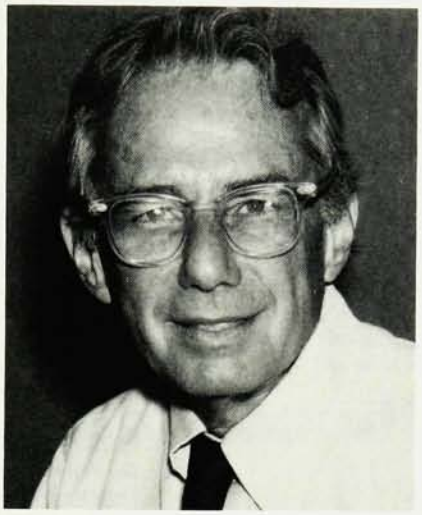
APS Forum presents awards to Rosenfeld and Keeny

The Forum on Physics and Society of The American Physical Society has named Arthur H. Rosenfeld (University of California at Berkeley and Lawrence Berkeley Laboratory) to receive the 1986 Szilard Award, and Spurgeon M. Keeny Jr (Arms Control Association) to receive the Forum Award.

Rosenfeld is being honored for his research on energy-conservation technologies. He received his BS from Virginia Polytechnic University in 1944 and his PhD from the University of Chicago in 1954. In 1957 he became an assistant professor of physics at the University of California at Berkeley; he was named full professor in 1963. Concurrently Rosenfeld became a research associate at the Lawrence Berkeley Lab in 1956, director of the Particle Data Group in 1964 and leader of Research Group A in 1971. In 1974 he founded the Energy and Buildings Program at the lab, which he has directed since then. The program was expanded in 1985 to become the Center for Building Sciences, which has played a leading role in the Department of Energy's conservation efforts. By pursuing routes to more efficient energy services in buildings, the Center has helped reduce US energy bills by $150 billion and has demonstrated cost-effective ways to save another $150 billion. Rosenfeld has coauthored *A New Prosperity: Building a Sustainable Energy Future* (Brick House, Andover, Mass., 1981) and *Supplying Energy Through Greater Efficiency* (Univ. California P., Berkeley, 1983).

Keeny is being recognized "for communicating to public leaders the impact of science and technology on policy issues." He received his BA (1944) and his MA (1946) from Columbia University. He was an intelligence analyst at the US Air Force Directorate of Intelligence Headquarters (1950–52), chief of the special-weapons section (1952–55) and a staff member of the Panel for Peaceful Uses of Atomic Energy (1955–56). He became chief of the atomic-energy division of the office of the assistant secretary of defense for research and engineering in 1956. He served as the technical assistant to the Presidential science adviser from 1958 to 1969, and as a senior member of the National Security Council from 1963 to 1969. In addition, Keeny was assistant director of the Arms Control and Disarmament Agency for Science and Technology from 1969 to 1973 and deputy director of the agency from 1977 to 1981. Most recently, while serving as scholar-in-residence at the National Academy of Sciences (1981–85), Keeny was the principal editor of *Nuclear Arms Control: Background and Issues* (NAS, 1985). He has also had an interest in nuclear-power issues, and was chairman of the Ford Foundation's Nuclear Energy Policy Study, which culminated in the book *Nuclear Power: Issues and Choices* (Ballinger, 1977). Keeny is currently president of the Arms Control Association.



ROSENFELD

KEENY

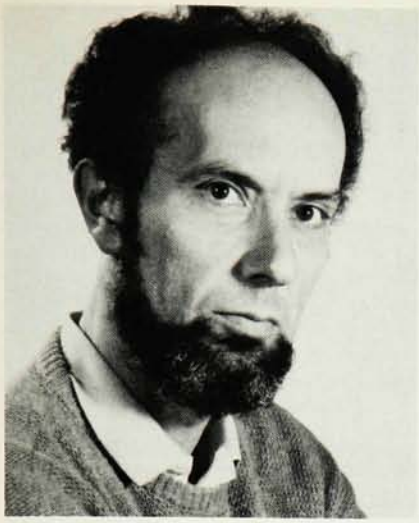
1985 French Physical Society prizes

The Société Française de Physique honored the following individuals in 1985:

Jacques Villain (Jülich) received the Jean Ricard Prize—named after its endower, and the highest prize awarded by the society—for his "impressive achievements in statistical mechanics and in solid-state physics." Early in his career Villain discovered helimagnetism; he has since contributed significantly to the study of commensurate and incommensurate transitions—in particular with his models for one- and two-dimensional materials—and to the study of spin glasses.

