

DISTINGUISHED PTTI SERVICE AWARD

**Presented to
S. Clark Wardrip
NASA/Goddard Space Flight Center (Ret.)**

**by
Dr. Joseph D. White
U.S. Naval Research Laboratory**

JOE WHITE: Good morning. It is really nice to see a crowd like this at the meeting, particularly this early on a Tuesday morning. So thank you all very much for being here.

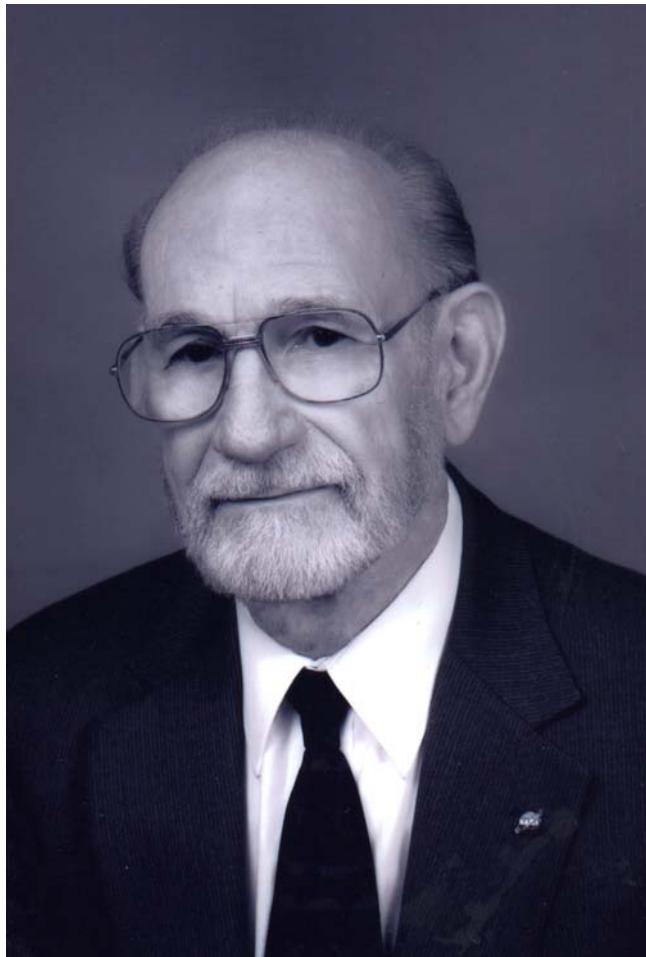
The next item on the agenda is the presentation of the Distinguished PTTI Service Award. That is one of the nice things I get to do just about every year: recognize someone in the community who we think has made a contribution to the field.

The way we decide the award is actually over a broad range of things. Sometimes it is a distinguished scientist, sometimes a person who has been involved in making things happen; all sorts of possibilities.

This year, I am very happy to announce our winner is going to be Clark Wardrip. I talked to Clark awhile back. Clark is head of the Advisory Board Committee, among other things, and one of the things that the Advisory Board does is usually pay the expenses of the awardee so that they do not have to pay their own way to the meeting. He called me up and said, "Have you decided who the awardee is going to be? I would like to send him a check." And I said, "Clark, send yourself the check and come on and show up at the meeting." I also said, "Clark, you know one of the things traditionally here is that I will stand up here and list all your accomplishments, and I have only known you 30 years or so. You have been in the business a lot longer than that, and if you don't send me something, I will just talk to people and have them tell me what you did." And he said, "No, no, please don't do that." I mentioned Jim Buisson's name – and it is not polite to roast your awardee anyway, I don't think.

Clark sent me a few notes here, I have about five pages, I think. I will try to hit the highlights. Clark started his professional career at NRL – actually, I think he started as a student while he was at Maryland. He stayed at NRL for about 10 years. He worked on things like CIC facilities, satellite tracking systems, radar tracking and display systems, and the Naval Space Surveillance System. For his work at NRL, he received, with others, a Group Achievement Award and a Navy commendation.

He decided to leave NRL and went to Goddard; I never understood why, but anyway he went. There he did a lot of the same kinds of things: He got involved with satellite command decoders, satellite control centers, and then finally he got into time synchronization. Goddard had worldwide tracking stations; they needed to have all these links on time. One of the things he did was evaluate the use of various time transfer techniques. He evaluated the use of dual VLF frequency transmissions, VLF phase tracking, the use of Omega and Loran-C navigation systems, and the use of satellites. Then he got into portable clocks. So he has been to all sorts of places carrying clocks around the world.



After that, while he was at NASA, one of the things that we at NRL really liked that he did, was the funding of the development of Navigational Technology Satellite (NTS) receivers. These were the NTS satellites, the forerunners of GPS, at least from the Navy side, that could do time transfer through satellites. The NTS was during the very early days, the first time anybody did time transfer via satellite. Clark was actually the sponsor for that work at NRL. And, of course, these were the precursors to GPS, so this had a lot of effect on things as time went on.

He also got involved in the design and development of hydrogen masers while he was at NASA-Goddard. The other thing he did that I think still has a lot of effect on the timing community was as the NASA representative to the DoD Telecommunications and Timing Group of the Range Commanders Council. One of the main things Clark did while he was involved in that group was the design of IRIG codes. He designed many of the NASA IRIG timing codes and he is still involved in this effort to this day.

The one other thing that Clark did when he was at NASA that I think is particularly significant to this group was that Clark, Gernot Winkler, Nick Acrivos, and Commander Barry Atwood from the Observatory organized the very first PTTI Meeting. So Clark is one of the founding fathers of this group. That is certainly one of the things that we are most indebted to you for, Clark.

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He was actually the Chairman of the Executive Committee for 12 years, and then he retired from NASA. Since then, as I mentioned earlier, he has been the Advisory Board Chairman, and that has been for 20 years or so now.

He retired from NASA but, of course, you know Clark, that did not mean he stopped working. So at that point he went to work for Bendix Field Engineering and was actually transferred out to Vandenberg, where he helped manage the installation of the Space Shuttle's ground support equipment and other things.

He has been the author of at least 30 papers, mainly on timing. He has received several scientific awards and the NASA Exceptional Performance Award. Most of all, we are thankful that he continues to participate in the whole process. I think Clark's biggest contribution to this meeting currently is being our organizational conscience. When we start talking about doing new things, Clark digs back to his notes and says, "What would Captain So-and-So have said about this?" And then he tells us.

At any rate, we are very honored to make Clark our awardee this year. Clark, please come up.

CLARK WARDRIP: Well, thank you, Joe, and also the panel for selecting me for this award. It really is a great honor. Looking back over the 34 years, there have been a number of people who have given many hours of their time, effort, and energy to organize these meetings each year. It is on behalf of these people that I accept this award. Thank you very much.

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