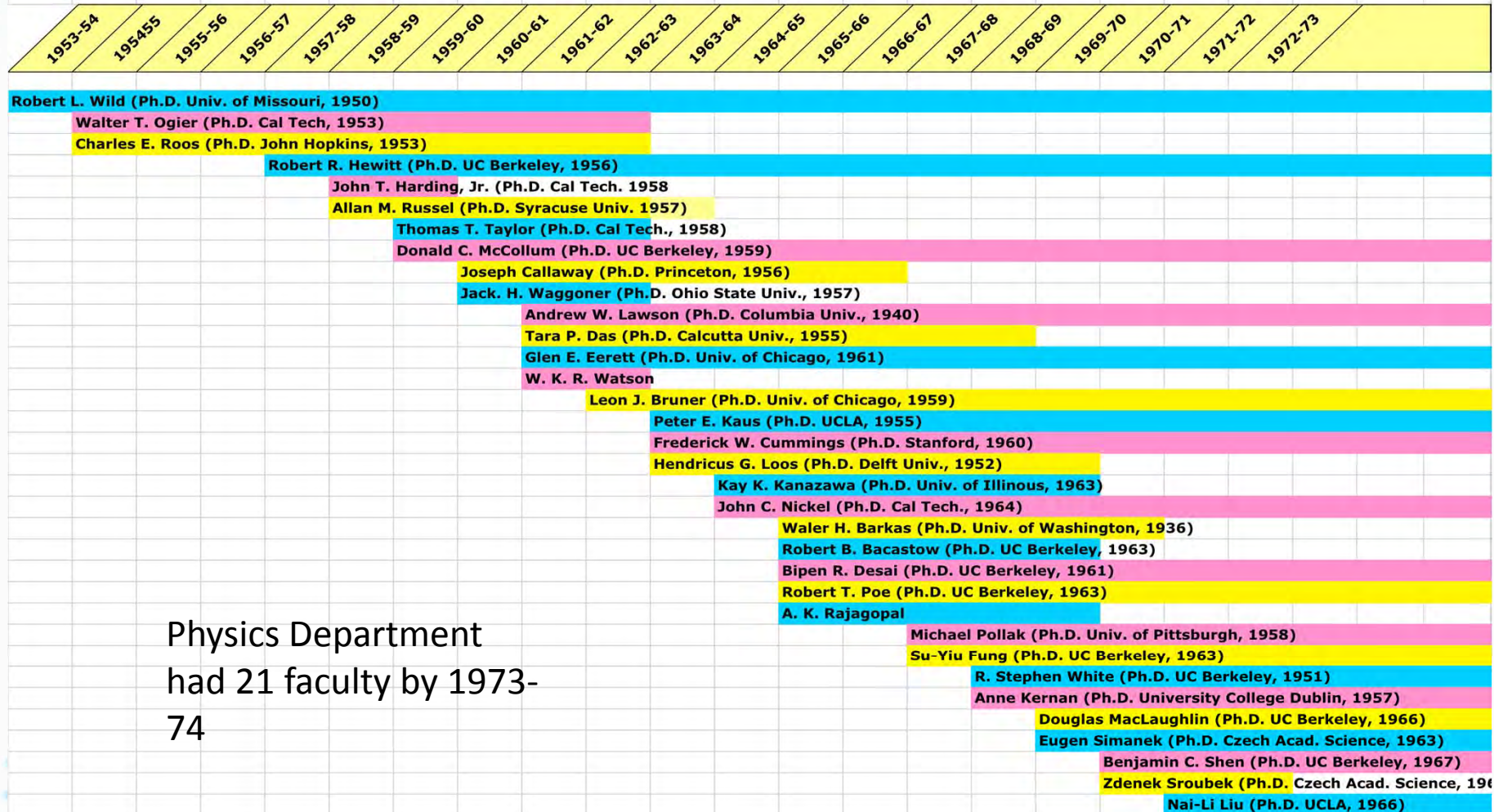


UCR Physics: The Early Years (1953-1973)

