



AHOY! Designing a Volvo Ocean 60 Racing Yacht

The Volvo Ocean Race delighted many local residents when it passed through the area last spring on its course around the world. The ASME Baltimore Section is pleased to give you the opportunity to learn about the Volvo Ocean 60 racing yachts straight from the design team at Farr Yacht Design!

Based in Annapolis, Farr Yacht Design is world-renowned for their skill in designing racing yachts. They were the masterminds behind 6 of the 8 racers in last spring's Volvo Ocean Race, and their creations have won the last five editions of this event. Britton Ward of the FYD design team will share with us the process that they go through to create a winning boat.

FYD uses a number of sophisticated techniques to shape each yacht design to each racing syndicate's specifications. Computational fluid dynamic simulation software is the backbone of the design process, allowing the engineers to explore how every design tweak will affect the flow of water around the hull, keel, and rudder. These simulations were verified and enhanced by tow tank testing of large scale models.

Results from the CFD simulation and tow tank testing were used to evaluate the yacht design in a Velocity Prediction Program. The VPP simulation examined how the yacht design will react to wind forces in a variety of sailing conditions, allowing designers to determine the optimal ballast and sail configuration for each wind condition.

Once the exterior of the yacht has been developed, FYD engineers had to actually design the yacht's structure. The design goal was to create a yacht that could handle all the mast and keel loads that the frame would encounter during the race, while maximizing the responsiveness of the racer's handling. 3-D solid modeling and finite element analysis were used extensively in this phase of the design.

This presentation will be given at the Eastport Yacht Club. Dinner service is available in the club dining room prior to the meeting, or you can join us later for the presentation itself. Do not park in the club lot, as member tags are required. Please use street parking or public lots.



Learn more about Farr Yacht Design at:

<http://www.farrdesign.com/>

Visit the Eastport Yacht Club at:

<http://www.eastportyc.org/>

October General Section Meeting Details

Date: Thursday, October 24, 2002
 Lecture: Designing VO60 Yachts by Farr Yacht Design
 Location: Eastport Yacht Club
 317 First St.
 Annapolis, MD 21043
 (410) 267-9549

Dinner: 6:00 PM
 Presentation: 7:00 PM

| <u>Cost:</u> | <u>Event</u> |
|--------------------|--------------|
| Dinner (Optional) | menu price |
| Members & Family | \$5 |
| Non-member | \$10 |
| Students | free |
| Yacht Club Members | free |

RSVP: By October 21st to Greg Harris. Send checks made out to ASME along with name, phone, company affiliation, and the number of guests attending to Greg Harris, 10 Glencoe Manor Ct., Sparks, MD 21152. Phone: 410-215-9967 E-mail: gcharris@us.ibm.com

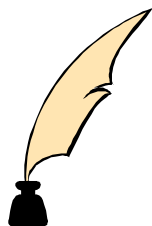
Directions to the October General Section Meeting

Follow I-97 South to US-50 East. Take the MD-70/Rowe Blvd exit (#24) towards Bestgate Road/Annapolis. Bear right at the fork in the ramp, and then stay straight to go onto Rowe Blvd/MD-70 East. After 1.25 miles, make a slight left onto Northwest St. Enter traffic circle and take 4th exit onto Duke of Gloucester St. At T-intersection, turn right onto Compromise St./6th St. Cross bridge and turn left onto Severn Ave. At the end of the road turn left onto 1st St. and enter the yacht club.

Chairman's Corner

By

Michael D. White



Are Engineers to Blame for the Latest Voting Mess?

This year's mid-term elections have once again thrust voting technology into the news, with difficulties relating to the use of new touch-screen voting machines in the primaries arising both locally and nationally. Despite the use of state-of-the-art gadgets, Montgomery County's vote counting lasted into the wee hours of the night, and the state of Florida is again a frequent punch line on late-night TV monologues. Is this the fault of the engineers who developed the new polling equipment?

Certainly, the new voting technology is more complex than the hanging-chad punchcards and Scantron systems of years past. Both of these systems have plenty of technical issues reducing their accuracy, as was clearly demonstrated two years ago. A lot of time and money has been put forth since the 2000 election to improve the voting process, resulting in the new touch-screen machines. Yet election problems persist, causing some to blame the developers of the new voting machines. My belief is that the problems lay not in the new voting technology, but with the larger election process itself.

From the media accounts I've seen of the troubled primary elections, there aren't any indications that the new machines failed to record votes or deliver them back for tallying. Most people surveyed reported no difficulties with actually using the machines, regardless of their level of computer literacy. Nearly all the problems with the touch-screen machines appear related to the logistics of conducting the election, and not the actual vote-gathering done using the new equipment. The basic problems seem to be a significant lack of fully skilled and trained poll workers, inadequate time and personnel allocated to setting up the voting booths, and insufficient equipment resources available during the vote tallying. While some of these issues can be minimized with technical changes to the equipment, that does not indicate that the technology itself is flawed, and the fact that these problems occurred at all is due to poor project management.

The fundamental mistake that seems to have been made in numerous jurisdictions is that efforts were taken to improve only the *voting* process, not the overall *election* process. With all the publicity surrounding disenfranchised voters in Florida whose ballots were not counted because of flawed punchcards, it's easy to understand why the public pressured politicians everywhere to improve voting methods. Unfortunately, many of the leaders nationwide charged with making voting improvements dropped the ball by listening only to what the citizens said, and not what they meant. While vote-casting is the most visible part of the process and probably the only step that most people ever consider, the entire election system has to work together for the results to be fair, accurate, and timely. All the different steps that make up the overall election process are intertwined, and changes in one stage will affect the others.

