



SILVER ANNIVERSARY SYMPOSIUM

"Chemistry at UCR: Past, Present, and Future"

December 14 and 15, 1984

University of California, Riverside

Life Sciences 1500, Pierce Hall, and University Commons

A symposium to recognize the accomplishments of the graduates of the UCR chemistry program during the 25 years since the formation of the Chemistry Department and initiation of its Graduate Program.

**University of California,
Riverside**

SYMPOSIUM SCHEDULE

FRIDAY, DECEMBER 14

- 8:00 a.m. Registration and coffee: Foyer, Life Sciences 1500
- 9:00 a.m. Physical and Theoretical Chemistry: Life Sciences 1500
Program Chairman: Professor David R. Kearns
University of California, San Diego
- Professor O. Hayes Griffith (B.A., 1960)
University of Oregon
"Photoelectron Imaging of Organic and Biological Surfaces"
- Dr. George Castro (Ph.D., 1965)
IBM
"Materials Challenges in Magnetic Recording"
- Professor Ray Borkman (Ph.D., 1966)
Georgia Institute of Technology
"Photochemistry of Proteins and the Relation to Human Cataracts"
- Dr. Ron K. Clark (Ph.D., 1966)
Shell Development Corporation
"Applications of Polymer Physical Chemistry to Oil Well Drilling"
- Dr. Ronald L. Schlupp (Ph.D., 1973)
Advanced Micro Devices
"Trends in Semiconductor Isolation Technologies"
- Professor Phillip H. Bolton (Ph.D., 1976)
Wesleyan University
"The Development of Relay Transfer Spectroscopy"
- 12:30 p.m. Lunch: Foyer, Life Sciences 1500
- 1:30 p.m. Organic Chemistry: Life Sciences 1500
Program Chairman: Professor George K. Helmkamp
University of California, Riverside
- Dr. John P. Wolf, III (B.A., 1956)
Experimental Station, DuPont Company
"A Physical Organic Chemist Looks at HPLC"
- Professor Bruce F. Rickborn (B.A., 1956)
University of California, Santa Barbara
"Some Reflections and Recent Results: Fun in the Organic Lab"
- Dr. David J. Pettit (Ph.D., 1964)
Kelco Division, Merck & Co.
"Selected Naturally Derived, Commercially Important Polysaccharides"
- Dr. Dennis C. Owsley (Ph.D., 1969)
Monsanto Research Center
"Industrial Chemistry: A View from the Bench"
- Professor William Fenical (Ph.D., 1968)
University of California, San Diego
"Marine Natural Products, a Biomedical Frontier?"
- Dr. Lauren R. Brown (Ph.D., 1973) and
Dr. Robert E. Klem (Ph.D., 1970)
JBL Scientific
"JBL Scientific: Chemists as Entrepreneurs"
- 5:00 p.m. Reception and poster program: Main Lounge, University Commons
- 7:00 p.m. Banquet: Main dining room, University Commons
- President L. Donald Shields (B.A., 1959)
Southern Methodist University
"Future Opportunities in Chemical Research and Education"
- Father Bologna (Dr. Div., 1653)
"A Look at the Real UCR Faculty"

SATURDAY, DECEMBER 15

8:30 a.m. Coffee: Foyer, Life Sciences 1500

9:00 a.m. Inorganic Chemistry and Materials Science: Life Sciences 1500

Program Chairman: Professor M. F. Hawthorne
University of California, Los Angeles

Dr. Leonard V. Interrante (B.S., 1960)
Corporate Research and Development, General Electric
"Coordination Chemistry Applied to the Generation of
Novel Solid-State Materials"

Dr. Donald C. Young (Ph.D., 1966)
Science and Technology Division, Union Oil Company
"Chemical Innovation"

Professor Patrick A. Wegner (Ph.D., 1966)
California State University, Fullerton
"The Reactivity of Linked Bi-Metallic Systems"

Dr. Kenneth Callahan (Ph.D., 1969)
Catalytica Associates, Inc.
"Molecularly Engineered Layered Structures"

