

at Rensselaer Polytechnic Institute and the State University of New York at Albany and has been on the editorial board of the journal *Radiation Effects*.

Carl Sagan wins Dickinson College Priestley Award

Carl Sagan, for his "contribution to the welfare of mankind through astronomy," has received the 1975 Joseph Priestley Award of Dickinson College in Carlisle, Pennsylvania. Sagan is professor of astronomy and space studies and director of the laboratory for planetary studies at Cornell University. He has been recognized by both the general public and the scientific community for his efforts to communicate news of astronomy to the public. Most of Sagan's research concerns the physics and chemistry of planetary atmospheres and surfaces, space exploration and the origin of life.

Newly-elected members of the National Academy of Sciences include **Stephen A. Adler**, Institute for Advanced Study, Princeton, New Jersey; **Frank A. Bovey**, Bell Laboratories; **Kenneth M. Case**, Rockefeller University; **Bruce Chalmers**, Harvard University; **Leon N. Cooper**, Brown University; **Edward C. Creutz**, National Science Foundation; **Wallace G. Ernst**, University of California, Los Angeles; **Eugene Feenberg**, Washington University; **George Feher**, University of California, San Diego; **Hans Frauenfelder**, University of Illinois; **Kenneth I. Kellerman**, National Radio Astronomy Observatory; **Arthur H. Lachenbruch**, US Geological Survey; **Max Vernon Mathews**, Bell Laboratories; **Erwin W. Mueller**, Pennsylvania State University; **Arno A. Penzias**, Bell Laboratories; **Paul B. Price Jr.**, University of California, Berkeley; **Calvin F. Quate**, Stanford University; **Melvin Schwartz**, Stanford; **Clifford G. Shull**, Massachusetts Institute of Technology; **John C. Wheatley**, University of California, San Diego and **Kenneth G. Wilson**, Cornell University.

Foreign associates of the Academy include **Kunihiko Kodaira**, Tokyo University, Japan; **Devendra Lal**, Physical Research Laboratory, Ahmedabad, India; **Ernst J. Öpik**, Armagh Observatory, Northern Ireland; **Alfred E. Ringwood**, Australian National University, Canberra and **Sir Martin Ryle**, Mullard Radio Astronomy Observatory, Cambridge University, England.

Among the Fellows elected to the American Academy of Arts and Sciences this Spring are **Alan H. Barrett**, Massachusetts Institute of Technology; **Raymond Bowers**, Cornell University; **Gerald E. Brown**, State University of New York at Stony

Brook; **John W. Cahn**, MIT; **Sidney R. Coleman**, Harvard University; **N. Bruce Hannay**, Bell Laboratories; **John J. Hopfield**, Princeton University; **Gerry Neugebauer**, California Institute of Technology; **Jeremiah P. Ostriker**, Princeton; **Arno A. Penzias**, Bell Laboratories; **Carlo L. Rubbia**, Harvard; **Richard B. Setlow**, Brookhaven National Laboratory; **Lubert Stryer**, Yale University; **Samuel C. C. Ting**, MIT and **Kenneth G. Wilson**, Cornell.

Foreign honorary members include **Martin Rees**, University of Cambridge, England; **Sin-Itiro Tomonaga**, Tokyo University of Education, Japan and **Yakov B. Zeldovich**, Institute of Chemical Physics, USSR Academy of Sciences.

The Alfred P. Sloan Foundation has awarded two-year research fellowships to 86 young scientists, 25 of whom are physicists: **Robert R. Alfano**, City College of the City University of New York; **Tanya M. Atwater**, Massachusetts Institute of Technology; **Stephen M. Curry**, University of Texas at Dallas; **Kris Davidson**, University of Minnesota; **Marc Davis**, Harvard University; **Glennys R. Farrar**, California Institute of Technology; **Peter J. Gierasch**, Cornell University; **Robin P. Giffard**, Stanford University; **Paul K. Hansma**, University of California at Santa Barbara; **C. Wendell Horton Jr.**, University of Texas at Austin; **Michael S. Isaacson**, University of Chicago; **Robert L. Jaffe**, MIT; **Bruce C. Knapp**, Columbia University; **Marc D. Levenson**, University of Southern California; **Tom Lubensky**, University of Pennsylvania; **Oscar J. Lumpkin Jr.**, University of California at San Diego; **Alan H. Luther**, Harvard; **Peter Molnar**, MIT; **Lon M. Rosen**, University of Toronto; **Christopher H. Scholz**, Columbia; **Arnold J. Sierk**, California Institute of Technology; **Stuart A. Solin**, University of Chicago; **Anthony F. Starace**, University of Nebraska at Lincoln; **Beatrice Tinsley**, University of Texas at Austin and **Clifford M. Will**, Stanford.