Denis Jérôme (CNRS, Université de Paris–Sud) received the Holweck Prize for his "impressive achievements with organic conductors and superconductors." Jérôme and his group at the Laboratoire de Physique des Solides (Orsay) have extensively studied one-dimensional organic conductors. In 1965 M. Ribault (Orsay), K. Bechgaard (Copenhagen) and Jérôme made the first observation of superconductivity in organic materials.

James Lequeux (Observatoire de Marseille) was honored with the Robin Prize for his "many brilliant feats as an astrophysicist." Lequeux's research has included galactic evolution (in particular studies of compact blue and irregular galaxies), uv studies of the Galaxy and studies of stellar popula-

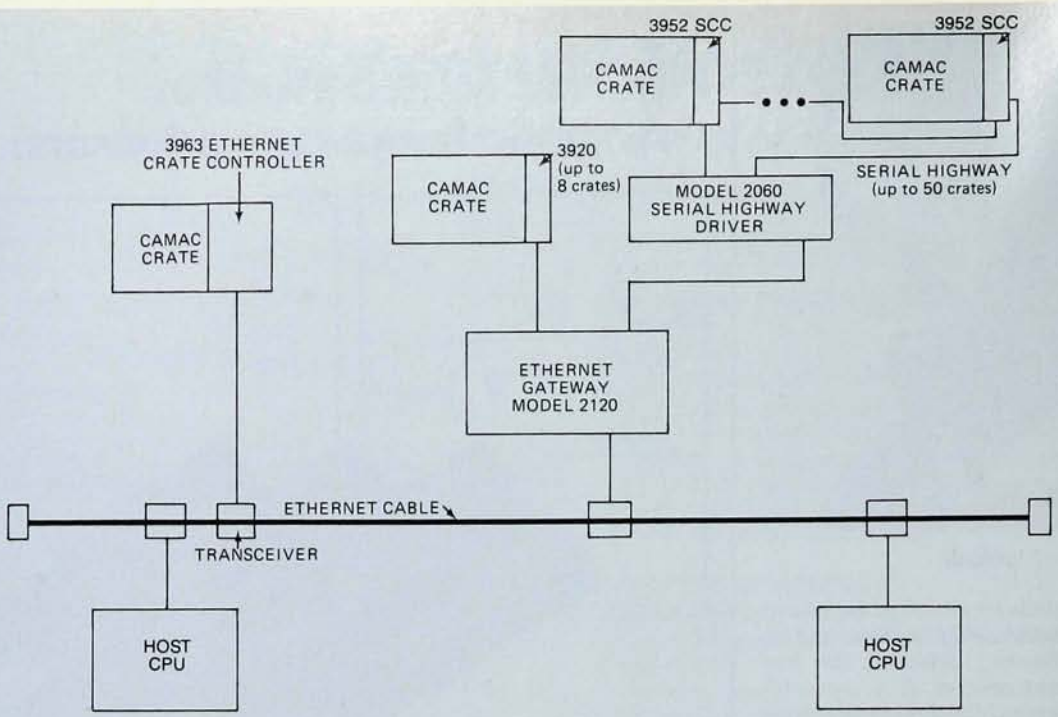


JERÔME

tions and stellar extinction in nearby galaxies. In the 1960s Lequeux and his group at Nançay obtained the first infrared solar spectra.

