



TAD WINIECKI – M.S., B.A., Inventor & Business Manager

OVERVIEW:

An innovator who applies intelligence and a broad knowledge background of physics, engineering and economics to solve difficult problems. Experience in research, engineering (Colorado Professional Engineer #12184), five U.S. patents. Helped to design and test a scientific instrument on the moon.

EDUCATION:

M.S. (Space Science) Rice University

B.A. (Physics) Grinnell College

1998 to Present

Small Business Manager Owner and operator of Highway Transport Research, a personal automated transport research and development company (see <http://higherway.us>)

1993 -2000

Owner and operator of Langenwalter Carpet Dyeing of West Vancouver, a service franchise. This was a great learning experience in chemistry, biology, psychology, human relations, economics, marketing, government relations, and accounting.

1985 to 1992

General Dynamics Space Systems Division Systems Engineering Department

Principal Investigator Conducted a study on means to produce space launch vehicles at low cost. Studied filament-wound composite structures and aluminum-lithium structures. Evaluated various concepts for processes, material and information flow in relation to factory layouts. Found that better tools could speed the information and material flows. the most needed tool was a business simulator with good economics to provide guidance to management.

Advanced Systems Developer Derived and analyzed systems requirements, analyzed functions, prepared plans for systems engineering management, margins management, technical performance measurement, and interface development. Developed systems concepts for ballistic missile, antiballistic missile, and space launch vehicles, boosters and upper stages.

1974-1985

General Dynamics Convair Division Electro-Optical Technology, Manufacturing Technology, and Systems Engineering Departments

Senior Research Engineer Analyzed and flight tested sensor systems for cruise missile guidance. Analyzed "see without being seen" technology, including active contrast matching and infrared sensor systems. Defined magnet configuration for beam neutralizer for nuclear fusion experiment.

Senior Manufacturing Engineer Designed and integrated data recording system for machining experiments. Recorded and analyzed data. Evaluated material handling technology and recommended improvements for factory.

Senior Systems Engineer Defined potential payloads for the Space Transportation System (STS). Analyzed payload integration requirements and compatibility with STS. Defined interface requirements for Ground Launched Cruise Missile.

1967-1974

Bendix Corporation, Research Laboratories and Navigation and Control Division

Experiment Analyst Defined experiment integration requirements for the Skylab, RAM, and HEAO programs. Provided science and engineering support for proposal activities to build space physics experiment hardware and Apollo Telescope Mount simulator. Designed driver rear vision aids for AMF Experimental Safety Vehicle. Tested spectrometer sections for Charged Particle Lunar Environment Experiment and corrected design deficiencies causing charge buildup and field emission.

PUBLICATIONS:

SAE paper, "Safecycle Crash Protection", Motorcycle Safety Conference papers "Human engineering a Crash-Safe Motorcycle" and "Crash Jumping", High Energy Astronomy Observatory report, "Estimation of Data Rates and Evaluation of Trade-offs for Experiment Data Reduction", Internal Research and Development Report, "Low Cost Production of Launch Vehicles", Manufacturing Technology Report, "Automated Material Handling Systems", plus newsletters, magazine and newspaper articles, and sections of proposals and contractual reports.

AFFILIATIONS:

Oregon Human Powered Vehicle Association, Society of Automotive Engineers, former member of Advanced Transit Association board of directors, former member of American Geophysical Union, Optical Society of San Diego, American Institute of Aeronautics and Astronautics, Alternative Vehicle Forum

HOBBIES:

Bicycle and motorcycle riding, swimming, inventing, boat building, writing, reading.