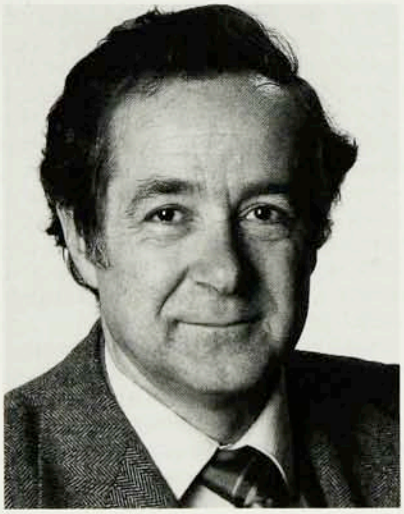
RHEOLOGY SOCIETY PRESENTS BINGHAM MEDAL IN SANTA FE

The Society of Rheology has selected Guy C. Berry of Carnegie-Mellon University to receive the 1990 Bingham Medal. Berry, who will be presented with the medal this month at the society's 62nd annual meeting in Santa Fe, New Mexico, was chosen for his "contributions to the molecular understanding of rheological behavior in polymer systems."

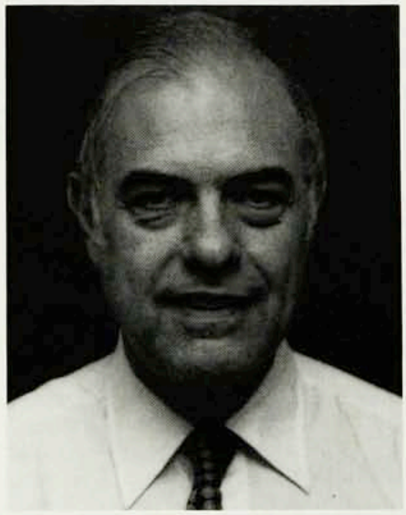
During the 1960s Berry studied the viscosity of polymer melts and concentrated solutions and also looked at thermodynamics and flow behavior in dilute polymer solutions. More recently Berry's work has dealt with rod-like, heterocyclic condensation polymers, which he has compared and contrasted with flexible-chain polymers. Among other things, Berry and his research group have demonstrated that isotropic solutions of rod-like polymers obey the same laws (with appropriately redefined coefficients) as flexible polymers, and they have documented the qualitative differences in linear response that develop above the ordering transition. Berry "is a superb experimentalist with sound theoretical instincts," the award citation said.

Berry received a PhD in chemical engineering from the University of Michigan in 1960. He then joined the faculty of the Mellon Institute, which later became part of Carnegie-Mellon University. He is currently a professor of chemistry and polymer science and was recently named head of the chemistry department at Carnegie-Mellon.

Last year the Bingham Medal was awarded to Irvin M. Krieger of Case Western Reserve University for his research in the rheology of concentrated dispersions. Krieger's work is considered by many to be the basis for the modern study of colloidal suspensions. According to the award citation, his research has helped eliminate ambiguities about particle size and shape and about effects of interparticle forces. He pioneered the use



Guy C. Berry



Irvin M. Krieger

of dimensional analysis to interpret and generalize experimental results in the study of hard sphere dispersions. With P. Anne Hiltner and Yoram Papir, Krieger did studies of iridescence in deionized lattices that led to the discovery of the phase equilibrium between an ordered (crystalline) phase and a disordered (fluid) phase. His current research is on rheological measurements in viscoplastic and thixotropic fluids.

Krieger received a PhD in physical chemistry from Cornell University in 1951. He then joined the faculty of Case Western, where he is now a professor emeritus of physical chemistry and macromolecular science. He was the founder of Case Western's Center for Adhesives, Sealants and Coatings and served as its director from 1982 to 1988.

IACHELLO WINS WIGNER MEDAL FOR NUCLEAR MODELS

At the 18th Colloquium on Group Theoretical Methods in Physics, held in Moscow in June, Francesco Iachello of Yale University received this year's Wigner Medal. The biennial honor is given by the Group Theory and Fundamental Physics Foundation, which cited Iachello for "developing powerful algebraic tools and models in nuclear physics."

In a series of papers published between 1974 and 1979 Iachello developed, with Akito Arima, the interacting boson model of nuclei. Based on the dynamical group U(6), this model predicted three reduction chains, two of which were known to occur, and the third of which was observed subsequently. The model has shaped the current understanding of a large class of nuclei. In the early 1980s, with Itzhak Bars and A. Baha Balantekin, Iachello discovered a supersymmetric approach generalizing the earlier U(6) model; the predictions of this new boson-fermion model were observed in several nuclear species. With Raphael D. Levine, Iachello

Francesco Iachello

introduced models of molecules that were based, like those used to describe nuclei, on group theory.

Iachello received one doctorate in nuclear engineering from the Turin Polytechnic in 1964 and a second doctorate in physics from MIT in 1969. He has been a professor at Yale since 1978.