Daniel Beysens (Saclay) received the Ancel Prize for condensed-matter physics for his work on off-equilibrium critical phenomena. Jean-Luc Destombes (Lille) received the Aimé Cotton Prize for atomic and molecular physics for his studies of ion radicals important in astrophysics, such as OH, CS, SO and CO^+, using millimeter spectroscopy. Destombes has detected a rotational transition in H_2D that is of importance to models of the chemistry of the interstellar medium. Mannque Rho (Saclay) received the Langevin Prize for theoretical physics for his pioneering contributions in the development of intermediate-energy physics, including providing evidence for mesonic degrees of freedom (1970–80), and in particular for his work on the chiral bag model of the nucleon. Jean-Jacques Aubert (Marseille) was awarded the Joliot–Curie Prize for particle and nuclear

VILLAIN



Link Your CAMAC System to the Ethernet Network with KSC's New Ethernet-to-CAMAC Interfaces

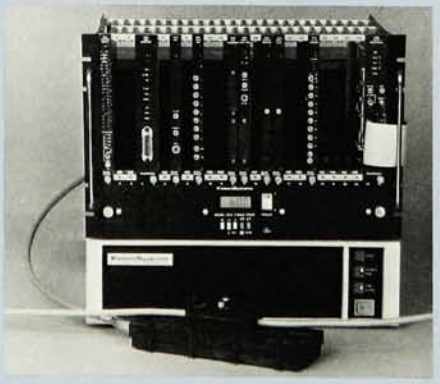
Now you can quickly connect CAMAC (IEEE-583) to the Ethernet network. Using DECnet protocol and a unique combination of both hardware and software components, these two new interfaces offer you a powerful networking system, LAM interrupt capabilities, and LSI-11 processors operating under RSX-11S for high-speed access to CAMAC modules in the remote crates. This use of independent processors provides the ability to incorporate newer processors as they become available.

The **3963 Ethernet Crate Controller**, with a choice of LSI-11/23 or 11/73 processor, mounts in the crate and can be used when your application requires a small number of distributed CAMAC crates. Larger multicrate systems can be configured using the **2120 CAMAC-to-Ethernet Gateway** with an LSI-11/73 processor. Up to two megabytes of memory are available for either interface.

KSC's powerful software package provides a transparent interface to CAMAC via Ethernet, as if your CAMAC system was directly connected to your host computer. Its powerful command list structure minimizes Ethernet overhead. Using simple Fortran calls, complex CAMAC I/O operations can be easily constructed with single I/O request blocks. Multiple hosts and Ethernet Crate Controllers (ECC) are supported. Additionally, a single host can have multiple tasks, each communicating with the same ECC.

3963 Ethernet Crate Controller

This set of three CAMAC modules houses a CAMAC controller, LSI-11 processor, RAM, Ethernet interface, and down-line boot ROM. Software licenses are included. It occupies five slots in the crate. Software documentation and distribution are provided as part of the Host Support Package.



2120 Ethernet-to-CAMAC Gateway

This interface requires a powered LSI-11 box to house system components (LSI-11 processor, RAM, Ethernet interface, and boot ROM. Software licenses are included). Space is provided for up to eight 2920/3920 crate controllers and one 2060 serial highway driver. Software documentation and distribution are provided with the Host Support Package.

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physics. Aubert was part of the group working at Brookhaven, led by Samuel Ting, that discovered the J/ψ particle in 1974, simultaneously with Burton Richter and his group working at SLAC. More recently Aubert played an important role in the discovery of the EMC effect using the high-energy muon beam at CERN. Françoise Hippert (Orsay) received the Brelot Prize, which is presented for achievement in solid-state physics by a young postdoctoral physicist, for her work on macroscopic anisotropy in spin glasses. The society honored two physicists for their accomplishments in applied research: M. Pigeon (Commisarial à l'Energie Atomique) was awarded the Esclangon Prize for his work on the use of the Foucault current in controlling metallic structures, and R. Campargue (CEA) received the Foucault Prize for his work on molecular jets. G. Meurgues (Paris Museum) and J. M. Pelt (Metz), two biologists, shared the Jean Perrin Prize for the popularization of science. The 1985 IBM Prize was awarded to Bernard Derrida for "his achievements in statistical mechanics and, more particularly, for his work on the approach to turbulence and on the physics of disordered systems."

in brief

Eric B. Forsyth has been named chairman of the newly formed accelerator-development department at Brookhaven National Laboratory. Forsyth, an electrical engineer, joined Brookhaven in 1960; he has worked on the Alternating-Gradient Synchrotron and on superconducting instrumentation.