Dr. Alvin D. Goolsby (Ph.D., 1968)
Shell Development Corporation
"A Review of Ongoing Cathodic Protection Research
Activities at Shell, Emphasizing the Marine Environment"

Dr. Charles F. Gay (Ph.D., 1978)
ARCO Solar Science Center
"Photo-Voltaics Today"

12:30 p.m. Lunch: Foyer, Life Sciences 1500

1:30 p.m. Analytical Chemistry: Life Sciences 1500

Program Chairman: Professor Donald T. Sawyer
University of California, Riverside

Dr. Robert J. Day (B.S., 1962)
TRW Space Technology Group
"Putting Laboratories in Space Craft"

Dr. David J. Brookman (Ph.D., 1968)
Stauffer Chemical Company
"Analytical Chemistry and Product Regulation"

Dr. Keith R. Darlington (Ph.D., 1968)
Research Center, Pennwalt Corporation
"Industrial Applications of Laser-Raman Spectroscopy"

Dr. Blair C. Baker (Ph.D., 1969)
Riker Laboratories, 3M Corporation
"The Role of the Analytical Chemist in the Pharmaceutical Industries"

Dr. Larry W. Amos (Ph.D., 1973)
Weyerhaeuser Technology Center
"NMR in the Forest Products Industry; Cheap at Twice-the-Price"

Dr. Paula J. Bosserman (Ph.D., 1980)
Science and Technology Division, Union Oil Company
"Nickel and Vanadium Speciation in Petroleum"

COLLOQUIA. The Symposium will include four half-day sessions on Friday and Saturday: physical and theoretical chemistry, organic chemistry, inorganic chemistry and materials science, and analytical chemistry. All of the speakers will be former UCR undergraduates or graduate students. The lectures will be presented in Life Sciences 1500, which is directly across from Pierce Hall (the chemistry building). Registration, coffee breaks, and buffet lunches will be in the foyer of Life Sciences 1500.

RECEPTION AND POSTER PROGRAM. The reception for the Symposium will be held in the main lounge of the University Commons, from 5:00-7:00 p.m., Friday. All participants of the Symposium are encouraged to prepare and present a poster as part of the activities for the reception. These posters will provide an excellent, informal vehicle for letting your colleagues know what you're doing now, and for finding out about their activities—please participate. (Standard 4' x 6' poster boards will be available.)

BANQUET. The Symposium banquet will be at 7:00 p.m., Friday, in the main dining room of the University Commons. Dr. L. Donald Shields (B.A., 1959), President of Southern Methodist University, will be the principal speaker.

TRANSPORTATION. The Ontario Airport is convenient to UCR, and flights are available from a large number of cities. All of the motels listed below are within walking distance of campus. If you are driving, you may park in Lot 16 (closest lot to Pierce Hall) without a parking permit while you attend the Symposium.

HOUSING. A block of rooms (twin-bedded and queen) has been reserved at Howard Johnson's, 1199 University Avenue, Riverside, California, (714) 682-9011. The rates are \$36 for one person and \$44 for two people. Reservations should be made to the motel by November 29, 1984, and should note that this is in connection with the UCR Chemistry Symposium. Other convenient motels are the Quality Inn and the Holiday Inn, both on University Avenue.

DEPARTMENTAL VISITS AND TOURS. The faculty and students of the department will be available on Friday and Saturday for visits and recollections of the "good old days," and will be pleased to show you the facilities and specialized instrumentation that are available for research and education in chemistry at UCR.

REGISTRATION. Please complete the enclosed registration form and return it in the enclosed envelope by December 5, 1984. The registration fee of \$35 includes the reception and banquet, lunch on Friday and Saturday, and light refreshments at the colloquia. Final programs and other materials will be provided at the registration desk in the foyer of Life Sciences 1500.