May 28, 2011

UCR Physics 50th Anniversary

UCR Physics Faculty 1953-1973



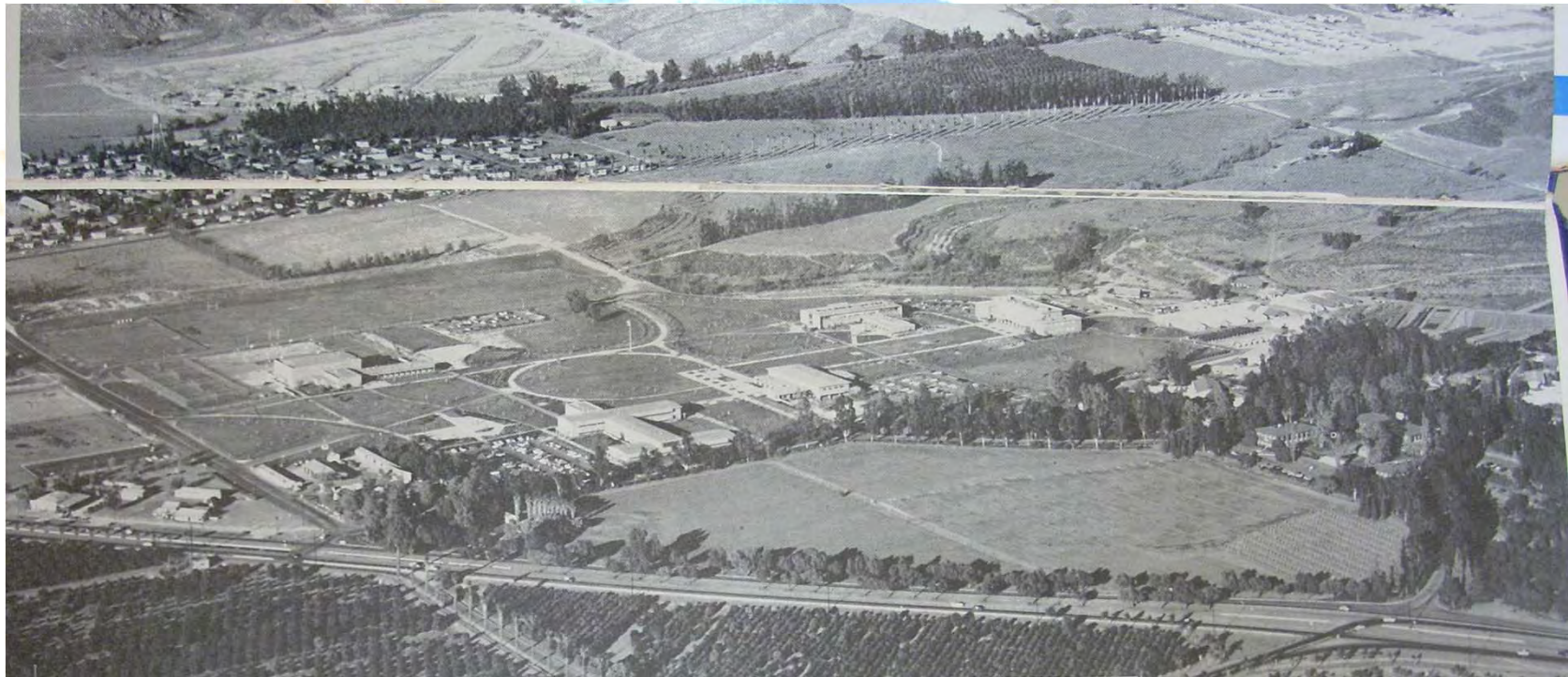
Physics Department
had 21 faculty by 1973-
74

Campus Construction



Citrus Experiment Station 1916

Ground was broken on July 30, 1952. Five new buildings were constructed: Library, Weber Hall (life sciences), Physical Education (pool & gym), Physical Science (now Geology) and Social Science & Humanities. Of course, the “Barn” was remodeled in 1959 and served as the campus cafeteria.