Carl M. Shakin, professor of physics at Brooklyn College, has been named Distinguished Professor by the City University of New York.

Robert B. Leachman, formerly at Army headquarters at the Pentagon, has become a senior scientist at Lockheed Missiles and Space Company in Sunnyvale, California.

Kenneth L. Kliewer, associate director for physical research at Argonne National Laboratory, will become dean of the School of Science at Purdue University in September. He will succeed Allan Clark, who resigned his position at Purdue to become president of Clarkson University in July 1985.

obituaries

John C. Wheatley

The scientific community lost a most valued member with the premature death of John C. Wheatley on 10 March 1986. For the many who shared with him the exciting discoveries of the last 30 years in quantum fluids at low and very low temperatures, and for those who had the privilege of being his students, postdocs and close collaborators, the void left by his death will be very hard to fill. Wheatley was born 17 February 1927 in Tucson, Arizona. At the time of his death in Los Angeles he was a professor of physics at the University of California, Los Angeles, as well as a University of California–Los Alamos Fellow.

Wheatley received his undergraduate education at the University of Colorado at Boulder, and his graduate training at the University of Pittsburgh under David Halliday. His dissertation subject led him, in his initial appointment at the University of Illinois, to study the nuclear alignment of cobalt nuclei and thermometry at low temperatures. These studies were followed by a very comprehensive program to extend measurements of the thermal, magnetic and transport properties of He^3 and He^3–He^4 mixtures to the 3–500-mK range. He remained at Illinois until 1967, when he moved to the University of California, San Diego. In 1981, having broadened his interests to include the study of heat engines, and needing close contact with advanced technical facilities, he moved to Los Alamos. In 1985 he decided to divide his time between UCLA and Los Alamos to remain close to an academic setting and to retain the opportunity to teach undergraduate and graduate students. Along the way he spent several periods abroad, in particular a cherished stay in 1954–55 at the Kamerlingh Onnes Laboratory in Leiden, Holland, and an 18-month visit in 1962–63 to Centro Atomico Bariloche in Bariloche, Argentina, where he helped establish a low-temperature-research laboratory. His keen interest in the solution of practical problems and his great organizational skills led him, with others, to start the SHE Corporation (now Biomagnetic Technology Inc), a company originally dedicated to the fabrication of very specialized low-temperature equipment.

WHEATLEY

Wheatley's years at Illinois and San Diego produced a large portion of our present knowledge of liquid He^3 and dilute mixtures of He^3 in He^4, and inspired much of the work that followed. In the Illinois years, prior to the development of dilution refrigeration as a practical tool, he and his students constructed some of the most elaborate cryostats using electronic adiabatic demagnetization ever built. Knowledge of the thermal and magnetic properties of matter at very low temperatures was rather limited at that time, so in parallel with the study of He^3, and to guarantee thermal equilibrium and thermometry, they measured the thermal conductivity and magnetic susceptibility of every possible material to be used in a cryostat. Nothing was ever left to chance. Some of his best-known achievements of this period were the measurements of specific heats of pure He^3 and dilute solutions of He^3–He^4 down to several mK—from which effective masses of the He^3 quasiparticles could be calculated and which confirmed the lack of phase separation in the dilute solutions—the observation of zero sound in He^3, and the observation of minima in the thermal conductivity of He^3 and the dilute solutions.

The first American dilution refrigerator was built at Wheatley's lab. His idea of making a discrete set of heat exchangers using sintered metal powders (copper in his first design) is widely used in commercial versions. On the experimental side, he used the refrigerator as a "wonderful toy" to learn more about the behavior of He^3 and the He^3–He^4 mixtures, in particular the viscosities of the liquids and the Kapitza resistances between them and solid surfaces. Using two cascaded refrigerators, his group was the first to reach 4 mK without recourse to magnetic cooling.

At San Diego Wheatley built a state-of-the-art laboratory, with new dilution refrigerators as the sources of cooling. In 1968 he started a program to develop an improved refrigeration tool based on