

Michael J. Van Voorhis, PE
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EDUCATION

SpreadsheetWorld.com, Encino, CA

Spreadsheets for Engineers and Scientists **2005**
Instructor – Advanced Spreadsheets, Application Developer – Expression Evaluator and Unit Converter PowerBook

Weber State University, Ogden, UT

Aerospace Engineering – Adjunct Professor (Volunteer) **1997**
Center for Aerospace Technology – Amateur Spacecraft Design

University of Utah, Salt Lake City, UT

Advanced Mechanical Engineering **1991**
Theory of Plates and Shells, Fracture Mechanics, Professional Engineering Seminar

Washington State University, Pullman, WA

BS Mechanical Engineering **1983**
Internship: Product Engineer for John Deere Ottumwa Works

AWARDS

- Heliplane Milestone 3 – Groen Brothers Aviation / DARPA **2006**
 - Building Project Appreciation – Mountain Vista United Methodist Church **2002**
 - Personal Computer Pioneer – Hercules Aerospace **1986**
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TEACHING EXPERIENCE

PEI / SpreadsheetWorld.com, Encino, CA

Lecturer – “Advanced Spreadsheets for Engineers and Scientists” **2004 – Present**
Seminars for NASA Goddard and US Air Force Academy

Weber State University, Ogden, UT

Adjunct Instructor – “Center for Aerospace Technology” **1994 – 1996**
Design and Development of CATSAT and FalconSat spacecraft

ATK Bacchus Works, West Valley City, UT

Instructor – Solid Rocket Motor Familiarization, Defense Threat Reduction Agency **1991 – 1996**
Developed syllabus and overall course structure.

RELATED EXPERIENCE

Bigelow Aerospace LLC, North Las Vegas, NV

Senior Design Engineer, Soft-goods and Micrometeorite Shield **2004 – 2005, 2007 – Present**
Design, analysis, fabrication and testing of air barrier, restraint layer, debris shield and associated manufacturing equipment for commercial space habitats including Genesis-1 (NORAD 29252), Genesis-2 (NORAD 31789), Galaxy, Sundancer and BA-Standard.

EI Dorado Engineering, Salt Lake City, UT

Design Engineer, Explosive Disposal Process Development (Contract) **2004 and 2006**
Design, analysis, procurement and test of flare propellant and explosive material washout for magnesium extraction at Crane Navy Depot, Crane, Indiana.

EG&G, Tooele Chemical Agent Disposal Facility, Tooele, UT

Mechanical Engineer (Contract) **2003 – 2004**
Optimized processes for disposal by incineration of mustard agent.

Varian Medical Systems

Product Development Engineer **2001 – 2003**
Developed digital mammography x-ray tube for Fischer Scientific, Boulder, CO. Supported Computed Tomographic x-ray tube manufacturing for Toshiba and Hitachi systems. Provided statistical process control for x-ray tube manufacturing and lead design of heat exchanger units for mid-tier x-ray tube product line.

Groen Brothers Aviation, Salt Lake City, UT

Gyroplane System Engineer

Developed gyroplane and gyroplane systems for Hawk-4, Sparrow-Hawk and DARPA Heliplane aircraft and concept studies. Primary responsibilities included concept study for reduced noise propellers, Shadow-Hawk aircraft configuration optimization, reaction drive rotor subscale test article design / testing and creation of aircraft FMECA report databases.

**1999 – 2001,
2005 – 2007**

Hercules Aerospace / ATK, West Valley City, UT

Tooling Design Engineer

Designed, procured, inspected and delivered tools for production and testing of Delta-II, Titan, Trident-II, Delta-IV and Pegasus rocket motors and composite structures. Refurbished hydro-burst equipment for Titan-IV burst testing utilizing dynamic impact analysis predictions. Managed mechanical development of large Ultrasonic Inspection System for composite material verification at the ATK-Iuka production facility.

1984 - 2000

Field Site Coordinator

Supported and coordinated activities at Hercules / ATK field offices with Lockheed Missiles and Space and US Navy organizations for Polaris, Poseidon, Trident-I and Trident-II systems at Charleston, SC., Bangor, WA., Kings Bay, GA. and Coulport, Scotland.

Propellant Development Engineer

Developed propellant and coordinated design and testing for Trident-II missile motors. Developed 6 Mev computed tomographic inspection system for radiographic inspection of large solid rocket motors. Created defect acceptance criteria for radiographic, ultrasonic and visual inspection systems for solid rocket motors. Prepared FMECA for Trident-II and Titan-IV solid rocket motor propellant systems.

AnalysisChamp.com, Las Vegas, NV

1999 – Present

Author, Editor and Publisher

<http://analysischamp.com> Website provides mechanical design data on the world wide web.

State of Utah https://secure.utah.gov/llv/search/detail.html?license_id=97246

Licensed Professional Engineer, Mechanical Proficient with mechanical, thermodynamic, kinematic, chemical and explosive process design / development / testing. **1991 – Present**

PUBLICATIONS / PAPERS / PATENTS

- "DEFECT CRITERIA ANALYSIS PROCEDURE AND SOFTWARE"
Joint Army – Navy – Nasa – Air Force (JANNAF) conference, Monterey, CA 1988
- "ENGINEERING TECHNICAL ANALYSIS WEBSITE FOR MECHANICAL DESIGN"
Written, Edited, Uploaded and maintained on Ourworld.CS.com, 1999
- "ENCAPSULATED STATOR ASSEMBLY FOR AN X-RAY TUBE"
US Patent 7203281, Filed March 11, 2004
- "HIGH VOLTAGE CONNECTOR FOR X-RAY TUBE"
US Patent 7142639, Issued November 28, 2006
- Sanctuary Addition – Hilltop UMC, Sandy, Utah
- Chapel – Mountain Vista UMC, West Jordan, Utah

LANGUAGES

- English – native language
- Spanish – read and write with beginner competence
- Russian – read and write with beginner competence

MEMBERSHIPS

- American Society of Mechanical Engineers (prior)
- JANNAF (prior)
- Utah Professional Engineers