1954-59

College of Letters & Science
B.A. in Physical Science
Offered,

Citrus Experiment
Station

1959-61

Div. Physical Science (B.S.
in Physics, Ph.D. 1961)

Div. Life
Science

Div. Social
Science

Div.
Humanities

1960

Graduate Division—
College of Agriculture
(Ph.D.)
M.A. in Physics

1970 College of Physical
Sciences

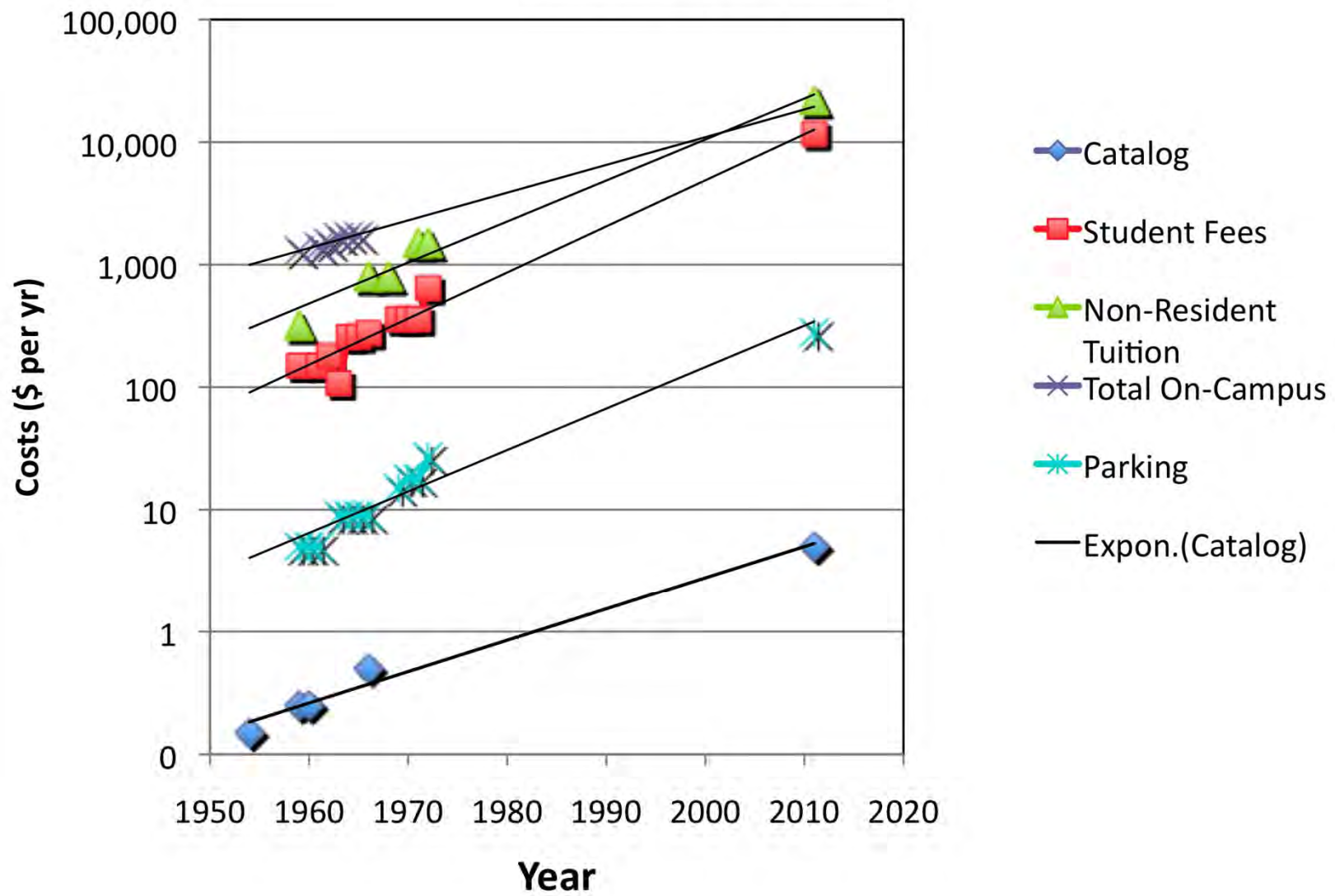
1969 College of Biological
& Agricultural Science

