

FermiNews Special Edition

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Fermi National Accelerator Laboratory

John Peoples is Fermilab's Director Designate

Universities Research Association, Inc., (URA) yesterday announced the appointment of Fermilab Deputy Director John Peoples, Jr., as Fermilab's Director Designate. URA, as contractor to the Department of Energy (DOE) for management and operation of Fermilab, selects a Laboratory director subject to final approval of the DOE. DOE approval of John Peoples' appointment to a five-year term was forwarded to URA on April 19.

Peoples' appointment as Fermilab's third Director in the Lab's 22-year history will become effective on July 1, 1989, when Leon M. Lederman retires at the expiration of his second five-year term as Director. Fermilab's founding Director, Robert R. Wilson, served from 1967-1978.

"John Peoples has won the unanimous endorsement of every governing body of the URA," said URA President Edward A. Knapp. "His record of achievement at Fermilab, in both experimental particle and accelerator physics, and in the Superconducting Super Collider magnet program has drawn the attention and respect of the worldwide high-energy physics community. We make this appointment with great confidence in his ability to lead the Laboratory into yet another new and dynamic era of physics, as his predecessors have done. It is clear that much of Fermilab's successful recent past is due to John Peoples' tremendous commitment and energy, and we are glad to put the future in his hands."

Leon Lederman, who appointed Peoples Deputy Director in September 1988, said of yesterday's announcement: "John will provide the Laboratory with continuity and the drive to continue the evolution of the TEVATRON, now the most powerful accelerator in the world. John is also one of the best recruiters the Lab has ever had; in each of his many Laboratory assignments, he has left behind a group of able young scientists and engineers who could replace him. He is a gifted and dedicated experimental physicist, skilled in accelerator science, and a superb manager, one who has earned the respect of the Department of Energy and of his colleagues around the world.

"The Laboratory is now in a critical stage as it seeks to exploit the TEVATRON facility during the next decade when the Superconducting Super Collider [SSC] is being constructed in Texas, assuming Congress proceeds with the SSC proposal. The goal will be to maintain the leadership at the energy frontier and to prepare for a scientific phase beyond SSC which will explore complementary particle-physics issues. I can't think of anyone more suitable than John Peoples to carry out this difficult and challenging program. He must, of course, also maintain the artistic, educational, and ecological concerns which have made Fermilab unique among federal installations or else suffer the pain of being haunted by both his predecessors."

Robert O. Hunter, Jr., Director of the DOE Office of Energy Research, stated that, "I believe Dr. Peoples is an outstanding choice. He will provide the scientific and technical leadership as this pre-eminent facility moves into the 21st century. We're looking forward to the new world of high-energy physics as it unfolds at Fermilab."

Wilmot N. Hess, Associate Director, DOE Office of High Energy and Nuclear Physics, said the Department was very pleased with the selection of Peoples. "He is well known to us in DOE and well known to the scientists who work at Fermilab. He is an excellent choice to guide the premier high-energy physics laboratory. We will work closely with Dr. Peoples to fully exploit the highest energy particle detector in the world, and to ensure that Fermilab maintains its leadership for a very long time."

The road leading to today's announcement was marked by an extensive, painstaking selection process undertaken by the URA Search Committee for Director of Fermilab. This process included a worldwide mailing of over 300 letters of solicitation for recommendations, and the placing of advertisements in leading scientific periodicals, including the *CERN Courier*, *Physics Today*, and *Science* magazine. Once a list of candidates had been compiled, the Search Committee (Harold K. Ticho, Vice Chancellor for

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Academic Affairs, University of California [Chairman]; Kenneth Heller, School of Physics and Astronomy, University of Minnesota; Albert Silverman, Newman Laboratory, Department of Nuclear Studies; and Robert R. Wilson, Professor Emeritus, Cornell University; with Raymond L. Brock, Department of Physics and Astronomy, Michigan State University, representing the Fermilab Users' Executive Committee and *ex-officio* members Edward A. Knapp and Harry Woolf, Institute for Advanced Study and Chairman, URA Fermilab Board of Overseers) met in formal session three times, twice at Fermilab in late January and early February 1989, and once in California in mid-February 1989. The first Fermilab meeting was held to interview Lab personnel on candidates; the second Fermilab meeting sought the guidance of the Fermilab user community in the selection. The California meeting's agenda consisted of a review of relevant correspondence and interviews with candidates.

Having made their selection, the Committee presented their recommendation to the URA Fermilab Board of Overseers, which endorsed the decision to the URA Board of Trustees. URA President Knapp then conveyed the Board's nomination to DOE.

