

## **Comments on Dave Cline's career and conferences from a science administrator perspective: Jim Kolonko presenter**

The program says that I should comment on Dave's career and conferences from a science administrator perspective. So, that's what I am going to do. I am going to tell you a little bit about Dave, tell you a little bit about his research activities (not in detail - I will let others that follow me do this), tell you titles of conference/workshops he organized, tell you what I consider his peculiar work habits, and then end by telling you some of the lighter moments I shared with him and observed of him. I hope I don't offend anyone in the audience with my remarks.

I worked with Dave for almost 50 years --- 20 some years at the Univ. of Wis.-Madison and 28 years here at UCLA. Our relationship over these years was good, even though there were occasions -- although infrequent --- where we had verbal exchanges that I am not proud of. He could be an unreasonable unrelenting bear at times.

Dave had enormous energy and an unquenchable passion for physics. He was the idea guy. A visionary. He had the inherit ability to identify new scientific investigations and then pursue with passion the start-up of these investigations. It was hard for him to turn down an invitation to join a collaboration if he thought the project had merit and had the potential for scientific discovery. So for most of his career he was spread a little thin. Of course, he didn't think so, but many others did, including myself. He had the ability to get people to support his ideas --- then rally his own troops ---- and before the project came to fruition (or at times failed) move on with a new idea and jump on new projects.

I don't remember much of the interaction I had with him while at Wisconsin. That was thirty years ago, and I recall spending much more time with the other faculty at Wisconsin on their research programs than on Dave's. I do remember he traveled an awful lot, organized some conferences, and routinely took time off from teaching to do research. When he joined UCLA, I believe he felt a real responsibility to do and accomplish what he said he would do. He was given substantial financial resources and personnel (I include myself here) by the UCLA administration. Although he still travelled a lot (at least for the first 25 years) he worked hard helping build the experimental and theoretical high energy physics group, started his own accelerator R&D program in the UCLA Physics Dept. and then convinced Claudio Pellegrini to join UCLA to further advance UCLA's visibility in accelerator science. Pellegrini later brought in James Rosenzweig and Pietro Musumeci to further augment the program. Dave was a strong

advocate of both hires. In the Astronomy Division, Dave was instrumental in the hiring of Eric Becklin and Ian McLean who were hired to further enhance the area of Infrared Astronomy in the Astronomy Department. Astronomy was its own entity at the time. Becklin orchestrated UCLA's dominate participation in the USRA-NASA SOFIA project. McLean designed and built multi-million dollar instruments for installation on the world's largest telescopes. McLean built UCLA's Infrared Instrumentation Laboratory to what is now a world-class facility. Dave was a strong supporter of the IR Laboratory programs throughout its 20 or more years of existence. Dave was a pioneer in bringing an AstroParticle Physics program to UCLA. He was influential and a strong advocate of the Rene Ong hiring. Ong launched the Astro-particle Physics Program in the Astronomy Department.

Dave had a wide range of scientific interest. Besides experimental elementary particle physics, which included collider physics and detector physics, he engaged in particle accelerator R&D, non-accelerator research, for example proton decay and neutrino properties. He engaged in gamma ray astronomy, both experiment and theory, in dark matter search, and to a lesser extent in astroparticle physics, cosmology, and medical imaging. Early in his UCLA career, he proposed a Positron Electron Linear Collider BBbar Factory on UCLA's West Campus. This project didn't go anywhere. But Dave didn't give up. He shifted to a Phi Factory for the same location. This project was much more serious. Dave and other UCLA faculty got the UCLA administration to buy into it. The administration supported the project by agreeing to put up a building on the West Campus, with appropriate infrastructure, to house the Phi Factory. Dave and the others also got regional academic institutions involved, three national laboratories involved, namely LANL, LBNL, and LLNL, several commercial enterprises involved, e.g. Rockwell International, General Dynamics, Maxwell Laboratories, and Titan Industries. Furthermore, the project had Federal congressional and DOE attention. The project had four primary issues 1) innovative science issues 2) detector issues 3) machine issues and 4) management issues. This project was not all Dave Cline even though Dave was involved in all four issues. The others involved were Professors Claudio Pellegrini and Roberto Peccei who played key roles in the project. Pellegrini with science, accelerator, and management issues. Peccei with science, mangement and administrative support issues. Professor Charles Buchanan was also involved with detector issues. And, indeed, the team from the national laboratories and the industrial collaborators played an important role as well. The project went through several DOE reviews and ultimately a Lehman