1970 College Social &
Behavioral Science

1970 College of
Humanities

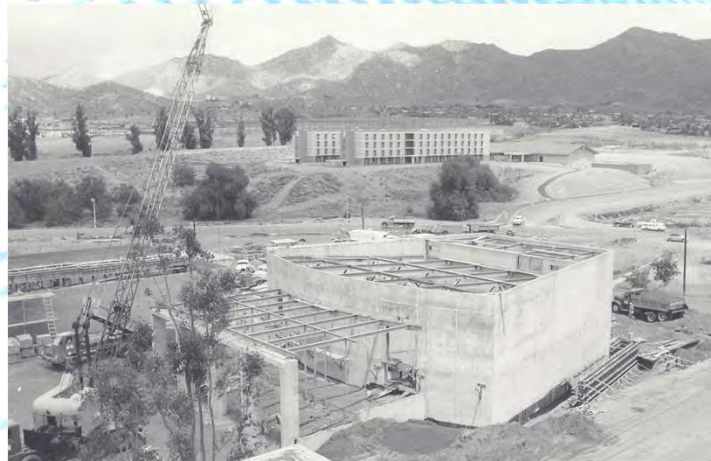
Graduate Division

Student Yearly Costs





The present Physics Building was completed in 1965, with 53,000 asf. In addition, the Magnet Lab was completed with NSF matching funds.



Physical Science #3 (after Geology and Pierce)





1956 UCR Highlander Football Team: 1-4-1 Record. Lost 40-0 to Redlands Univ.



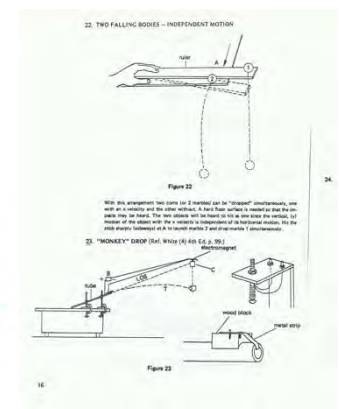
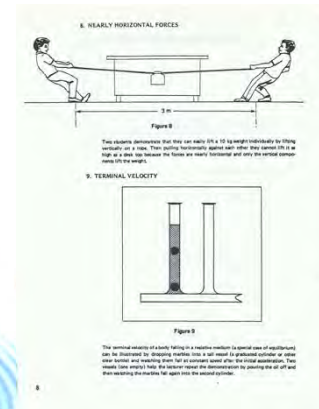
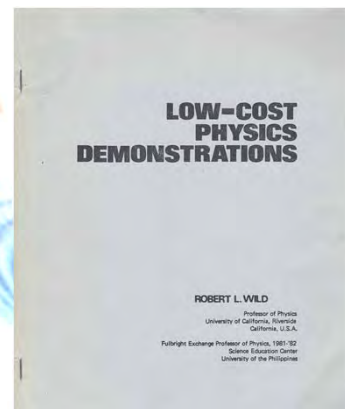
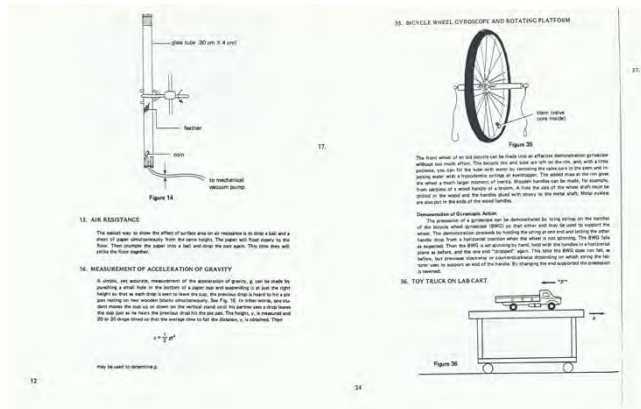
Constructing and painting the Big "C"



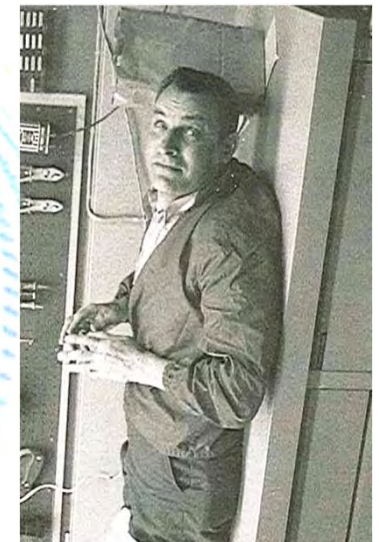
Edward Teller came to UCR for UC Charter Day (92nd Birthday) in 1960



Physical Science Faculty (1961) (Can you spot Bob Wild and D. C. McCollum?)