Kuldip P. Chopra, professor of physics at Old Dominion University, has been named chairman of the new section on environmental science of the Virginia Academy of Science. Chopra is also the recent recipient of the VAS Horsley Research Award for his work on atmospheric and ocean flow problems caused by islands.

Richard A. Moyle has been appointed research associate at the University of Maryland cyclotron laboratory.

The National Academy of Engineering has announced the election of 86 new members, including **Betsy Ancker-Johnson**, US Department of Commerce; **William O. Baker**, Bell Laboratories; **Andrew H. Bobeck**, Bell Laboratories; **Ivar Giaever**, General Electric Co; **John J. Gilman**, Allied Chemical Corp; **William E. Gordon**,

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we hear that

Rice University; **Cyril M. Harris**, Columbia University; **Wallace D. Hayes**, Princeton University; **John A. Hornbeck**, Bell Laboratories; **Edward A. Mason**, Nuclear Regulatory Commission; **Erwin W. Mueller**, Pennsylvania State University; **Rocco A. Petrone**, National Center for Resource Recovery; **Albert Rose**, RCA Laboratories; **John H. Sinfelt**, Exxon Re-

search and Engineering Co; **Ping King Tien**, Bell Laboratories; **John W. Townsend Jr.**, US Department of Commerce; **Alvin M. Weinberg**, Oak Ridge Associated Universities and **F. Karl Willenbrock**, National Bureau of Standards.

James W. Butler has been appointed head of the ion-beams application branch of the radiation technology division at the Naval Research Laboratory in Washington, D.C.

obituaries

André Lagarrigue

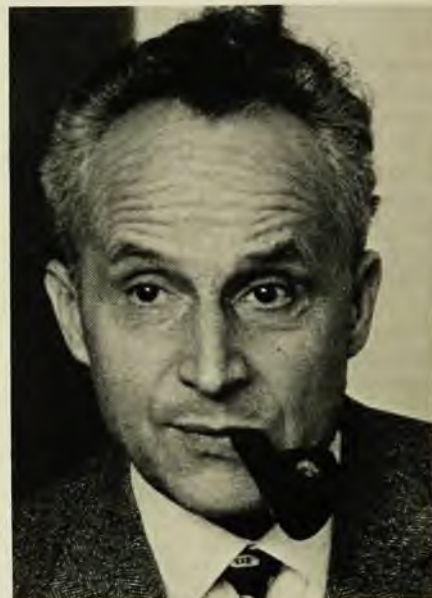
André Lagarrigue died suddenly on 14 January a few hours after interrupting his regular morning lecture at Orsay. He was 51.

One of the most gifted, well-balanced and clear-minded experimental particle physicists in contemporary France, at the time of his death he was director of the Laboratoire de l'Accélérateur Linéaire at Orsay and president-elect of the Société Française de Physique.

Born and reared in Toulouse, Lagarrigue began his scientific career in the laboratory of Professor Louis Leprince-Ringuet at the Ecole Polytechnique in Paris. His experimental research developed in the direction of cosmic-ray physics, culminating in a doctoral thesis in 1952 on the muon decay spectrum. He spent several years thereafter in exploring strange-particle events produced in the large cloud chambers operated by the high-altitude laboratory at the Pic du Midi, leading to an identification of the $K\mu$ decay mode.

In 1956 he established a group for performing experiments with the proton synchrotrons at Saclay and CERN in Geneva. The expertise gained in constructing and using two modest prototypes of heavy-liquid bubble chambers led to the successful construction and operation of a second-generation, 300-liter model (BP3). After a number of runs at Saclay this bubble chamber was brought in 1960 to CERN where, under Lagarrigue's supervision, it became extremely productive in a wide range of experiments carried out by groups from many laboratories throughout Europe and the United States.

A major accomplishment in which Lagarrigue elegantly displayed his scientific knowledge and remarkable talent for organization came in 1970 at CERN when the third-generation giant bubble chamber "Gargamelle" became operational and highly successful under his leadership. Neutrino physics received a vital boost through this powerful tool. It was with Gargamelle that



LAGARRIGUE

pictures were obtained in 1973 demonstrating the existence of neutral currents.

A professor at the Faculty of Sciences in Orsay since 1965, Lagarrigue in 1969 became director of the Linear Accelerator Laboratory, where he expressed enthusiasm for exciting experiments and encouraged the development of storage rings and other new experimental devices.

He managed to combine his passion for direct experimental work with the heavy burden of administrative responsibilities, which he carried out with kindness and good humor. He had a strong interest in the well-being of his co-workers and never abandoned his concern for the problems facing modern society. In this spirit he accepted leadership of a national committee reorganizing the physics curriculum in French secondary schools.

He commanded the respect and affection of all who knew him by his honesty, his tactful directness and his love of beauty. For the French physics community in particular he remains irreplaceable. To his family and many