IN BRIEF

Michael Knotek, formerly chairman of the National Synchrotron Light Source at Brookhaven National Laboratory in Upton, New York, has become senior science director for Batelle Memorial Institute's Pacific Northwest division in Richland, Washington.

Shobo Bhattacharya, formerly a senior staff physicist at Exxon's Corporate Research Laboratories, has become a senior research scientist in the physical sciences research division of the NEC Research Institute in Princeton, New Jersey.

This month **Gordon P. Eaton** will leave his position as president of Iowa State University to become the new director of Columbia University's Lamont–Doherty Geological Observatory in Palisades, New York. Eaton is a geologist by training who has been in university administration for about nine years.

Herbert Goldstein, a professor of applied physics and nuclear engineering at Columbia University, has been chosen to receive the Arthur Holly Compton Award of the American Nuclear Society. According to the award citation, Goldstein is recognized for "his pioneering research and teaching in radiation transport and shielding, and for his selfless effort to promote public understanding of nuclear power."

OBITUARIES

Emilio Segrè

Emilio Gino Segrè, Nobel laureate and a pioneering figure in nuclear physics, died suddenly of a heart attack on 22 April 1989, at the age of 84. Segrè became a research associate at Lawrence Berkeley Laboratory (then the University of California Radiation Laboratory) in 1938, and joined the physics department of the University of California, Berkeley, two years later. He and I shared the Nobel Prize in Physics in 1959 for the discovery of the antiproton.

Segrè was a polished writer, so I shall take the liberty of frequently quoting his own description of his life and work in his Faculty Research Lecture, "From Atoms to Antiprotons," given in March 1960.

Emilio was born into an influential and affluent Italian family that had strong intellectual traditions. His father was an industrialist—the owner of a paper mill—and his mother was the daughter of a well-known Florentine architect. He recalled:

> I passed my youth in Tivoli, where I received extraordinarily good instruction in the elementary grades. . . .
>
> At the University [in Rome] I came immediately into contact with scientists and mathematicians of outstanding merit, such as Castelnuovo, Severi, Levi-Civita and Corbino. However, I studied engineering and not physics. . . . It was only in my fourth university year that I became acquainted with first [Franco] Rasetti and then with [Enrico] Fermi. . . .
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> Fermi had just arrived in Rome as a young professor. . . . He gave us, that is, [Edoardo] Amaldi, Rasetti, [Ettore] Majorana and myself [his first students], and later [Giulio] Racah, [Gian Carlo] Wick and others, private and informal lessons, out of which we learned physics. . . .
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> [In those lessons] I was deeply influenced in my scientific taste of what is important in physics and in my conception of the indissoluble connection between theory and experiment.
>
> Although my own work has been mostly experimental, it was motivated much more by theory than by a desire to develop a technique or an instrument.
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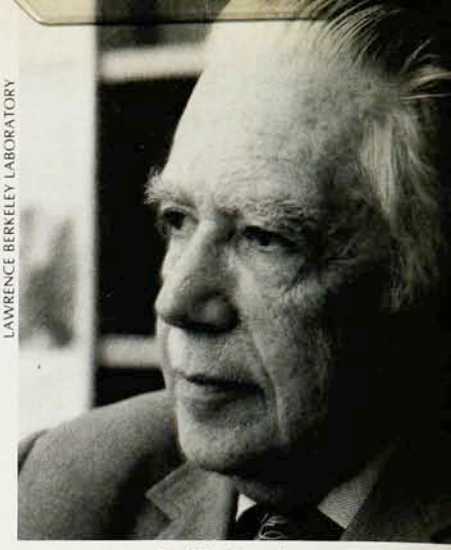
> Experimental complication to me is more an unavoidable evil to be tolerated in order to obtain the results than a stimulating challenge, as it is to many physicists. The simple experiment has been always the one I admired most.

LAWRENCE BERKELEY LABORATORY



Emilio Segrè

In 1928 Segrè completed his doctoral thesis at the University of Rome, on the anomalous dispersion of lithium vapor. Although he worked with Fermi on a number of atomic spectroscopy problems, in 1929 he made his first original discovery, on the connection of forbidden lines with quadrupole radiation using the Zeeman effect. This was the experiment that convinced him he could do something significant in physics by himself.

To bring new experimental techniques to Rome, members of the Fermi group had to learn them by working with other research teams:

> I went to Amsterdam, to [Pieter] Zeeman's laboratory to study forbidden spectral lines. . . . I later worked on molecular beams in the Otto Stern laboratory in Hamburg. . . .
>
> Around 1930 Fermi recognized . . . that one had to turn to the nucleus for new and interesting problems and riddles . . . and just in the middle of this work, lightning struck in the form of the discovery of artificial radioactivity by [Irène] Curie and [Frédéric] Joliot. . . . Fermi immediately saw the advantages of using neutrons instead of alpha particles as projectiles and started experimenting in that direction. . . . When Fermi obtained his first success he generously asked us to help him; and we dropped everything else, . . . divided our work and took responsibility for different parts of it. . . .