



American Society of Civil Engineers

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Columbia Section

Since October 10, 1950

Newsletter

February, 2005

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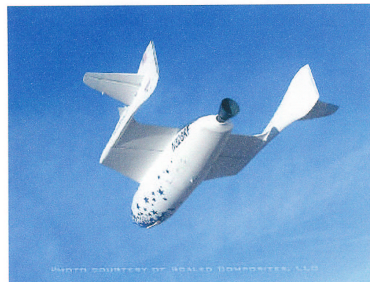
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National EngineersWeek[®] Dinner and Lecture

Walla Walla College's
School of
Engineering
Presents:

"SpaceShipOne: Winning the \$10 million Ansari X-Prize"

Jim Tighe, Chief Aerodynamicist for Scaled Composites and one of the designers of SpaceShipOne will be our featured speaker. SpaceShipOne is the first Non-Government Manned Spacecraft. Jim is a nominee for 2005 Engineer of the year by Design News.



Burt Rutan's company Scaled Composites won the \$10 million Ansari X-Prize on October 4, 2004 when SpaceShipOne (SS1), launched from the White Knight, flew to 69.6 miles above earth's surface as the first private manned spacecraft.

Jim Tighe will give an overview of the White Knight and SS1 aircraft systems and describe some of the interesting aerodynamic aspects. He also will describe novel design, simulation, and construction techniques required to meet project goals.

Jim worked with Burt Rutan to layout the aerodynamic design of the White Knight and SS1. He did the computational fluid dynamics for both aircraft, wrote the SS1 simulator used for engineering work and pilot training, helped with avionics development, and is part of the mission control team.



The dinner and lecture by Jim Tighe will be held at the Marcus Whitman Hotel Conference Center, Six West Rose Street, Walla Walla. Thursday Feb 24, 6:30 p.m.

The meal will be a Vegetarian buffet. Select an entree from Roasted Vegetable Lasagna, Penne Pasta Primavera, or Eggplant Parmesan.

The cost is \$25.00 (General) and \$12.00 (Students).

Please confirm reservation to Renee Mackin at 527-2765 or mackre@wwc.edu by noon Friday, Feb 18, 2005.

Career Fair Opportunities

March 8, 2005 approximately 100 High School students will be at Blue Mountain Community College. We have three 45-minute sessions planned and would have groups of about 20 to learn about various facets of the Engineering field.

Anyone interested in participating please call David Krumbein at 541/278-5748. or email at: DKRUMBEIN@Bluecc.edu.

Summary of ASCE Columbia Section Structural Engineering Group Presentation on January 20, 2005, Shilo Inn, Richland

It was a joint meeting with Structural Engineers Association of WA. Mr. Anthony Mizumori of Washington State Department of Transportation was our speaker. He explained in a very lucid manner the entire process of highway system design - from conceptual to final design. He covered design/layout including coordination with the owner, geotechnical engineer, hydraulic engineer, etc.), AASHTO code/design loads, superstructure and substructure designs, traffic barriers, expansion joints, utilities, and many other aspects. It was like having a course on highway design. 20 engineers attended the presentation. Thanks to Jill Shuttleworth, President of Structural Engineers Association of WA, South Central Chapter. And of course, a very special thanks to Mr. Mizumori.

Structural Engineers Association of WA Announcements

Meeting Schedule

Thursday, February 17, 2005: Snow Loads of ASCE 7 and IBC 2003. Speaker: John Tate. Dinner – 6:00 PM, Speaker: 7:00 Pm. El Valle Restaurant, 410 Yakima Valley Hwy, Sunnyside.

March 17, 2005: Design Loads for Water Tanks. Speaker: Jon Dietrich.

For more Info: visit www.seaw.org.

Meetings/Seminars

- **Steel Connections: Seismic Applications 2005.** One-day Seminar. Portland, April 19. The seminar will focus on details and construction of welded and bolted connections incorporating the new AISC Seismic Provisions for 2005. Fee \$195 per person. 0.65 CEU's or 6.5 PDH's. For more details, contact: Steel Structures Technology Center, 248-893-0132, or www.steelstructures.com.
 - **Structural Steel Inspection.** Two-Day Seminar. Portland, April 20 and 21. The seminar will include inspection of structural steel, steel fabrication and erection, welding, bolting, metal decks, steel bar joists and joist girders, shear connectors, and fabrication plant qualification, all as applicable under the building code. Fee \$340 per person. 1.5 CEU's or 15 PDH's. For more details, contact: Steel Structures Technology Center, 248-893-0132, or www.steelstructures.com.
 - **Tunneling in the Pacific Northwest.** Presented by Seattle Section of ASCE, Saturday March 12 at UW in Seattle. Call 253-323-4940.
 - **Steel Design after College.** Presented by AISC, Saturday March 3. One day. Fee \$225 for SEI/ASCE, CASE and SEAW members, Non-members \$325. Call 206-244-4800.
 - **ASCE/SEI 2005 Structures Congress.** April 20-24. New York Hilton. Register early, and save \$100 (by March 15). Earn up to 18.5 PDH's. 90 technical sessions and seminars. More on www.asce.org/conferences/structures2005 or www.seinstitute.org.
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Check Your Knowledge

- **Equal Sign (=):** The equality symbol (=) was first introduced in print in *The Whetstone of Witte* (1557) by Robert Recorde (1510-1558) the man who first introduced algebra into England. He justified the symbol by stating that no two things can be more equal than a pair of parallel line.
- **Infinity Symbol (∞):** It was introduced in *Arithmetica Infinitorum* by the British mathematician John Wallis in 1655.
- **Integration Sign (\int):** Integral symbol was introduced by Gottfried Wilhelm Leibniz at the dawn of Calculus. Leibniz thought of integration as a generalized summation, and he was partial to the name *Calculus Summatorius* for what we now call integral calculus. He eventually settled on the familiar elongated "s" for the sign of integration after discussing with Johann Bernoulli who favored the name *Calculus Integralis* and the symbol "I" for integrals.... Eventually, what prevailed was the symbol of Leibniz with name advocated by Bernoulli.
- **Define the following hydrologic terms:**

◆ Precipitation ◆ Stream Flow ◆ Evaporation ◆ Transpiration ◆ Vadose Zone ◆ Saturated Zone
◆ Attenuation ◆ Dispersion ◆ Permeability ◆ Porosity ◆ Conductivity
