

## CLOSING REMARKS

**JOE WHITE (U.S. Naval Research Laboratory):** First of all, I would like to thank all the chairmen of the Working Groups. I think that worked out really nicely. We had good participation. Obviously, they did a lot of preparation before and follow-up afterwards. I want to thank all of you for participating.

So, this is the end. For those of you who have to catch airplanes, we are about ready to go. We talked about the Working Groups a fair amount. They were very well attended, a lot of people. Some fairly nice discussions.

I was also really pleased this year that we had some good, high-level input from the Department of Defense. I think we got a better feel for what the official thinking is there and where they think they are going.

This is my list of the things I really liked and I realized as I was writing it that I liked everything. So I stopped after a while. But there were some nice things there.

The chip-scale clock work, as I said when I was talking about that earlier, was very nice. A lot of real things of promise there.

Probably the presentation I got the most comments about though was the amateur timekeeping thing. That is just truly amazing. I think that was really wonderful to see.

We did something different this year with the national labs. Normally, what they'll do is present a whole 20-minute paper. This year we decided what we would do instead, as you saw, was to let them present a short presentation and then follow up with a poster session, where they could talk to you individually, what they've done, what they wanted to do, where things are going at their laboratories.

We had a nice session on algorithms and methods. Don Percival, if you are still here, thank you very much.

The future of UTC comes up again and again. As I say, there were a lot of things that got done here.

This was a great year for exhibits for us. You may have noticed more exhibitors than usual in there. It is true that we had more exhibits in there, new people, some nice new products. I was real pleased to see that. One of the reasons I like to see it is because the fees that the exhibitors pay to do the exhibit in here goes into the meetings. That allows us to give you lunches, things like that. Everybody comes out ahead on that.

What's coming up? PTTI 2004 is back on the East Coast next year, Hyatt Regency. Notice the date. It's not the week after Thanksgiving next year. So those of you who were in the airports on Saturday, Sunday, and Monday in those big lines, it should be easier for the next time.

PTTI 2005: This is a very special meeting. We are going to try a joint meeting together with the IEEE Frequency Control Symposium. The idea behind the joint meeting is to kind of expose the groups to each other. A lot of people say: Well, gee, don't the same group of people go to both those meetings? And the answer is: no, they don't. I believe it is somewhere about a 20% overlap between the two meetings. We are hoping to be able to let some of you see some of the things there, particularly the physics kind of work in these atomic clocks. Also, let their attendees see what's going on here, the GPS work, the calibration work, the algorithms, military systems. That will be held in Vancouver, British Columbia, a new venue for all of us. The time frame, we're going to split the difference between the normal PTTI time, early December, and the normal FCS time, around Memorial Day. We will be pretty close to Labor Day in August of 2005. Mike Garvey, you can come on up and put your slide up.

**MIKE GARVEY (Symmetricom):** There are a number of people who know about or attend the Frequency Control Symposium and I just wanted to take this opportunity to let everybody know next year will be in the context of joint meetings representing the 50<sup>th</sup> anniversary of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFCS). Again, splitting the difference between a lot of meetings, we are going to meet in Montreal in the third week of August. I just wanted to make you aware of the abstract deadline is sort of towards the end of February. The URL there should get you all the information that you need for abstracts, submittals, registration, hotel information, etc. A lot of that stuff is evolving almost weekly. So if what you are looking for is not there, give it a week and it likely will be. I hope you will all think about coming to that meeting. I want to thank the conference organizers for this opportunity.

**WHITE:** Thank you, Mike.

I do have one more announcement that Lee Breakiron gave me. The good news is that we've been getting better about getting the CD Proceedings out on time. Our first year, we were kind of slow and we improved a bit. We did better last year. The bad news is that because the CDs have become popular, the cost of printing the paper copies has gone up dramatically because we are making so few of them. The other thing that shows up there too is that when we do the CDs, all these nice color slides you saw, in the Proceedings, the papers are in color as well. When we do a paper printing of the Proceedings, the color is getting just too expensive to do for us. We are getting very close to phasing out the paper Proceedings. Depending on exactly how many requests we have this year, how much demand, and what our final costs are, we may not be able to do paper Proceedings this year. If that happens, those of you who signed up for the paper Proceedings will receive your refund, obviously. Our sincere apology for that. Our paper Proceedings seem to be going the way of the Dodo bird.

Credits cards: no, we did not do them this year and, no, we are not going to do it next year, because we can not figure out how to do credit cards for one week a year. But, for 2005, when we go with IEEE, they have a way to do it. So we will actually get that right.

I would like comments from you all on the workshops. Most of you were there. How did you like them? Was it worth while to go to? Did you have fun? Clark did. How about the time length on them? Too long, too short, about right?

