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SIGNAL**

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May 2004

USF IEEE Computer Society Student Chapter Wins 2003 Outstanding Student Chapter Award

The endeavors of IEEE-Computer Society's student chapter at USF were well acknowledged by the Headquarters when they were selected as the Co-Winner for the 2003 Outstanding Chapter Award (OCA). The OCA is an honor presented once a year to a Student Branch Chapter that have provided their membership with the best overall set of programs and activities, both technical and Social. Successful membership advancement and enlistment of new CS Members are other important decision criteria. The chapter has been doing some really exemplary work in all of these areas for last few years. The chapter has received a framed Certificate of Achievement and a Distinguished Visitor Program (DVP) visit. The present and past executive committees and student members of the organization have contributed significantly towards the achievement. The credit for the success also goes to Dr. Srinivas Katkooori, who has been the Faculty Advisor of the chapter for last 6 years and has been the real strength of the organization. For latest activities of the chapter visit <http://www.csee.usf.edu/ieee-cs>

Attention!! Attention!! Attention!!

PES Surge Protective Devices meeting

Location: Trade Winds Beach Resort Hotel, St. Pete Beach, FL

Meeting Dates: Monday, 10th May to Friday, 13th May 2004

Online details of the SPDC groups:

<https://www.ieeecommunities.org/power?go=z956238>

SPDC discussions at:

<https://www.ieeecommunities.org/power?go=z956255>

Don't Forget!!

IEEE FWCS Executive Committee meets

on Tuesday, 11th May 2004 at 5:30pm

TECO Hall, Tampa Downtown

All Members are welcome!!

Dinner Provided!!

Reserve Today Online at:

www.weiquality.com/fwcs-meetings



Joint Meeting IEEE Computer Society and Programmable Logic User Group

Digital Hardware Design: Overview of High-level Verification Languages



Abstract: An overview of high-level verification languages, such as Verisity's Specman Elite, Synopsys' Vera, and System Verilog will be presented. Focus will be on the three keys to advanced verification: directed, random stimulus, self-checking tests, and functional coverage. Additional information will be given on migrating from traditional HDL-based, directed test bench to HVLs, as well as the benefits and costs of this new methodology. This is an open meeting. Non members and students are welcome.

Speaker: Chris Macionski,

Bright Eyes Consulting

Date: Thursday, 13th May 2004

Time: 6:00PM

Location: TBA

Contact: j.killingsworth@ieee.org

Online Reservations:

<http://www.weiquality.com/fwcs-meetings/>

Biography: Chris Macionski is the President of Bright Eyes Consulting, a consulting company focused on advanced verification techniques. Prior to Bright Eyes, Chris was a Principal Engineer with Qualis Design and a Sr. Consulting Engineer with Cadence Design. He graduated with a BSEE degree from Michigan Technological University.

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Chair's Comments

By John Conrad

I have just returned from a very successful Wireless & Microwave Technology Conference at the Sand Key Marriott Suites in Clearwater Beach. I was very impressed by the positive comments I received from many of the 100+ participants. The technical papers were very well received, the sponsors/exhibitors thought it was a very worthwhile event, and the hotel did an excellent job of hosting the conference. Moving the event from the USF campus to a beach location was a risk, but it paid off. This is no longer a local conference. There is tremendous interest throughout the country and overseas. I have no doubt that the conference will continue to grow each year as it's reputation spreads.

As Section Chair, I was particularly interested as it was being transformed from the "old" one-day WAMI Forum at USF to a "new" IEEE, **annual**, technical conference jointly sponsored by the MTT Society and the Florida West Coast Section. The WAMI Research Group at USF, and the student branch, will continue to play a central role, but our Section will handle the administration of the 2005 conference (and subsequent years).

Larry Dunleavy and the rest of the WAMI Research group should be very proud of creating this prestigious event. We are fortunate to have the opportunity to take on an event that will strengthen the Section for many years to come.

I would like to thank everyone involved for all their hard work. Larry Dunleavy assembled an excellent host committee and it was great fun to work with these enthusiastic and talented colleagues.

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Students' Corner

IEEE Student Branch, USF

As we head into the summer, please keep checking with the listserve and the Suncoast Signal for upcoming events; tours and a summer BBQ are currently being planned. Join the listserve: <http://mailman.acomp.usf.edu/mailman/listinfo/ieee>
We would also like to congratulate the new Student Branch Officers for the 2004-2005 academic year.

