

The Huntsville Times

SUNDAY JULY 8, 2007

FOOTBALL RANKINGS ATOMIC SCIENCE FOR HUNTSVILLE DUO

by John Pruett - Sports Editor



JOHN PRUETT

One computer whiz from Huntsville is already part of college football's Bowl Championship Series rankings system.

Two more would like to be.

All they need is an invitation.

"Paul and I are just hoping to hear the phone ring some day," says Jim Ashburn. "If it happens, great. If it doesn't, we're still going to have a lot of fun with our favorite hobby."

Ashburn and Paul Colvert, longtime friends and associates at Westar Aerospace in Research Park, are the creators of the Atomic Football Rankings (www.atomicfootball.com), formerly known as the Ashburn-Colvert College Football Rankings.

One of their inspirations is Wes Colley, a research scientist at the University of Alabama in Huntsville.

Colley has a degree in astronomy and physics from Virginia and a doctorate in astrophysical sciences from Princeton, in addition to

postdoctoral studies at Harvard and MIT. He also happens to be a passionate fan of big-time college football.

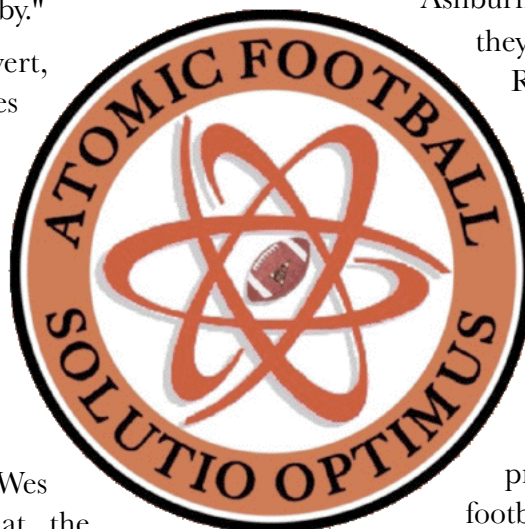
Ashburn and Colvert are every bit as enthusiastic in their love of the game, and their academic credentials are dazzling in their own right.

A UAH graduate with a Ph.D in physics, Ashburn has been widely honored nationally and internationally for his discoveries in superconductivity and microgravity-processed materials. Colvert, a software engineer, is a graduate of Central Arkansas, where he majored in physics and minored in mathematics. He and

Ashburn met in the early 1990s when they worked together at Nichols Research Corp.

Ashburn and his wife Greta have five children, including triplets. Paul and Jeanette Colvert live in Madison with their two young daughters.

Ashburn and Colvert were already toying with the notion of putting together a computer program for ranking college football teams as early as the mid-'90s, about the same time Colley was formulating what's now called the Colley Matrix during his time at Princeton.



One day in the spring of 2001, Colley got a phone call out of the blue from then-Southeastern Conference commissioner Roy Kramer, who was in charge of the new BCS, which was designed to ensure that the two best teams in NCAA Division I-A would meet each year in the national championship game.

Kramer wanted permission to use the Colley Matrix for the BCS rankings.

Colley has been on board ever since. Under the current BCS system, the teams are ranked through the Harris Poll, the USA Today-Coaches Poll and six computer rankings: Colley, Jeff Sagarin, Anderson & Hester, Richard Billingsley, Ken Massey and Dr. Peter Wolfe.

If anybody ever drops out for whatever reason, or if the BCS would like to add another computer voice to the rankings someday, Ashburn and Colvert are ready to raise their hands.

"We think we have as good a program as anybody else," Ashburn said. "It's at least on a par with the best, and in our 'unbiased' opinion, it's the best."

"We don't have any agendas," Colvert said, "and we don't have any secret formulas. The algorithm we use is out there for everybody to see. That's because we didn't want anybody to call into question the integrity of what we're doing."

"For both of us, this is just a hobby," Ashburn said. "We're not trying to make money. We're pretty enthused about football and what we're doing, but this is still a sideline. We've both got our day jobs."

Eliminating a knob

Webster's Dictionary describes algorithm as "any systematic method of solving a certain kind of program," or "a predetermined set of instructions for solving a specific problem in a limited number of steps."

