Harry G. Fair

Each year, a special lecture is given in memory of Harry G. Fair, an outstanding OU alumnus. Harry G. Fair was born in Okmulgee, Oklahoma, on June 3, 1916. He received his B.S. in Chemical Engineering in 1939. He joined Phillips Petroleum Company in 1939 and worked his way up to Vice President for Supply and Transportation, with responsibility for world-wide exchange of crude oil and all transportation facilities. In 1966, he joined the M.W. Kellogg Company as Executive Vice President, in charge of all engineering activities and became Executive Vice President of Coastal States Gas Corporation from 1971 until the time of his death on July 27, 1974. Harry G. Fair was active in service to society and to his alma mater. He was a member of a number of professional societies and was a licensed professional engineer.

This lecture is made possible by the Harry G. Fair Memorial Fund contributed by his widow, Jane Swift Fair. Arrangements are made by the School of Chemical Engineering and Materials Science.

"Recent Advances in Semiconductor Materials Science"

by

George A. Samara

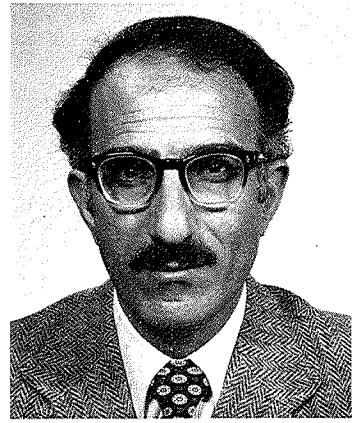
Sandia National Laboratories,

Albuquerque, New Mexico

The advent of modern materials growth techniques such as molecular beam epitaxy (MBE) and chemical vapor deposition (CVD) are leading to impressive advances in the growth and artificial layering of semiconductors. This lecture will emphasize recent work in two areas: strained-layer superlattices are man-made high quality layered crystalline solids which have never existed before and which exhibit optical and electronic properties that are both entirely different from those of their constituent materials and not present in bulk form. In CVD, advanced diagnostics and computational tools are providing new insights into the chemical and physical processes which occur in both the gas phase and on the surface and are leading to better control over the process.

Dr. George A. Samara is manager of the Condensed Matter Research Department at Sandia National Laboratories in Albuquerque, New Mexico. Prior to assuming this post in January 1989, he served in several managerial, supervisory and research positions at Sandia.

A graduate of the Universities of Oklahoma and Illinois, Dr. Samara joined Sandia in 1962 as a member of the research staff. Shortly thereafter, he spent two years as a project officer at the U.S. Army Electronic Laboratories at Fort Monmouth, New Jersey and then returned to Sandia where his career has been devoted to conducting and managing research in both fundamental and applied science. His personal research has covered a number of areas most important among which are studies of the following phenomena and properties: Structural phase transitions, deep electronic levels and lattice relaxations in semiconductors, ferroelectric properties, ionic conductivity, dielectric propeties, ferromagnetic properties, and insulator- and semiconductor-to-metal transitions. This work has been motivated by fundamental considerations as well as by the use of these properties and phenomena in a variety of practical applications.



George A. Samara

Samara has written over 140 technical publications and has lectured extensively in the U.S. and abroad. He has served as a member or chairman on numerous national committees, advisory boards and editorial boards. He is a fellow of the American Physical Society and of The American Association for the Advancement of Science and a member of A.I.Ch.E., the Materials Research Society and Alpha Chi Sigma. He was elected to the National Academy of Engineering in 1986. He won the Ipatieff Prize of the American Chemical Society in 1974 and was a recipient of the Army Commendation Medal in 1965 and a U.S. Department of Energy Materials Science Award in 1988.

You Are Cordially Invited
To Attend

The Sixteenth Annual

Harry G. Fair
Memorial Lecture

in

Chemical Engineering
And Materials Science

April 12, 1990
3:30 P.M.

The Lecture will be given on campus,
In The Energy Center,
Room M-204

Coffee and Refreshments
will be served

School of Chemical Engineering and Materials Science
The University of Oklahoma
The Energy Center, 100 E. Boyd, Room T-335
Norman, Oklahoma 73019-0628

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