Physics 2000 Lecture Demonstrations

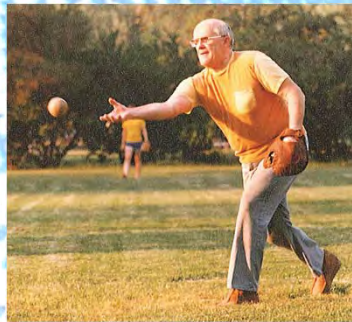


May 28, 2011

UCR Physics 50th Anniversary

Prof. Robert L. Wild

- Founding Faculty Member
- Department Chair
- 1993 Distinguished Service Award
- 1972-73 Distinguished Teaching Award
- Planned Physics Building
- Equipped Machine Shop (>\$200K)
- “Mr. Wizard” for campus Open House
- Recruited early faculty
- Summer workshops for H. S. science teachers (NSF)
- Active in American Association of Physics Teachers (AAPT)
- Robert L. Wild Family Scholarship Fund
- Passed away in 2001.



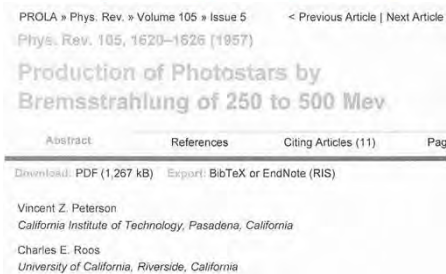
Research Interests

- Solid State Physics
- X-ray studies of EuS
- Ferromagnetic and insulator properties at low temperatures
- Optical spectra of crystals

Walter T. Ogier



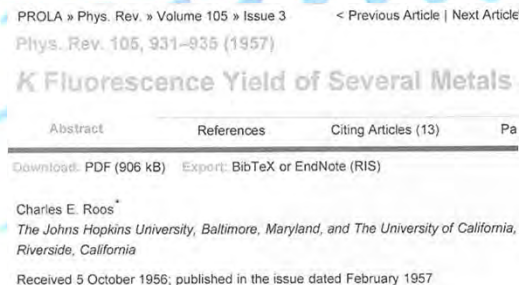
- Joined Pomona College/Claremont in 1960. Was chairman.
- Low temperature super-fluid properties of Liq. He.
- Passed away in 2009.



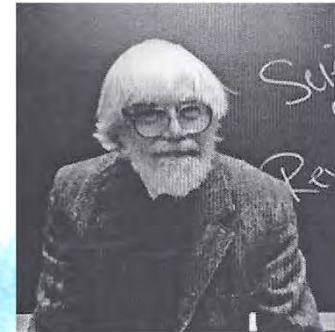
Charles E. Roos



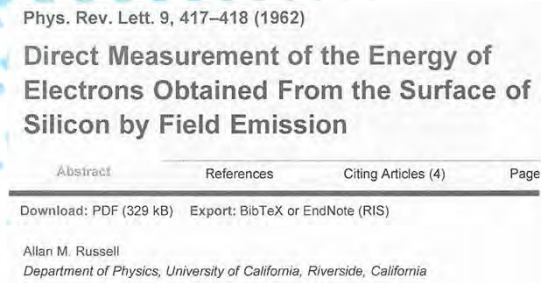
- Research in both solid state and high energy physics.
- Professor Emeritus at Vanderbilt Univ.
- In 1979, donated land in Riverside for Andulka Park. Opened in 2009



Allan M. Russell



- From 1967-97, was professor of physics at Hobart and William Smith Colleges in Geneva, NY.
- Was provost and dean.
- Worked with Gerard O'Neill on space colonization.
- Passed away in 2011.



Robert R. Hewitt



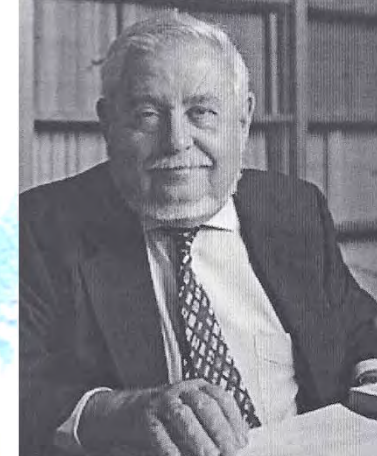
- Hired when campus was 3 years old; 4th physicist.
- Pioneer in magnetic and quadrupole resonance in metals.
- Produced 8 Ph.D. students
- Assoc. Dean for Research
- Dean of Graduate Division.
- Passed away in 1981

Donald C. McCollum



- Low temperature physics-magnetic glass systems ($\text{LaAl}_2\text{:Gd}$)
- Distinguished Teaching Award in 1978-79.
- Long-serving Assoc. Dean for the Physical Science Program
- Associate Dean for Graduate Division
- NSF Faculty Fellowship
- Mr. Wizard/Open Houses
- Emeritus status since 1992.