Review -- the final federal review for approval. At the time, Lehman reviews were convened by the DOE to access the construction and operation of a new high-energy research facility in the U.S. and for any major upgrades to an existing HEP research facility in the U.S. The Lehman review did not support the project, and thus any DOE support ended. Dave kept going. He dabbled with compact hard X-ray sources for biomolecular studies, coronary angiography, medical imaging, nano-technology and protein crystallography. He proposed a Ring Cooler System for a  $u+u-$  Higgs Factory and he studied methods to convert a neutrino factory to a Higgs Factory. He also maintained a well-established and productive DOE/MAP supported muon collider research program that ended in December 2015. (I tied up the loose ends for him after his passing in June that year.)

Dave was a champion for “Centers” at UCLA. The UC system has internal organizations called Institutes and Centers. Dave started the UCLA Center for Advanced Accelerators and tried to establish a Center for Advanced Detector Development, a Center for Advanced X-ray Sources, a Center for Medical Imaging Instrumentation, and a Center for Phenomenology. Only the Center for Advanced Accelerators came to fruition.

Dave wrote 135 research and supplemental funding proposals at UCLA. I don't have records for proposals he submitted from Wisconsin, but I am sure there were several a year. He requested funding from DOE, NSF, NASA, Homeland Security, DoD to include DARPA, Dept. of Army, and OSDI. I guess that about half of the proposals he submitted were funded at some level. Dave brought in millions of federal contract and grant dollars to both Wisconsin and UCLA in support of the science while providing significant overhead dollars to each university in support of their infrastructure.

Dave organized 42 conferences, symposium and workshops during his career at UCLA. Among the first, was a Symposium on the 4<sup>th</sup> Family on Quarks and Leptons in 1987, a  $B\bar{B}$  Factory Workshop held Oct. 1987 and a Mini-Workshop on the Design and Use of a Portable Antiproton Source and a Workshop on Cold Intense Positron Sources for Particle Accelerators -- both workshops held in Nov. 1987. Others followed and include conferences on Novel Concepts for  $e+e-$  Flavor Factories and Related Beam Dynamics Issues, Rare & Exclusive B & K Decays & Novel Flavor Factories, Trends in Astroparticle Physics, several mini-workshops on a Compact Linear Light Source for Research and Industry, a SuperNova Watch Workshop, several Phi Factory Workshops, and a Workshop on Cryogenic Drift Chambers and Scintillating Fiber Detectors.

In the early 1990's, he organized conferences and workshops on Low Energy Signals From the Planck Scale, Gamma Ray and Neutrino Cosmology,  $u+u$ -Colliders – Particle Physics and Design (this was the first such conference held in 1992 in Napa which initiated a serious interest for such a machine in the scientific community). He also organized a Symposium on 30 Years of Neutral Currents From Weak Neutral Currents to the  $W/Z$  and Beyond, and a conference on The Physics of Medical Imaging during this period.

In 1994, Dave organized and began the now well-known series of conferences entitled “Sources and Detection of Dark Matter and Dark Energy in the Universe”. This conference was organized and held every two years with the most recent concluded yesterday. This same year (1994) he was the instigator for hosting the first U.S. CMS collaboration meeting at UCLA. Thomas Mueller I believe was heavily involved as well. The meeting was substantially over-subscribed. The SSC had collapsed and the attendance at the meeting was much-much more than anticipated (standing room only). This meeting was the beginning of UCLA becoming a major player in the U.S. CMS Research Effort. UCLA remains a major player to this day under the leadership of Cousins, Hauser, and Saltzberg.

Dave's interest in so many topics had him organize in 1995 a conference on The Origin of Homochirality in Life. He also organized and held conferences and workshops on Asymmetric Phi Factories, Imaging Detection using Xenon Detectors, Flavor Changing Neutral Currents, Exotic Muon Cooling Methods, Higgs Factories, and the Physics Potential of SuperNova II Neutrino Detection. He was also a member of the local organizing committee that organized the Division of Particle and Fields annual conference held at UCLA in 1999.