"Ours is a pretty simple algorithm which uses, for mathematicians, easily understood formulas,"

Ashburn said. For laymen, it may not appear quite that elementary. The Ashburn-Colvert algorithm covers over 20 pages from start to finish.

The Atomic Football partners readily acknowledge they began by using the same formula as Wes Colley when they started their project in 2000. "It was a great formula," Ashburn said, "but it had a knob, a number that didn't quite fit, so we didn't feel it was completely objective."

Ashburn said he managed to "eliminate the knob" in 2005, and now he and Colvert are beginning their third year using what they call the "AF Hybrid."

After the 2006 season and the bowl game, Ashburn and Colvert decided to see how their system stacked up against other raters. "Our rankings are purely retrodictive, meaning they're designed to match past games more than predict future games," Ashburn noted. "But we still wanted to see how well they performed in predicting winners in the (I-AA, Division II and III and NAIA) playoffs and the bowl games."

Their data showed the AF Hybrid rankings tied or beat the official polls in all five divisions. "Our rankings are intended to measure teams' average performances over the course of a season," Ashburn said. "But our predictive capabilities, it turns out, are still on par with the voting polls."

It's interesting to note that Ashburn and Colvert disagree with Wes Colley on the never-ending controversy about whether college football needs a Division I-A playoff along the lines of Divisions I-AA, II, III and NAIA. Colley is opposed, arguing: "(Division I-A) football is the only sport where more than one team wins its last game. There's something to be said for that."

Although he rejects the notion of a 16-team playoff or even an eight-team playoff, Colley

wouldn't stand in the way of a "plus-one" plan after all the bowls are played.

Ashburn and Colvert, however, are not unlike many other rabid college fans. They're gung-ho for a I-A playoff - and a 16-team playoff at that.

"We're both hugely in favor of a playoff," Ashburn said. "The BCS is probably the best way to match up the two best teams in the country at the end of the season. But it's not nearly as much fun as a 16-team playoff, using the bowls, would be."

Hail to the Gators

In an interview over the weekend, Ashburn and Colvert were asked how their Atomic Football system would have worked last year if a 16-team playoff had been in place.

Even though their AF Hybrid is based on what actually happened rather than what might happen, they agreed to put together a spreadsheet from their software to create a simulation of the hypothetical playoff.

They included the results of the bowl games, including Florida's smashing upset victory over previously undefeated Ohio State in the BCS championship game, although the playoff pairings came from their December rankings, after the end of the 2006 regular season.

In those final regular-season rankings, Ohio State was ranked No. 1, followed by Michigan (2), USC (3), Florida (4), Louisville (5), California (6), LSU (7), Notre Dame (8), Boise State (9), Auburn (10), Wisconsin (11), Arkansas (12), Tennessee (13), Oregon State (14), Oklahoma (15) and Rutgers (16).

Thus, the pairings for the first round of a 16-team playoff would have been: Ohio State vs. Rutgers (No. 1 vs. No. 16), Michigan vs. Oklahoma, USC vs. Oregon State, Florida vs. Tennessee, Louisville vs. Arkansas, Cal vs. Wisconsin, LSU vs. Auburn and Notre Dame vs. Boise.

Based on 1,000 Ashburn-Colvert simulations of the data, Florida would have won the national championship 22.2 percent of the time, followed by USC (18.7), Ohio State (10.1), Louisville and Michigan (8.2), LSU (7.4), Boise State (6.4), Cal (5.1), Auburn (4.2), Wisconsin (2.9), Rutgers (1.7), Notre Dame (1.6), Oklahoma, Oregon State and Tennessee (0.9) and Arkansas (0.6).

"It's fun to play the what-if game," said Jim Ashburn. "But, of course, what makes college football so different, and so difficult to rank, is the fact that teams don't play a lot of games. Eleven, 12 or 13 games. That's about it. It's not like baseball, where you have a 162-game schedule.

"But what makes football so fascinating is the unpredictability. Take the SEC last year. Auburn beats Florida. Florida beats Georgia. Georgia beats Auburn. So how do you know? How can you tell? About 15 to 20 percent of the time, the team that clearly should win doesn't.

"That's the nature of the beast. College football is a game of upsets, and nobody knows that better than those of us in the ranking business."

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