**AUDIENCE:** Way too short.

**White:** Way too short. So you need a break and then a longer period?

**AUDIENCE:** Depends on the topic, of course. Certainly for some groups it was too short.

**WHITE:** Another comment over here?

**Tom Clark (Syntomics):** I was going to suggest that you make it longer. Perhaps make it longer on two successive days, so people can raise issues during the first time and discuss them on the next day.

**WHITE:** That's a nice idea. I noticed a lot of these discussions went on long after the workshops were over. People were standing around the meeting rooms, they were standing around the halls still arguing the same point. That's an interesting idea. We can come back a second time and might be able to fill some blanks there. Other comments on that?

**MARC WEISS (National Institute of Standards and Technology):** I think "Future PTTI Needs" is a good workshop in general. Though it might be productive to take a narrow focus and pick some future PTTI

issue that the group has expertise on and think more deeply about one issue, rather than try to cover a broad range rapidly.

**WHITE:** Yes. There was a lot of area covered there. I think that was their intent for this time. But you're right, it can be focused in future times, either in multiple workshops or maybe once-a-year or some interval like that. Other comments on the workshops?

Alright. What did we do right? Well, we got a number of things right this year. I think I am holding the biggest problem we had. The best laid plans of mice and men. For those of you who remember previous years on things with PowerPoint slides, we had a computer that sat up here. The first year, we just had the keyboard up here and people couldn't do the up and down arrows. Generally, someone would hit the wrong key and you would end up looking at a PowerPoint work screen up there and mouse. It was awful.

We tried another year by covering up most of the keyboard and leaving just the two up and down keys. Most of us got the up and down keys confused. So that didn't work real well either. Harold found this, which on the surface seems like a really great idea. It's RF, so it really doesn't matter which way you point it or anything else. We think it's 2.4 GHz. You can go forward, go backward, turn off the slide, and it's got a laser pointer in it. What more could you want? Well, what more you could want is for it to work all the time. We are going to work on it for next year. I would like to save the idea and I think we will find a way to make it work better. I saw a lot of nice ballet dancing up here.

What are your concerns, your comments? What did you like? What didn't you like? Everybody's happy? I'm happy. How about the hotel? Sheila usually does well and I think she did it again. It's a nice location.

My last question in that regard is where would you like to see future meetings held. Typically, on the East Coast we do Washington. But on the West Coast, we move around a lot. Vancouver will be 2005. Are there other places West Coast, Midwest, wherever that you all would like to see the meeting held, that you think would be productive for us?

**AUDIENCE:** San Francisco.

**WHITE:** San Francisco. Yes, that would be a nice place. We have talked about that.

**AUDIENCE:** Boulder.

**WHITE:** Boulder. Okay.

**AUDIENCE:** Colorado Springs.

**WHITE:** Colorado Springs. That's kind of the same place, isn't it?

**AUDIENCE:** The Broadmore.

**WHITE:** You want to go to the Broadmore. Okay. The Antlers.

Any other places you want to go? Any places you don't want to go? We talked about going to Albuquerque. Anybody want to go to Albuquerque? No? Anybody not want to go to Albuquerque?

**AUDIENCE:** Miami.

**WHITE:** Miami. You know it is snowing in Washington, or it's about to. Rachael had the thing up on the computer a while ago. The snow is moving up the East Coast. Those of us going home tomorrow and Saturday will have an interesting trip, I suspect.

I heard Hawaii. I like that. I don't know that we will get to Hawaii. I think that's going to be a strain on everybody's budget. But it's a good idea.

Anything else as far as things you would like to say? Comments you would just like to make about things that have been bugging you all week? No?

In that case, it is time to role the credits. This is just a few of the people that have helped us out this year. It is really a large group. Particularly, I would like to thank the folks that helped us do the tutorials. They haven't got a lot of recognition during the meeting. They do this as volunteers. They do an excellent job of it. So I am really pleased that we are able to have them.

Lara was our program chairman this year. Next year is Ken Senior. Ken, where are you? Hiding back there. So if you have ideas for next year, if you would like to volunteer to help, chase him down. He would be happy to have help.

Sheila, of course, as usual, I think we need a round of applause for Sheila. Probably, two or three more are appropriate. Sheila is the one that makes a lot of this stuff to work. She gets the hotel, she picks the places, those nice lunches and dinners you had, the door prizes, that's all Sheila. We just turn her loose and it happens.

Audio/visual: A lot of people don't realize how much work that is. But trust me, it is a lot of work. If you have watched Paul and Harold up here in the corner, they're busy all the time.

And, finally, of course, Nikki and all her staff at the registration desk.

They are all the people that make it work.

Having said that, thank you all very much for attending, for presenting. We'll see you all next year in Washington.