Introduction

Giorgio Gratta
Physics Department, Stanford University

The Stan Wojcicki Scientific Symposium Stanford, Nov 10, 2023



November 10, 2023 Stanford University

Stan Wojcicki Scientific Symposium

8:30AM	Breakfast
Session 1	Chair: Jonathan Dorfan
9:00AM	Welcome Giorgio Gratta, Stanford Physics Department Chair
9:30AM	Neutrino Physics: Theory and Phenomenology Andre deGouvea, Northwestern
10:10AM	Coffee/Tea Break
Session 2	Chair: Persis Drell
10:40AM	Stan and the Beginnings of the SSC Maury Tigner, Cornell University
11:20AM	Long Baseline Neutrino Experiments: the Gold Standard, Minos Jenny Thomas, University College London
Noon	Group Photo
12:10PM	Lunch
Session 3	Chair: Natalie Roe
1:30PM	A Few in a Trillion: A Search for Rare Kaon Decays by BNL E871 Karol Lang, University of Texas at Austin
2:10PM	A Different Kind of Long Baseline: Reactor Neutrino Oscillation Experiments Giorgio Gratta, Stanford University
2:50PM	Coffee/Tea Break
Session 4	Chair: Robert Cahn
3:20PM	50 Years of Muon G-2: Where Are We Now and What Do We Know? Dave Hertzog, University of Washington
4:00PM	Probing the Universe with Gravitational Waves Barry Barish, California Institute of Technology
4:40PM	Reception
6:00PM	Dinner (Invite-Only)

The idea of this gathering is to talk some physics, maybe related to Stan, but mainly in the sense that Stan would have enjoyed to hear about it.

I then found some historical material and thought would be fun to share it. So, the scope of this introduction creeped up.

Then (yesterday) Jonathan sent me some more material on the work of group G at SLAC: he will present this —morphing from session chair to speaker

Two colleagues would have really liked to be here but could not:

Bill Foster YiFang Wang November 10, 2023 Stanford University

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Note that, before lunch, we'd like to take a photo.

So please do not disperse and try to follow the instructions!

Gratta, Introduction 4

Hired as assistant prof (1966)

"There seems to be no way that I can avoid writing you a letter of recommendation concerning Dr. Stanley Wojcicki, so here goes. As you know, Stanley is the number one choice of my research group and me..."

Apparently, the Berkeley Dept Chair was in India and Segre' was filling in and of the opinion that there were too many particle physicists, so he would not want to hire Stan.

- "Burt Moyer has assured me that he will do everything in his power to get Stanley onto the faculty [at Berkeley] as soon as he returns from India."
- "...he has always been considered by those who knew him or his work, to be one of the most outstanding young members of the physics community"
- "The place [LBL] is just brighter and cheerier because of his presence..."
- "Now I wish I had learned to keep my big mouth shut, since we are going to be very unhappy if someone like you gets Stanley away from the Berkeley physics department."

Luis Alvarez

Hired as assistant prof (1966)

LAWRENCE RADIATION LABORATORY
BERKELEY, CALIFORNIA 94720

April 5, 1966

Professor L.I. Schiff Department of Physics Stanford University Stanford, California

Dear Professor Schiff,

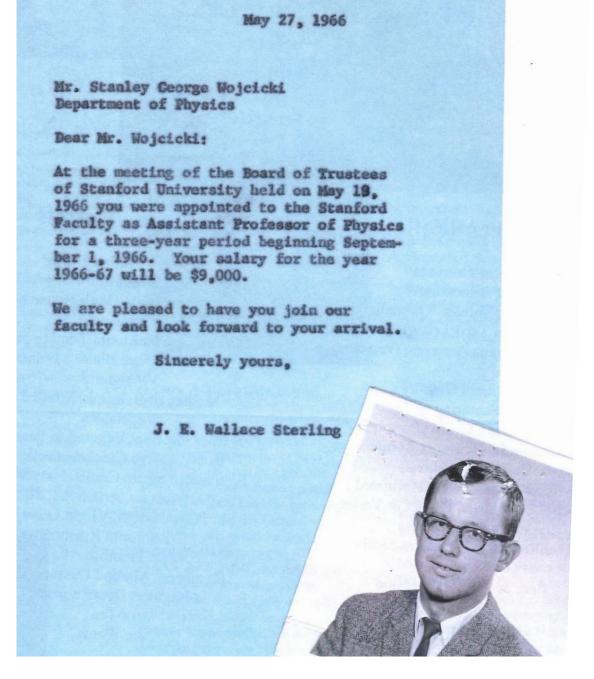
It is a pleasure to write to you in regard to Dr. Stanley Wojcicki. I have known him since 1959 when he joined our group to start his experimental work. Very soon it became clear that our problem would consist in trying to keep up with him in his thinking about the physics projects under investigation. His speed in comprehension, and his breadth and depth were far beyond his contemporaries. He has made a strong personal commitment to his work and although eager to discuss physics he does not enjoy idle conversation. He has a remarkably stable personality and is at ease in any group.