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John Peoples was born in Staten Island, New York in 1933. He graduated from Staten Island academy in 1950, and entered the Carnegie Institute of Technology with the intention of majoring in chemistry. After three years, he changed his major to electrical engineering and was subsequently granted a B.S.E.E. by Carnegie Tech in 1955. He and Brooke Detweiler married in 1955; they have two children, Jennet, born in 1956, and Vanessa, born in 1961.

Peoples was employed by the Martin Aircraft Company in Middle River, Maryland, following graduation, where he worked principally on the design of autopilots and inertial guidance systems for missiles. He was promoted first to associate engineer, and then to engineer. He took leaves of absence in 1959, 1960, and 1961 to attend Columbia University, eventually returning to Martin to work on the application of superconductivity to switching circuits and transmission lines.

He entered Columbia University as a graduate student in Physics, and received a teaching assistantship for the academic year 1960-61. The following year, he was appointed Lecturer in Physics. He received an M.A. from Columbia in 1961. He was

awarded a John Tyndall Fellowship for the academic years 1962-63 and 1963-64, and was named George B. Peagram Honorary Fellow for the year 1964-65, and was awarded an Alfred P. Sloan Fellowship in 1970.

Peoples began his thesis research in 1962 under the guidance of Alan Sachs at the Nevis Synchrocyclotron. The research resulted in the most precise measurement to date of the positron energy spectrum of muon decay. During the course of this work, he improved and adapted the sonic spark chamber as a tool for high-energy physics, one of the first successful attempts to marry counter physics with the technology of the digital computer. The analysis of the experimental data formed the basis of his doctoral thesis, which was accepted by the Graduate Faculty of Columbia in December 1965. Peoples' academic career included an appointment to the faculty of Columbia University as an instructor in Physics in 1964, with promotion to Assistant Professor of Physics in 1966, and Assistant Professor of Physics at Cornell University in 1969.

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John Peoples brings to his new role as Fermilab's Director a range of involvement in particle physics that covers the fullest spectrum of the discipline, from experimental physics research to accelerator building, from project management to administrative responsibilities.

His research activities include: A search at the Brookhaven National Laboratory (BNL) Alternate Gradient Synchrotron (AGS) for the breakdown on charge conjugation symmetry in the decays of the η meson, a forerunner of modern multiparticle spectrometers as it detected and measured three and four particle final states. In 1968, he continued to work on physics related to C and CP violations by joining a group measuring the charge asymmetry between the electron and positron decay of the long-lived neutral K meson, again using the AGS. The experiment's data analysis provided the most accurate measurement of that asymmetry parameter when the results were published in 1969.

While at Cornell, he and Jay Orear proposed a measurement of large momentum transfer elastic scattering of hadrons. In collaboration with physicists from BNL and Northeastern, they performed this measurement at the AGS during 1970-71, extending the large angle pion scattering to 23 GeV, the highest energy measurement at the time.

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Together with collaborators from Columbia, the University of Illinois, and the University of Hawaii, Peoples proposed in 1970 to search for heavy leptons and massive vector bosons in high-energy photon nucleus collisions at Fermilab. This experiment, E-87, was approved in the summer of 1971. In the fall of 1971, he took a leave of absence from Cornell to work full time on E-87, which went on to run successfully from 1974 until 1984, when it became the first secondary hadron beam to take advantage of 800-GeV protons from the newly-commissioned TEVATRON.

Between 1976 and 1978, Peoples formed a small group of Fermilab physicists which, in collaboration with Columbia and Illinois, made the first observation of the photoproduction of the D^0 and D^{**} charmed mesons and the Λ_c charmed baryon. Between 1978 and 1979, the group made the first measurement of ψ and ψ' photoproduction of hydrogen and deuterium. For a time, these measurements provided the most accurate measurement of the ψ -nucleon cross section.

While at the Lab in 1972, a critical period in Fermilab's evolution, he volunteered to assist with the Lab's more pressing problems, and was given several responsibilities in the area of handling radioactive components. In October 1972, he accepted a continuing appointment at the Lab as Associate Section Head of the Proton Lab. Concurrent with turning the construction of the Proton Lab around to a successful course, he worked with Helen Edwards on the commissioning of the Main Ring slow extraction system, sparking his interest in accelerator physics.

