

# I. GENERAL BIOGRAPHICAL INFORMATION

## A. Personal

- **Name:** Matthew M. Whiteacre
- **Date of Birth; citizenship:** U.S., 10/25/1960
- **Education:**
  - a. **Undergraduate Education:** BS Nuclear Engineering, Texas A&M 1982
  - b. **Graduate Education:** ME Nuclear Engineering, Texas A&M 1984.  
Thesis topic: An Experimental Determinations of Elemental Recovery from Natural Seawater Achieved by Ion Exchange Resins

## B. Academic Appointments:

- a. Director of Engineering Design Graphics in the Department of Engineering Technology and Industrial Distribution, Texas A&M University. 2006 to present
- b. Senior Lecturer in the Department of Engineering Technology and Industrial Distribution, Texas A&M University. 1996 to present
- c. Lecturer in the Department of Engineering Technology and Industrial Distribution, Texas A&M University. 1994 to 1996
- d. Assistant Lecturer in the Department of Civil Engineering, Texas A&M University. 1987 to 1994
- e. Assistant Lecturer in the Department of Engineering Design Graphics, Texas A&M University. 1983 to 1987

## C. Other information

### Patents Awarded:

United States Patent 7,008,200

Holtzapple, ... Whiteacre, M. ... et al. March 7, 2006

Gerotor apparatus for a quasi-isothermal Brayton cycle engine

Abstract:

According to one embodiment of the invention, a gerotor apparatus includes an outer gerotor having an outer gerotor chamber, an inner gerotor, at least a portion of which is disposed within the outer gerotor chamber, and a synchronizing apparatus operable to control the rotation of the inner gerotor relative to the outer gerotor. The inner gerotor includes one or more entrance passages operable to communicate a lubricant into the outer gerotor chamber.

### Honors or Award:

- Engineering Design Graphics Leadership award 2002
- Judge for College of Engineering's Summer Research Grant Program 2007
- Judge for Houston Independent School District Sci:\\Tech Webmaster competition

**Service:**

- Member of the Texas A&M Faculty Senate from 2003 to present
- Member of the Faculty Senate Executive Committee 2006-2007
- Chairman of the Engineering Senators Caucus 2005-2007
- Faculty advisor to the Texas A&M CAD Club 2000-2004
- Mentor to a faculty member to improve her teaching ability 2003-2004
- ASEE/EDGD, national Engineering Graphic Competition Co-Chair 2000-2003
- ASEE/EDGD National Engineering Graphics Midyear meeting Session moderator 2001
- Computer network Administrator for Engineering Graphics 1993-1996

**Other:**

- Research Assistant, Health Safety and Environment Division, Los Alamos National Lab, Summers 1984-1987.
- Granted a US Government “Q” security clearance from 1985-1987

## II. RESEARCH INFORMATION

### A. Publications

**1. Peer Reviewed Papers:** none**2. Conference Proceedings:**

Using Robotics and Project Driven Engineering Curriculum to Increase Freshmen Retention; Otey, J.M., Whiteacre, M.M., and R.N. Hutchinson. 2006. Proceedings of the International Computer Aided Learning Annual Conference. Villach, Austria. September 27-29.

Engineering Graphics in a Project Based Curriculum, J. M. Otey and M. M. Whiteacre, December 2005; Engineering Design Graphics Division of ASEE Midyear meeting

Using VRML to assist Student Visualization in Freshman Engineering Classes; Whiteacre, Matthew and Wilson, James; 2000 ASEE Annual Conference, June 2000

Creating a Homogeneous Freshman Engineering Experience;Whiteacre, Matthew M.; ASEE/EDGD Midyear Conference, Nov. 1999

An Integrated Freshman Engineering Curriculum for Pre-Calculus Students,Whiteacre, Matthew and Malavé, César O.; Frontiers in Education Conference, Nov. 1998

### **3. Books:**

Whiteacre, M & Skowronek, R; Essentials of SolidWorks, 3<sup>rd</sup> edition, Visual Graphics Publishing, College Station, TX, 2006

Whiteacre, M, Essentials of AutoCAD, 3<sup>rd</sup> edition, Kendall Hunt, Dubuque, Iowa, 2005

Whiteacre, Matthew M.; Instructors Guide to Harnessing AutoCAD R14, International Thomson Publishing, 1998

Beck, J., Boersma, T., Boyce, J., Byrnes, D., Cusson, R., McWhirter, K., Money, L., Sobczak, G., Stansbury, K., and Whiteacre, M.; Instructors Guide to Hands on Guide to Inside AutoCAD, Release 12, New-Riders Publishing, 1994.

## **III. TEACHING INFORMATION**

### **1. Courses taught at current institution:**

Engineering Design Graphics (ENDG 105): Graphical approach to the engineering design process as applied to products; methods of graphical communication, three-dimensional geometry, working drawings, data analysis and computer graphics; introduction to team dynamics and creative problem solving.

Computer Design Graphics (ENDG 407): Use of microcomputers with currently available CAD software as an aid in the design process and as a means of increasing engineering productivity. Review of ANSI standards and an introduction to a variety of computer graphics applications encountered industry.

Computer Graphics (ENDG 408): Current applications of computer graphics to produce orthographic views and rendered pictorials; introduction to several computer graphics software packages including applications in 3-D, parametric solid modeling, animation and rapid prototyping.

Special Topics in NURBS Modeling (ENDG 489): NURBS are spline based surfaces which have been the standard for virtually all high-end modeling work due to their implicit UV texture space, resolution independence and intuitive curve-derivation. This class will focus on the uses of NURBS surfaces for modeling objects and creating 3D models of objects which are difficult with many parametric modeling programs available today.

Foundations of Engineering I (ENGR 111): Introduction to the engineering profession, ethics, and disciplines; development of skills in teamwork, problem solving and design.

Foundations of Engineering II (ENGR 112): Continuation of ENGR 111

Principles of Materials Engineering (ENGR 213): Description of properties of materials using a unified approach; discussion of the chemical structure, crystalline structure, microstructure, interface structure, and phase diagrams for materials; develop bulk properties and characteristics of metals, polymers, and ceramics; mechanical, electrical, magnetic, thermal, and optical properties for these materials.