SILVER ANNIVERSARY SYMPOSIUM
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CALIFORNIA, RIVERSIDE
POSTER SESSION

Renny A. Fields

"Characterization of Excited States of Chromium III in an Organometallic Host
through Narrow-Band Laser Excitation"

Peter R. Griffiths

"High Sensitivity Vibrational Spectrometry"

(Co-authors: P.B. Brimmer, D.J.J. Fraser, L.A. Gross, D.E. Henry, I. Iwaoka,
G.A. Pariente, S.L. Pentoney, J.A. Pierce, K.H. Shafer, K.W. Van Every,
and N.A. Wright)

Norman E. Hester

"What's the Btu in a Brazilian Bahazu? Try An Independent Testing Lab"

Philip M. Kellet

"The Comparison of Mold Marks on Cast Bullets and Punch Marks in Copper Gas
Checks"

James R. Koskinen

"CHROMatOMAX: Using Chemometrics to Improve Chromatography"

William T. Lakatos

"Fractional Distillation at 6,000 Feet: Teaching Chemistry up at
Lake Arrowhead"

Robert Lee

"In vivo ^{31}P NMR"

(Co-author: N. Thomson)

"2-Dimensional NMR"

(Co-author: C. Tzeng)

"NMR: Spinning vs. Flowing"

(Co-authors: D. Laude and C. Wilkins)

Donald Leedy

"Research at Proctor and Gamble"

August H. Maki

"ODMR Spectroscopy of Protein-Nucleic Acid Complexes Exhibiting an External
Heavy Atom Effect"

(Co-authors: T.-A. Cha and M. Khamis)

David Mendenhall

"Homolysis of Hyponitrites: Concerted vs. One-Bond Scission"

M. Mark Midland

"Asymmetric Synthesis"

(Co-authors: D. Tsai, J. Gabriel, Y.C. Kwon, R.E. Woodling, and J.I. McLoughlin)

Thomas H. Morton
"Neutral Products from Ion-Molecule Reactions in the Gas Phase"
(Co-authors: K.K. Johri, E. Redman and D. Stams)

Edward Nanni
"Boron Nitride Process Chemistry"

Robert C. Neuman
"The July 1964 Fire"
"Decomposition of Cis-Azoalkanes"
(Co-author: G. Binigar)

William F. Okamura
"Hydrogen Shifts in Organic and Bio-organic Chemistry: Vitamins A and D"
(Co-authors: S.A. Barrack, C.A. Hoeger, G.-Y. Shen and M.H. Silveira)

David A. Owen
"Synthesis and Structural Studies of Group VIB and Group VIIIB Transition
Metal Complexes Incorporating the Pentaphenylcyclopentadienyl Group as Ligand"

Brian M. Pierce
"A Theoretical Study of the Nonlinear Coupling between Amide-I Vibrational
Excitons and Phonons in Hydrogen-Bonded Polypeptide Chains"

Marge Rakowsky
"The Cis-Olefin Insertion Reaction"
(Co-authors: D.B. Green, J.C. Woolcock, M.F. Rettig and R.M. Wing)

Diane Riebeth
"Cisplatin Binding to BrCCGG"
(Co-author: R.M. Wing)

Donald T. Sawyer
"Manganese(III) Complexes as Models for the Photosystem II Cofactor
in Green-Plant Photosynthesis"
(Co-authors: K. Yamaguchi and L. Spencer)
"Activation of Dioxygen by Electron-Transfer Reduction in the Presence of
Protons, Organic Substrates, or Transition Metal Complexes"
(Co-authors: J. Roberts, T. Calderwood, T. Tsuchiga, H. Sugimoto and
M.S. McDowell)

Gary W. Scott
"Direct Evidence for Intramolecular Proton Transfer of 2-Hydroxyphenyl
Benzotriazole Photostabilizers in Polystyrene Copolymer Films"
(Co-author: D. O'Connor)

Dino S. Tinti
"Totally Symmetric Vibrational Perturbations in Triplet-Singlet Spectra"

Charles L. Wilkins
"Analytical Molecular Spectroscopy"
(Co-authors: D.A. Weil, D.A. Laude, Jr., C.L. Johlman, C.F. Ijames,
C. L.-C. Yang, M.L. Coates, R.S. Brown and J.R. Cooper)

Jeffrey R. Wyatt
"Secondary Ionization Mass Spectrometry"