President – Kristy Baksh
Vice-President – Joshua Schumacher
Treasurer – Jeremy Huffman
Secretary – Kirsten Hingtgen
S.P.A.C. Chair – Carlo Dionson
EXPO Chair – Nikhil Srinivas
Fundraising Chair – Ahmed El-Geioushi
Senior Banquet Chair – Joel Titus

Brain Teaser Challenge Column

By Butch Shadwell

April BTC At the time I am writing this, I haven't received any answers to the last BTC. As you recall, I was reminiscing about some robotics work I did in England years ago, which brought me to this problem; "Henry ... pneumatically actuated ... joints were operated by air pistons. The elbow used a 1" cylinder to move his forelimb out and in again. This cylinder had a ¼" piston rod. Henry's arm extended just fine but would hesitate while retracting. The arm retraction was powered by the cylinder's retraction motion, as opposed to the extension motion. With a 90 pound air supply, how much force was the cylinder applying to the retraction function?"

A lot of folks don't know that all piston actuators do not supply the same force in both directions, even with the same fluid supply pressure. First the force generated for extending the piston comes from the entire piston surface, in this case 0.785 sq. in. This results in an extension force of 70.7 lbs. When the fluid is forced into the retraction side of the cylinder, the piston area is reduced by the cross sectional area of the piston shaft. The piston size is effectively reduced by this amount at the point of attachment. So the effective piston size in this direction is 0.735 sq. in., resulting in only 66.2 lbs. of force in this direction, a 6.4% reduction. But I bet you already knew that.

May BTC Have you ever wondered about the true origin of mermaids? I know what you're thinking, mermaids – right, another one of Butch's ridiculous premises for a technical problem. As it turns out, mermaids are real. I'm talking about beings that are female human at the top end and fishy below the waste. A few years back I used to navigate on ocean racing yachts. On one practice cruise I kind of messed up, and we got lost. Fortunately, after we had been out of drinking water for a whole day, we came upon a small atoll somewhere in the Bermuda polygon.

It was a godsend. There was fresh water there and a few fruit bearing trees. We were saved...or were we? A number of the crew had been trying in vain to catch some fish. The fruit was nice but we needed more protein. On the third night, we were startled by some splashing at the waters edge. When we arrived to see what was responsible, we found three red fish lying neatly in a row on the beach.

We assume these were left by a mermaid. Whether we were right or not didn't matter, believing in her gave us the will to live. We also had the will to listen to the radio. After a storm we found a transistor radio kit washed up on shore. The schematic was there but we couldn't recall the IF amplifier frequency for an AM band super heterodyne receiver. What is the beat frequency that is amplified in the most common form of kind of this radio receiver?

Reply to Butch Shadwell at b.shadwell@ieee.org (email), 904-223-4510 (fax), 904-223-4465 (v), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. (<http://www.shadtechserv.com>) The names of correct respondents may be mentioned in the solution.



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Three FWCS Members Elevated to IEEE Senior Member Status

Congratulations to the following IEEE members who were elevated to Senior Membership at the April 2004 committee meeting: **Raymond G. Hentschel, Barbara B. Kobzik, and Dragan D. Tabakovic**. If there are any IEEE members that have more than 10 years experience and would be interested in Senior Membership in IEEE, please send an email to tom_blair@ieee.org and we will help you with the process.

May 2004 Calendar of Events

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--|---|--|--|---|--------|----------|
| 30 | 31 | | | | | 1 |
| <i>2 I&CPS Conf., opens Sheraton, Sandkey Clearwater</i> | <i>3 I&CPS Conf: Committee Mtgs., S&C Seminar</i> | <i>4 I&CPS Conf: Technical Presentations</i> | <i>5 I&CPS Conf: Technical Presentations</i> | <i>6 I&CPS Conf: PQ & Relay Seminars</i> | 7 | 8 |
| 9 | <i>10 PES Surge Protective Devices Meeting, St. Pete</i> | <i>11 PES Surge Protective Devices Meeting, St. Pete 5:30pm IEEE FWCS Excom Mtg, TECO Hall</i> | <i>12 PES Surge Protective Devices Meeting, St. Pete</i> | <i>13 PES Surge Protective Devices Meeting, St. Pete. 6PM Jt. IEEECS and PLUG Mtg</i> | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |

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Sections Congress 2005 is coming to Tampa!

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