There is no question that Dr. Wojcicki has started on a career that will be unusually productive. Our regret is merely that the saturation of the Berkeley physics department in high energy physics has precluded our offering him an appointment here. We recommend him without reservation.

Donald H. Miller

Professor

Sincerely



III. GENERAL RECOMMENDATION

State why the action proposed in this recommendation is desirable for the department and school. If there are considerations which would make the candidate additionally valuable to the University as a whole, please state these also. Please indicate specifically the role the candidate is expected to fill in the department, his past and present role if this is a recommendation for reappointment or promotion, any special recognition of scholarly accomplishments, and service on committees or to the department. If the appointment is not to a full professorship, state whether in your opinion, at this stage in his career and assuming continued development, you would expect him to attain full professor rank. If one page is not enough, number successive pages 4a, 4b, etc., and insert between this page and page 5.

The Department has been searching for some time for a promising young experimental physicist to work primarily with the SLAC accelerator. This is particularly desirable in view of the arrival of Professor Melvin Schwartz next fall, who is one of the leaders in experimental high energy physics. He will be working at SLAC and is most anxious to have a younger person in the Department as a collaborator. The accompanying letters from Professors Alvarez, Miller, and Stevenson at Berkeley are the most glowing recommendations that we have seen for a person at this level. (Alvarez sent me a copy of his letter to UCLA in order to save time, and with the remark that UCLA had offered an associate professorship.)

Normally we do not expect a beginning Assistant Professor to obtain full Professor status. In this case however the promise of the candidate is so great that the expectation is greater than normal.

Dr. Stanley Wojcicki Lawrence Radiation Laboratory University of California Berkeley, California

Dear Dr. Wojcicki:

Professor Schiff has asked me to write to you concerning campus housing. The University policy for Assistant Professors is that they become eligible only after they have served their first three-year term and are on permanent appointment. Unfortunately, there is no other housing available on campus for faculty.

I am enclosing a packet outlining the various benefit plans and services available to faculty.

September 1, 1966

Arnice Streit Humanities and Sciences

Betty Barnett Physics Department

Professor Stanley Wojcicki

Dear Arnice:

Listed below are the expenses incurred by Professor Wojcicki on his move to Palo Alto.

Bhecker Van and Storage of Oakland Two cars from Berkeley to Palo Alto, 50 miles each @ .09 \$197.50

9.00

Also, Professor and Mrs. Wojcicki estimate that they made three weekend trips to Palo Alto prior to their move in order to find suitable housing. Please include if this is an allowable expense.

Three round trips, 100 miles each, @ .09

27.00.

If you have any questions, please call me.

Regards,

Tenure, 1968

I think you are very wise to recommend Stanley for promotion to Associate Professor. If you don't do it very soon, someone else will tempt him away with an offer that you could not match.

Very sincerely,

nille

Luis W. Alvarez

Promotion to full Prof (1972-3)

"I find him to be one of the most useful members of the NAL committee. He has the ability to put his finger on the crucial points of each experiment under consideration, while disregarding political aspects..."

Jim Cronin

Promotion to full Prof (1972-3)

Let me begin with a very general statement. Stan Wojcicki is in my opinion the very best experimental high energy physicist under the age of 40. Indeed, there are only a handful of people over the age of 40 who I would consider on a par. Telegdi at Chicago, Steinberger at CERN and Fitch at Princeton are the only people who come to mind as being comparable, and all of these are of a considerably older generation.

Firstly, Stan has a complete and thorough grasp of the theory and is able to understand an experiment and its implications better than anyone I know. Secondly, he is extremely critical in his judgements, both of his own work and of the work carried out by his colleagues. When he does something, it is almost always both meaningful and correct. Finally, with his superb taste in experiments goes an amazing facility for organization. Most high energy physics experiments rely for their success upon the ability to organize and motivate a large group of people. Whatever such skill has existed within our group has been largely due to Stan.

In summary, I would consider it a great travesty upon justice and fairness were he not promoted at this time.