Joseph Callaway



- Theoretical physics-quantum and solid state.
- Internationally recognized.
- Ph.D. under Nobel Laureate Eugene Wigner
- One of prime architects of graduate program at UCR.
- Moved to LSU in 1967 as department chair.
- Graduated 29 Ph.D. students at LSU.
- Author of book: "The Quantum Theory of the Solid State (1991)
- Passed away 1994.

Andrew W. Lawson, Jr.



- First chair of UCR Physics Dept. (1961)
- Solid state and high pressure physics.
- Previously chair of physics at Univ. Chicago and Assoc. Director of Institute of Metals.
- 1965 UCR Faculty Research Lecturer
- Graduated 31 Ph.D. students and Chicago and 11 at UCR.
- Passed away 1978.

Glen E. Everett



- Student of Prof. Lawson at U. Chicago.
- Microwave spin resonance at low temperatures.
- Fermi surfaces, superconductor tunneling, solids at high pressure, critical phenomena in magnetic systems, computer-aided research.
- Developed year-long microcomputer course for new Computer Science program.
- Interim Dean of new Engineering School.
- Physics Dept. Chair. Passed away 2004.

Peter Kaus



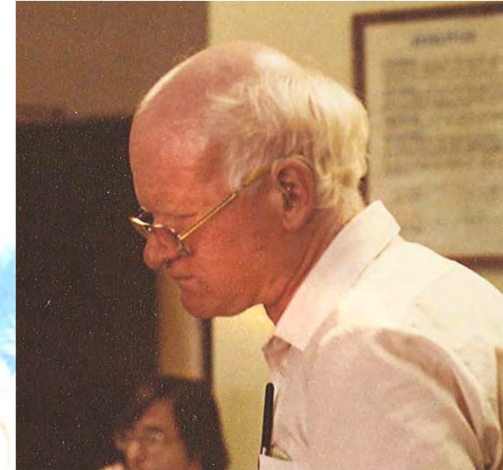
- Elementary particle theory
- Regge poles, phenomenology, quark confinement, QCD.
- Biophysics: biological clocks and circadian rhythm.
- Relativistic train computer graphics for Physics 7.
- Past president of the Aspen Center for Physics.
- Emeritus status since 1994.

Frederick W. Cummings



- Theory of super-fluidity of liquid He.
- Coherence effects in EM radiation-Jaynes-Cummings model cavity/QED.
- Biophysics, biological clocks.
- Cell biology,
- Non-linear dynamics.
- Helped develop Physics 7; Space, Time and Relativity.
- Emeritus status since 1994.

Leon J. Bruner



- Student of Prof. Lawson at U. Chicago.
- Solid state background but initiated biophysics at UCR. Electrical signals and nerve impulses. Biological membranes-lipid bilayer membranes.
- Leon passed away in 2003.

Walter H. Barkas



- World's leading expert in the application of nuclear emulsions for detecting elementary particles.
- Performed research at LRL (later known as LBNL) with Cyclotron and Bevatron.
- Passed away in 1969.

Robert T. Poe

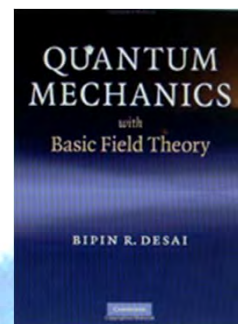


Greg Crockett &
Scotty The Robot



- Theoretical atomic scattering w/ Professors Callaway and Das. Theory of atom-molecule scattering.
- Established the experimental particle physics research program at UCR with Walter Barkas.
- Serves as department chair 1976-81 and initiated the UCR-UCLA Engineering Program.
- Initiated the Energy Science Program at UCR and served as its Director. Developed the "House Doctor" Program.
- Passed away in 1984.

Bipin R. Desai



Cambridge University Press



- Elementary particle theory—Regge Pole theory, phenomenology.
- Strong interactions in two-body reactions.
- Quark confinement.
- Super string theory,
- Quark masses with SUSY-GUT and field theory.
- Physics beyond the Standard model, top condensate models, neutrino masses and interactions, and dark energy
- Author of new Quantum Mechanics Book
- Emeritus status since 2010.

