

In Honor of David Shirley

Person, Scientist and Leader

Joachim Stöhr
SLAC/Stanford

80th Birthday Symposium, Berlin July 4, 2014

Life/Career Milestones:

- Born in 1934, school education in New Hampshire
- 1955 Bachelor of Science in Chemistry at University of Maine
- 1959 Ph.D. at UC Berkeley
- 1960 Assistant Professor in UCB Chemistry Department
- 1964 Associate Professor
- 1967 Full Professor
- 1968 Chair, Chemistry Department
- 1972 E.O. Lawrence Award
- 1974 Director of the Materials & Molecular Science Division of LBL
- 1976 Election to National Academy of Sciences
- 1980-1989 4th Director, Lawrence Berkeley Laboratory
- 1987 Honorary Doctorate from FU Berlin
- 1992-1997 Senior VP for Research & Dean of the Graduate School
Pennsylvania State University.

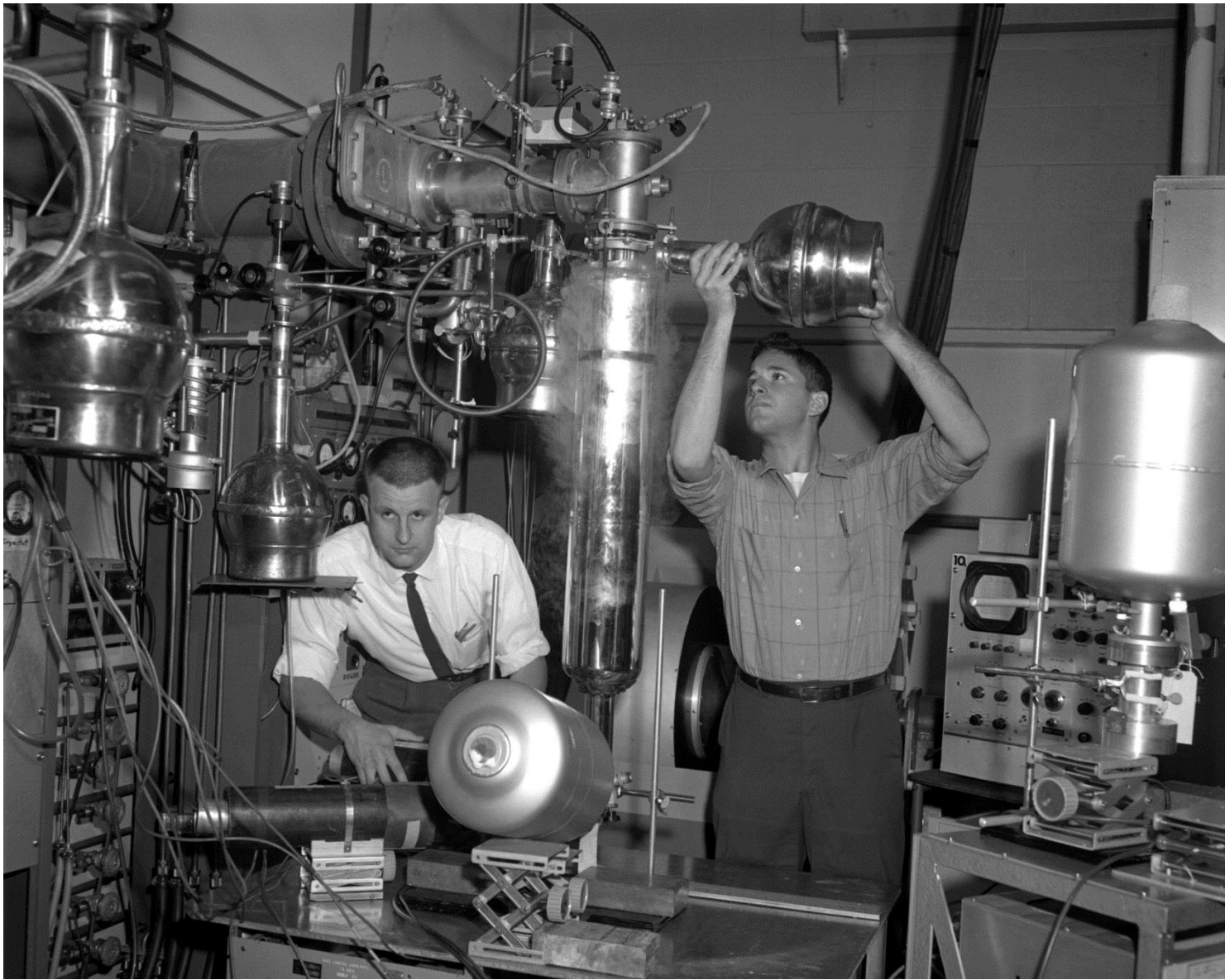
Professional Milestones and Impact

1960s: Nuclear techniques

Low temperature physics, nuclear orientation

Hyperfine interactions: Mössbauer effect,
Perturbed angular correlations

- Start of close link with Berlin scientists:
Matthias, Mahnke, Hass, Kaindl, Brewer, Gabriel, Klein, Quitmann
- Led to “Sonderforschungsbereich “Hyperfine Interactions” at FU in 1972