Sincerely,

Melvin Schwartz

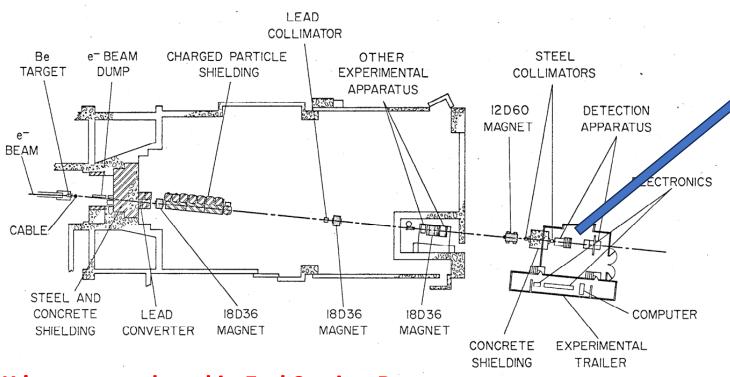
The Schwartz- Wojcicki SLAC Group --- Group G

By Jonathan Dorfan

One of the 8 initial SLAC letter groups, their SLAC experimental program derived its uniqueness from the glorious K_L spectrometer built by Stan and Mel which resulted in ~ 10 years of pioneering K_L decay experiments

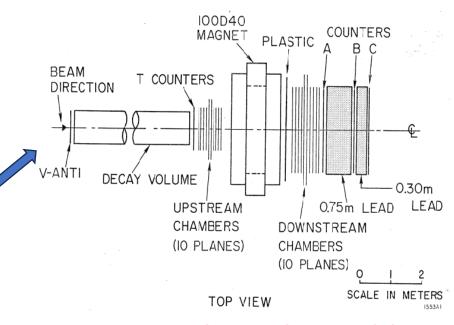
Schwartz-Wojcicki K_L Spectrometer

Key attribute: Electromagnetic production of the K_L beam meant low contamination from neutrons



K_L's were produced in End Station B

END STATION B



K_L Spectrometer: decay volume and detectors

CHARGE ASYMMETRY IN THE MUONIC DECAY OF THE K0(2) 1967

David E. Dorfan (SLAC), J. Enstrom (SLAC), D. Raymond (SLAC), Melvin Schwartz (SLAC), Stanley G. Wojcicki (SLAC) et al. (Sep. 1967)

MEASUREMENT OF THE MAGNITUDE OF ETA00 AND ITS PHASE RELATIVE TO ETA+-

David E. Dorfan (SLAC), Melvin Schwartz (SLAC), Stanley G. Wojcicki (SLAC), J. Enstrom (SLAC), D. Raymond (SLAC) (Oct, 1967)

STUDY OF THE DECAY KO(L) ---> pi+- mu-+ neutrino 1970

David E. Dorfan (SLAC), D. Fryberger (SLAC), D. Hitlin (SLAC), J. Liu (SLAC), Melvin Schwartz (SLAC) et al. (Jan, 1970)

MEASUREMENT OF THE TWO PHOTON DECAY OF THE KO(L) MESON

SEARCH FOR RARE DECAYS OF THE KO(L)

MEASUREMENT OF THE DECAY K0(L) ---> pi0 pi0 1972

MEASUREMENT OF THE CHARGE ASYMMETRY IN THE DECAY KO(L) ---> pi+- mu-+ neutrino

NEW MEASUREMENT OF THE K0(L) ---> pi+ pi- BRANCHING RATIO

MEASUREMENT OF THE FORM-FACTORS IN THE DECAY KO(L) ---> pi mu neutrino 1974

Production of Muon Pairs from K0(L)-Nucleon Interactions

Observation of the Decay K0(L) ---> pi+ pi- Gamma

Experimental Study of KO(L) --> pi+ pi- gamma and other Rare Decay Modes 1976

DELCO: Direct electron Counter for SPEAR 1975

So why the letter group name "G"?

Group G physicists were not collecting data solely, it seems, in particle physics but also in the discipline of genetics

Mel and Marylin Schwartz arrived at Stanford with a son. Their next birth was a girl; Stan and Esther had three girls, David and Carol Dorfan a girl, John and Mary Liu had two girls, Jasper and Rita Kirkby 2 girls, so when Renee and I found we were pregnant, there was no need of a gender test – and indeed in March 1976 out popped a girl

In the years 1967-1976 there were 11 straight female births in Group GIRL.

Perhaps Anne can survey the $\chi^{23andMer}$ databases to see if the hypothesis that woking in a K_L beam produces exclusively female births is provable?