for Renewable Energy – Organization for Atomic Energy-Iran.
12	1980	Method of Exploitation of Power from Iranian Water Resources, This was my theoretical research for producing a report for Vice Chancellor of Sharif University of Technology. We then travelled in students group for design investigation in Water Turbines installed in Western Iranian Power Stations. The work was done at Iranian Power Ministry.
13	1980	Turbomachinery, research and translation of an English text book by Dixon, was my first work as a researcher. I did this work for my Turbomachinery lecturer at Sharif University of Technology to be published by university as a Persian text book. The work was done at Iranian Power Ministry.