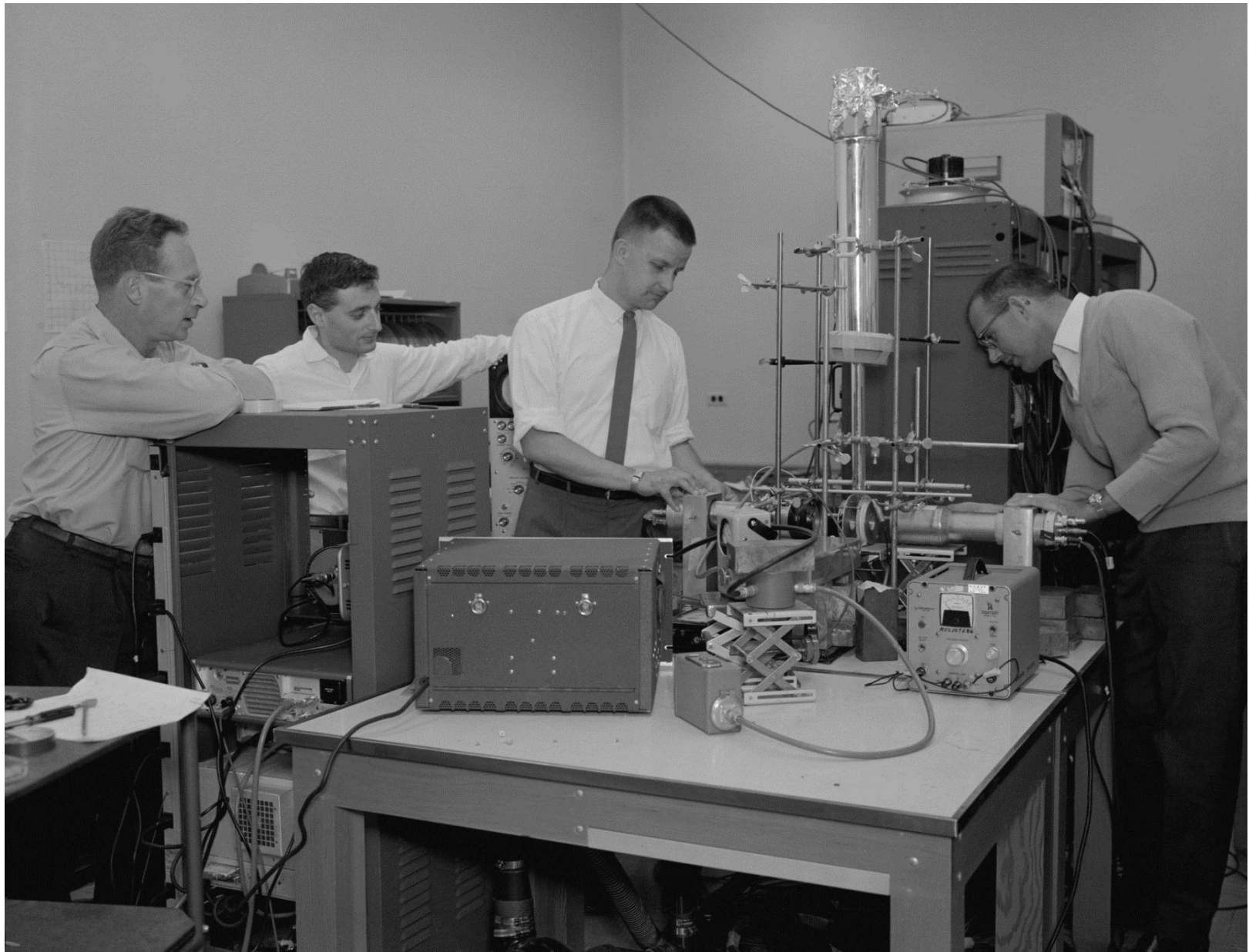


1964: D.S. and Richard Frankel in low temperature lab at “Lawrence **Radiation** Laboratory”
The photo appeared in an LRL news report and brought down the wrath of the safety people for not wearing safety glasses!

Quote from Richard Frankel

Prof. at MIT and later Cal-Poly

“He (Dave) was smart, ambitious and hard working. Almost any time I went up to the lab, day or night, Dave was there. Dave also had a genius for organization. He had a relatively large number of graduate students and postdocs pursuing a number of different projects that made for a very lively atmosphere in the lab.”



June 1966, Mel Klein, Norm Edelstein, D.S., Eckart Matthias

Quote from Eckart Matthias

Prof. FU Berlin

“Dave shaped my life and I will be grateful to him for the rest of my life.”



November 1969, Low temperature lab, LBNL

1965 - : Lab-based Photoemission, “ESCA”