At the beginning of 1973, Peoples was asked to serve as Section Head of the Proton Lab. After resigning from Cornell, he accepted the position on February 14, in order to commemorate Chicago's St. Valentine's Day Massacre. He developed and implemented plans for the installation of the first experiments in the Proton Area, and by May of 1973, E-100, a collaboration of the University of Chicago and Princeton University, became the first experiment taking data in Proton, publishing preliminary results on particle spectra at large transverse momenta that same year. Shortly thereafter, E-70, a Columbia University experiment led by Leon Lederman, published preliminary results on direct lepton production.

The design, fabrication, and installation (begun during his tenure as Proton Department Head and

completed in early 1975) in the Proton Area of an electrostatic beam splitter made it possible to operate all three Proton target areas simultaneously, a development of particular importance to E-288, a dimuon mass spectra measurement being done by Lederman's group, and to the Columbia-Illinois-Fermilab E-87 photoproduction experiment. In 1977, the data from E-288 led to the discovery of the upsilon family, and the data from E-87 provided the first observation of the ψ at Fermilab.

In 1975, following a return to experimental physics at the Lab, Peoples accepted the position of Head of the Research Division, where he guided the completion of the Proton Area and the rebuilding of the Meson and Neutrino areas. A plan for building a 750-GeV muon beam and upgrading the neutrino beams in the Neutrino Area formed basis for the conceptual design for the TEVATRON II project.

After again returning to experimental physics, Peoples served, from 1980 to 1981, as liaison between the CDF experimenters and the civil engineering groups on the design of the B0 experimental hall, and participated in the conceptual design of an antiproton source based on electron cooling, which, as it developed, required a major upgrade in the operating voltage of the electron beam to a factor of four greater than what Fermilab had achieved up to that time. At Lederman's request, Peoples led a team which produced, in 1982, a conceptual design for the Antiproton ($Pbar$) Source based on stochastic cooling. In May of '82, the revised design and cost estimate were accepted by DOE and funding for the $Pbar$ Source was approved. As $Pbar$ Source project manager, Peoples directed both the R&D and construction programs. While he was responsible for the accelerator system improvements to the Main Ring and TEVATRON that created the TEVATRON Collider, the technical direction was carried out by Fermilab's Accelerator Division under Helen Edwards and J. Richie Orr.

In 1984, Peoples and others proposed to measure the mass and widths of the bound charmonium states which can be formed in antiproton-proton collisions. The collaboration includes physicists from the University of California, Irvine; Northwestern; Penn State; Ferrara; Genova; Torino; and Fermilab. The experiment, approved in 1985, uses the Fermilab Accumulator Ring (an element of the $Pbar$ Source) in conjunction with a gas jet target.

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Commissioning of the Pbar Source was begun in April of 1985. Six months later, the first collisions of 800-GeV protons on 800-GeV antiprotons were observed by the partially completed CDF detector. The TEVATRON I project became operational in January of 1987, and the Pbar Source reached a peak accumulation rate of 1.2×10^{10} pbars/hour in April of that year, making it the most intense antiproton source in operation at that time. It subsequently reached an accumulation rate of 2×10^{10} p⁻¹p/hour in 1988. Peoples served as Deputy Head of the Accelerator Division beginning in January of 1987, with responsibility for the Linac, Booster, and Pbar Source and their upgrade proposals.

In October of that 1987, he took a 1-year leave from Fermilab to manage the magnet R&D program for the SSC which was ongoing under the direction of the SSC Central Design Group, with work being carried out at Lawrence Berkeley Laboratory, BNL, and Fermilab. As Head of the Magnet Division, Peoples was responsible for the design, fabrication, and testing of the magnets, which had been unable to reach their design field without excessive quenches. Subsequently, a number of substantial design changes were made to the magnet design, improving the mechanical restraint of the collared coils. All magnets using this design have reached design current with two or fewer quenches. Of greater importance is the fact that Peoples organized the work of the Division and began a modest expansion of its efforts so that it could provide the needed leadership. He is given credit for turning the magnet R&D program around.

In September of 1988, Peoples was appointed Deputy Director of the Fermilab by Lederman.

Over the years, Peoples' appointments have included a 2-year term on BNL High Energy Advisory Committee from 1972-74; election to the Fermilab Users' Executive Committee in 1974; membership in the DOE High Energy Physics Advisory Panel from 1976 to 1979 and again from 1984 to 1986; membership in the Fermilab Physics Advisory committee in 1982 and 1983; election to Vice-Chairman of the Division of Particles and Fields of the American Physical Society (APS) in 1983, and to Chairman in 1984, when he was also elected a Fellow of the APS. He was a member of the Cornell Physics Advisory Committee from 1986 until 1989, and Chairman of that committee in 1987.