By significantly modifying a major sub-process without examining its effect on the whole system, new troubles were unintentionally created when the improved vote-casting step was inserted into the old election process. Such difficulties should have been foreseen.

The election process is similar in form to numerous types of business process. The process steps of voter certification, vote casting, vote tallying, and centralized reporting are all fairly straightforward, with a set of fairly limited and mostly predictable problems that can occur in each step. If the election had been treated like a complex manufacturing process and a detailed examination had been made of the entire election process during the planning stages, most of the problems that occurred would have been foreseen and avoided. Tools like process flowcharts, cause & effect diagrams, and failure mode & effect analysis (FMEA) would have been useful to the development team, just as they are to engineers.

So are engineers to blame for the primary election mess? Hardly. But the engineers behind the new equipment aren't completely off the hook, because they either failed to realize the impact it would have on the rest of the election process, or were unable to adequately convey these concerns to the project management. And fewer problems would have been seen if the entire election process had been examined with the degree of discipline and rigor that are usually seen in engineering projects, so maybe all engineers are a bit at fault for not being more involved in the workings of our democracy.

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Diversity Action Grants

The Diversity Action Grants program provides funding to ASME Student Sections to sponsor projects designed to increase the participation of women and under-represented minority groups in ASME Student Section activities and in the mechanical engineering community.

Projects should be collaborative partnerships with other minority and women's engineering societies on campus, e.g., NBSE, SHPE, SWE. Examples of activities funded by the Diversity Action Grant Program may be found at <http://www.asme.org/bmw/DAGsuccessfulprojects.html>.

For more information, as well as a grant application, go to www.asme.org/bmw/dag/html.

Pre-College Mini-Grants

The Pre-College Mini-Grants Program provides funding to ASME Student Sections, as well as to ASME Senior Sections, to conduct projects and programs that support pre-college (K-12) science, math, engineering and technology education.

Projects should be collaborative partnerships with science, mathematics and technology teachers and focus on implementing activities that directly support those disciplines. Examples of activities funded by the Pre-College Mini-Grant Program include the development of engineer-led workshops for teachers to sponsorship of a local "Engineering Day."

For more information, as well as a grant application, log onto: <http://www.asme.org/education/precollege/minigrants>.

ADVERTISE!

Is your company looking for an inexpensive method to reach out to over 1400 local engineers, while also helping promote the profession? Then you've come to the right place!

The Baltimore Section accepts advertising in the monthly newsletter as a way to defray some of the printing and mailing costs. This helps the section stretch its thin newsletter budget a little farther, while providing your business with direct access to engineers at the most highly respected firms in central Maryland.

This newsletter is sent directly to over 1400 mechanical engineers in the Baltimore metropolitan region each month. Additionally, many of these newsletters are posted on bulletin boards at of the companies that employ these talented folks, so your ad will reach untold thousands of local technical personnel.

SPECIAL BONUS - In addition to the newsletter, your ad will be posted on the newsletter page of our web site at <http://www.asme.org/sections/baltimore> for the month. This extra location will expose your company to an even larger audience!

Rates are at \$100 for 1/8 page, \$175 for 1/4 page, \$250 for 1/2 page, and \$400 for a full page. Contact Newsletter Editor Aaron Spak at Aaron_J_Spak@mail.northgrum.com for details.

Member-Get-A-Member!

Recruit a new member and 50% of their first year dues will fund scholarships.

Thanks to our 2001-2002 campaign sponsors - ten (10) ASME student members were awarded an ASME Foundation scholarship. Get started today... support the 2002-2003 Member-Get-A-Member Campaign now through June 30, 2003.

www.asme.org/membershipdrive

2002 ASME INTERNATIONAL MECHANICAL ENGINEERING CONGRESS & EXPOSITION

Nov. 17-22, 2002
New Orleans, Louisiana



Mark Your Calendar,
Bookmark www.asme.org/conf/congress02

Search the program database in the coming months for sessions, events and papers that best meet your needs.



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Visit us on the Internet at
<http://www.asme.org/sections/baltimore/index.html>

2002-2003 ASME Baltimore Section Program Schedule

The program schedule for the year is still being firmed up and we don't yet have confirmations from all our hosts, but here are the scheduled meeting dates.

| | |
|----------------|---|
| Oct 24, 2002 | Farr Yacht Design presentation on Volvo Ocean 60 racers |
| Nov 14, 2002 | Tour TBD |
| Dec 12, 2002 | TV station tour |
| Jan 16, 2003 | Presentation TBD |
| Feb 20, 2003 | TBD |
| March 13, 2003 | Christie Lecture, JHU |
| April 17, 2003 | Honors and Awards, ESB |
| May 15, 2003 | Tour TBD |

Executive Committee Meetings

All members are welcome and encouraged to attend the Executive Committee meetings, usually held on the first Monday of each month at UMBC.

- Monday, **October 7th** at 7:00 pm
- Monday, **November 4th** at 7:00pm

Meetings will be held in the Engineering & Computer Science Building, UMBC, in the 3rd Floor Engineering Conference Room. Call Section Secretary Tom Spangenberg at (410) 363-4400 x155 for details.

Directions To UMBC: *Note – Parking costs \$.50, quarters only*

Take I-95 to exit 47, which is I-195/MD Rt. 166. Follow the signs to UMBC, which will lead you to bear right. Once on the campus, turn left at the stop sign onto Hilltop Circle. Turn right at the stoplight, and continue going straight until you reach the faculty parking lot. Pay \$.50 and park anywhere in the lot. The Engineering & Computer Science building is the rightmost building bordering the parking lot. ❖