Field free spectrometer

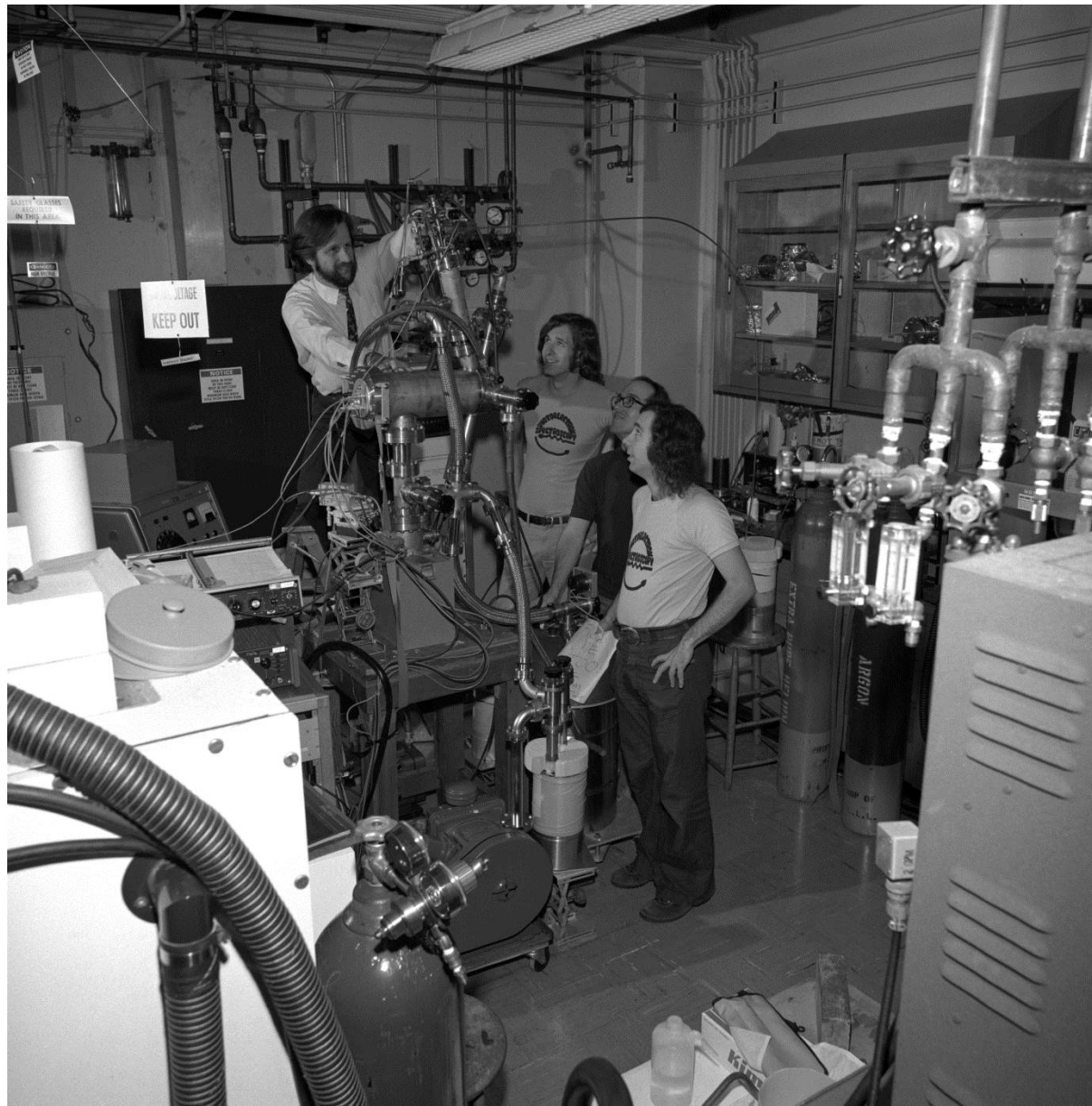
collaboration with Jack Hollander – Chuck Fadley student

Commercial HP spectrometer

Roger Pollack, Lothar Ley, Steve Kowalczyk, Reed McFeely

Many pioneering contributions:

Core level multiplet splitting, theory of chemical shifts,
relaxation effects, valence band density of states



March 1975, D.S., Reed McFeely, Gus Apai, Steve Kowalczyk

1975 - : Synchrotron Radiation Research

Start of gas phase and solid state experiments at SSRL

Many pioneering contributions:

Energy dependent cross sections

Angle resolved photoemission - band mapping

Energy dependent photoelectron diffraction

➤ The intellectual seed for the Advanced Light Source

This is how I knew Dave while at LBNL (1975-1977)
- in his basement office in Bldg. 70