Dave was the only faculty member in the UCLA Department of Physics and Astronomy to have two full-time secretaries. One secretary to handle his manuscripts and conferences. The other to handle his communications and travel. Remember in the late 1980s, perhaps early 1990s, when we shifted from using telephones to e-mail for communications. Dave didn't follow this trend. He shifted to a hyper fax mode. He didn't call, he didn't personally e-mail anyone, he faxed. Virtually all his communications to everyone were done in long hand and processed through his secretary. The process went like this. He would generate a communication from wherever he was, home, hotel, national lab, other research site, conference, Kinkos, etc., and fax it to his communications secretary at UCLA. The secretary in turn would input the communication as an e-mail, under his name and signature, to the person he was communicating with. A copy of the e-mailed communication would be faxed back to him at whatever location he designated.

Responses to his e-mails, which would come to him under his name, would be printed out by the secretary and then either faxed to him or sent to him either by FedEx or by the U.S. postal service. The process was peculiar, costly, and highly inefficient, but it continued to the end of his life.

Initially, Dave had two offices at UCLA --- one in Astronomy in the Math Sciences Bldg. and the other in Physics in Knudsen Hall. This changed over time as the Dept. of Astronomy merged with the Dept. of Physics. However, for many many years he was seldom in them except for scheduled office hours. He preferred Kinkos in Westwood or Culver City to view e-mails, write responses, do other work and send faxes. Perhaps it was the solitude away from campus.

I now comment on some lighter moments I had with Dave and observed of him. Dave and I didn't socialize very much, but occasionally in the late 1980s we would go to Monty's (a bar and restaurant on the top floor of a Westwood high-rise) after work, and have a couple glasses of wine with hors' d'ourves. He always talked physics and the problems of the day. But on one occasion we somehow got talking about sports and Dave started rattling off statistics of baseball teams and the individual statistics for the players on these team. I am saying to myself -- whoa! Where is this guy coming from on this. I never knew he had any interest in professional baseball or had knowledge of the teams and its players. Needless to say, I was impressed. Talking of sports, Dave had a keen liking for the LA Lakers and the UCLA basketball bruins. After many years working with him at UCLA, he finally disclosed to me that he was planning to go to Las Vegas for the weekend and bet on the Lakers and the Bruins. I don't know if he played the slots or the table games. I do know he went to Vegas for many years. He would always dodge my question as to whether he won or lost. He would make a good politician.

Talking about politics. Dave was forceful and opinionated on issues of State and Federal concern. Since he and I were on the opposite side of the aisle with regard to politics, I just sat and politely listened. Occasionally he would support my position on an issue. He never voted because he feared being summoned for jury duty.

Dave was a generous man. Two examples come to mind, one humorous, the other more serious. When at CERN many many years ago, Dave said "Jim, I am going to take you to dinner tonight".

I had no plans, so I said great! I thought maybe we would go to a small French restaurant in St. Genis, or perhaps a Swiss Fondue place in Geneva. Where does he take me --- Burger King!!

We had cheeseburgers. On the more serious side of his generosity – he started the practice of buying pizza each week for the students enrolled in the High Energy Seminar offered each academic year and for any others in attendance. This cost him \$50 to \$60 a week out of his own pocket for 10 weeks each quarter. This went on for years. Other faculty members followed with this practice, but now I believe the practice is no longer followed.

He was liberal with his grant money. There were times when a student made application to the Physics Graduate Program going through normal channels, but was rejected. They contacted Dave, and sure enough, he would offer them full support from the beginning of their first quarter. The Department reluctantly admitted them. He told me everyone deserves a chance. Not all students admitted this way worked out.

I observed Dave becoming more sensitive to his family in his last years. He frequently talked to me about his children and how successful they were. It was clear he was proud of them. I know he visited them much more often in recent years than he did in the past. I remember an occasion at the Fairmont Hotel in San Francisco many years ago. It was near the middle of December. He was hosting another of his conferences at the Fairmont, and he was sitting at the back table at the end of the table. The conference room was dark and a talk was in progress. He was paying no attention to the talk. I was observing this from a table I was sitting at in the adjacent hallway.

What he was doing was writing out Christmas cards and putting a check in the card. I assume the cards and gifts were to his family. Somehow I was touched by this.

So to conclude, I want to say to Dave's children, the immediate members of his family and his closest friends, that Dave was an accomplished, extraordinary, remarkable man who made significant contributions to science. You can be very proud. May he rest in peace.