Eugen Simanek



- Condensed Matter Theory
- Many-body, optical processes, superconductivity, phase transitions.
- Properties of granular superconductors, tunneling phenomena, Josephson junctions.
- Emeritus status since 1994.

Nai-Li Liu



- Studied with Prof. Orbach. Condensed matter theory.
- Magnetism in solids, ferromagnetism in insulators, super-transferred hyperfine interactions, gas-surface reaction dynamics (Catalysis)
- Alfred P. Sloan Fellowship, 1970-72
- Emeritus status since 1994.

Michael Pollak



- Condensed matter theory
- Percolation theory applied to electronic transport in amorphous solids, “Coulomb Gap” in amorphous semiconductors.
- Hopping conduction in glasses.
- Work cited in Nobel Lectures of Sir Nevill Mott and Philip Anderson (1977).
- Emeritus status since 1992.



Benjamin C. Shen

- Experimental high energy particle physics at the Bevatron ,w/ bubble and streamer chambers, at ISR/PEP at SLAC w/ time-projection chamber, at LEP/CERN w/ OPAL (Z^0 boson), at the LHC/CERN w/ CMS (Higgs boson), and t SLAC w/ the BABAR detector (CP Violation).
- UHE gamma ray astronomy w/ Milagro air-shower array at LANL
- Physics department chair (3 different periods).
- Principle investigator for large HEP/DOE grant (\$1.5M) for over 10 years.
- Over 600 publications.
- Passed away 2007.



Anne Kernan

- Experimental high energy particle physics at the Bevatron at LRL and SLAC w/ nuclear emulsions.
- Led UCR team at ISR/CERN in Charmed Quark search.
- Led UCR DZero team Tevatron/Fermilab in Top Quark detection.
- Led US team at CERN in collaboration that found the W^+ , W^- and Z^0 gauge bosons- Nobel Prize for collaboration leaders Carlo Rubbia and Simon van der Meer in 1984.
- Department chair, 1973-76.
- APS Councilor-at-Large, 1985-89.
- Emeritus status since 1994.



Scott's Week 1974



John C. Nickel

- Double Bragg X-ray scattering
- Plasma Physics theory and experiment: resonance oscillation in hot non-uniform plasmas, wave propagation in bounded and unbounded plasmas, magnetic field resonance splitting.
- Solar flare laboratory simulation, double inverse pinch.
- Atomic physics: electron scattering and polarization on CO, CO₂.
- Distinguished Teaching Award in 1970.
- Developed many lecture demonstrations with Bob Wild and D. C. McCollum.
- Emeritus status since 1994.



Douglas E. MacLaughlin

- Experimental condensed matter physics
- Magnetic resonance in exotic metals, alloys and superconductors with “heavy fermion” electrons. Use both nuclear and muon spin rotation techniques.
- NMR and μ SR studies on “non-Fermi liquids”.
- μ SR studies on “Colossal magnetoresistance” oxides.
- Emeritus status since 2006.



Sun-yiu Fung

- Experimental high energy particle physics: weak and strong interactions and resonances.
- Bubble chamber data (~1M photographs) from SLAC, LRL, BNL
- Streamer chamber data from Bevatron, SLAC, AGS at BNL, ISR at CERN.
- Heavy Ion Collisions at Bevalac/LRL, AGS/BNL and RHIC/BNL to study “Quark-gluon Plasma”.
- Physics department chair: 1981-86.
- 2002 UCR Emeritus Faculty Research Award
- Emeritus status since 1994



R. Stephen White

- Space physics at LLNL and Aerospace Corp.
- Identified trapped particles in Van Allen Belts.
- Started astrophysics at UCR: gamma-ray astronomy w/ stratospheric balloons .
- Invented double scatter telescope to measured albedo neutrons leaving top of atmosphere that decay to fill the Van Allen belts.
- Detected gamma rays from Crab and Vela pulsars.
- Detected gamma rays from nuclear reactors on Soviet spy satellites.
- 1981 UCR Faculty Research Lecturer
- 2000 UCR Emeritus Faculty Research Award
- Published three science/science policy books.
- Emeritus status since 1992.