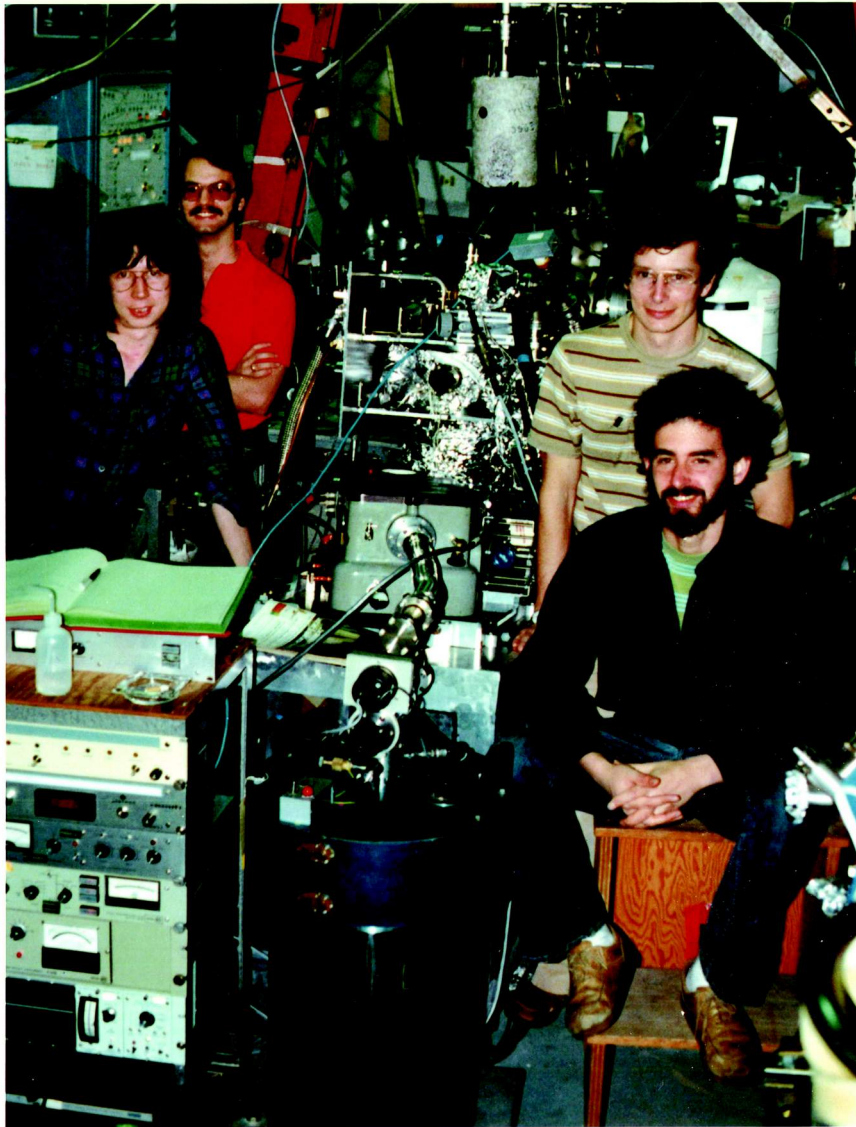
Quote from Stan Williams :

HP Senior Fellow & Vice President of Foundational Technologies

“I did not understand at the time (student years 1975-1978) what a special group of people you (Dave) had assembled, but in all the years since I left Berkeley I have never had the quality of colleagues that were in the Shirley group.”



October 1978: Stan William's last group meeting"



1978 : “gas phase group”

Geoff Thornton, Mike White, Steve Southworth , Richard Rosenberg at SSRL



1980: Carlton "Trues" Truesdale, Dennis Lindle, Uwe Becker, Steve Southworth, Paul Kobrin at SSRL.

Quote from Geoff Thornton:

Prof. University College London

“Working with Dave gave me the feeling that anything was possible, the only limitation being your imagination. I think he showed this belief when getting the ALS funded.”

Opening a new photon energy region 1.5 - 4 keV



Jumbo monochromator at SSRL, Zahid Hussain, D.S. 1981

Leadership and Management

LBL Director – 1980 - 1989



- **Center for Advanced Materials**
- **Center for X-Ray Optics,**
- **National Center for Electron Microscopy**
- **Advanced Light Source**

The era of “brightness”



ALS dedication April 1994 :

Jay Marx, Don Perlman, Martha Krebs, David Shirley, Gail Wilson (Governor's wife),
Brian Kincaid, Charles Shank, Herman Grunder.



Lawrence Berkeley National Laboratory
Spectroscopy and the Structure of Matter
Symposium held in honor of David A. Shirley on the occasion of his 65th birthday
March 29, 1999

Thank you Dave !

**You influenced the lives of
many students and scientists,
and left a wonderful legacy
in your research and the ALS**