In the late 1960s, he performed an experiment at CERN’s PS that measured the decays of the $\Lambda$. Then, in the early 1970s, he involved the Lund group in a series of experiments at the Intersecting Storage Rings (ISR), which at the time provided the world’s highest-energy particle collisions. There, he measured the production of various types of particles, and in particular participated in a series of experiments that observed the production of a high abundance of particles with large transverse momenta, which required an explanation in terms a substructure in the colliding protons.

Guy von Dardel initiated the Scandinavian ISR Collaboration, which included the Niels Bohr Institute in Denmark and Bergen University in Norway. He also initiated the participation of some of the Lund group in an experiment at DESY. Further experiments followed there, but he did not himself participate in these.

He was chair of the European Committee for Future Accelerators (ECFA) from 1976–1977. During this period he was instrumental in starting CERN’s preparations for the Large Electron Positron (LEP) collider. He was later involved in the L3 experiment at LEP.

In the mid-1980s, together with James Cronin, he conducted a new version of the experiment that measured the lifetime of the neutral pion. The result was consistent with the first measurement, but with an order of magnitude better precision.

As a scientist, Guy von Dardel was characterized by his large flow of ideas; ideas for physics experiments and ideas about instrumentation. He was also strong in providing rapid and rough estimates, an important ability when discussing new ideas. He was an inspiration for all of those he worked with.

His half-brother Raoul Wallenberg disappeared at the end of the Second World War after having saved tens of thousands of Jewish lives. Guy von Dardel was dedicated to finding out his brother’s fate. He made countless journeys to the Soviet Union and Russia for discussions and to examine records, taking the initiative for many actions, and he compiled an extensive archive regarding his brother’s fate.

We share our sorrow with his family and convey our deepest condolences to his wife Matilda and the rest of his family. His colleagues and friends.

Sam Lindenbaum 1925–2009

Sam Lindenbaum, whose distinguished career at the Brookhaven National Laboratory (BNL) spanned 45 years, died on 17 August 2009.

Born in New York City, Lindenbaum earned a bachelor’s degree in physics from Princeton University in 1945, followed by a master’s degree and PhD from Columbia University in 1949 and 1951, respectively. He joined BNL in 1951 and he soon began experimental research at the Cosmotron, where he developed the first differential gas Cherenkov counters at this machine and proposed a theory known as the nucleon “isobar model” to explain the dominant features of high-energy pion production. He also designed the radiation protection shield for the Cosmotron, proposed the basic parameters of the Alternating Gradient Synchrotron (AGS) shielding and was a consultant on many other high-energy shielding projects.

In 1959, Lindenbaum formed a new group to develop a novel approach to study basic high-energy interactions, which required handling the high data rate made possible with scintillation counter hodoscopes. This work led to the founding of the On-Line Data Facility, which was used both by universities and by BNL groups, with Lindenbaum as group leader.

During the 1960s Lindenbaum and his group exploited online techniques further in experiments at the AGS. Their research included investigations of pion–nucleon forward dispersion relations that proved the validity of a basic axiom of modern relativistic field theory. They also found that the $A2$ meson was not “split”, thus helping to confirm the validity of the quark model.

In 1970, Lindenbaum became co-group leader of the Particle Spectrometer Group with his long-term collaborator, Satoshi Ozaki. With help from university user groups, the group designed and constructed the MultiParticle Spectrometer (MPS) at the AGS, a 700-tonne large-acceptance particle detector with high-speed electronic sub-detector systems that enabled detection of rare events. A more powerful successor, MPS II, followed in the late 1970s. Using MPS II, the team discovered direct evidence for glueballs.

Following the cancellation in 1983...
of the proposed high-energy collider, ISABELLE, at BNL, Lindenbaum worked on a time-projection chamber, for a new relativistic heavy-ion programme at the AGS and he began to focus his attention on magnet design and detector technology for the Relativistic Heavy Ion Collider (RHIC). As a member of the STAR collaboration at RHIC, Lindenbaum, along with Ron Longacre at BNL, was interested in a theoretical interpretation of particle interactions at RHIC. Together they studied the fluctuations and correlations in relativistic heavy-ion collisions to search for indications of "bubbles" of quark–gluon plasma that might be created prior to the formation of hadrons. They published a paper on their theory, and another paper was pending at the time of Lindenbaum's death.

In 1970, Lindenbaum became a faculty member at the City College of New York (CCNY), while retaining a joint appointment at Brookhaven. He retired from CCNY in 1995, but held the title of professor emeritus at the college from 1998. He retired from BNL in 1996, returning in 1998 as a guest senior physicist to continue his research as part of the STAR collaboration.

Lindenbaum was highly appreciated by his colleagues as a great scientific thinker and a source of new and innovative ideas. He was also a fierce defender of scientific freedom and enjoyed spirited scientific and philosophical debates. His brother, Stanley Lindenbaum, a niece, Karen Koevary, and a nephew, Michael Kimmel, survive him. Diane Greenberg, BNL.

Jan Nassalski 1944–2009

Jan Nassalski, a prominent figure in the deep inelastic scattering community, an ingenuous physicist and a dedicated teacher, passed away on 5 August.

Jan graduated from the physics department of Warsaw University in 1966. He started his scientific career at Warsaw University of Technology and in 1971 he joined the Institute of Nuclear Research (now the Soltan Institute for Nuclear Studies), where he later became scientific director. His research work centred on the physics of elementary particles of matter and their interactions and he collaborated with the Laboratory of High Energy Physics at JINR, the Rutherford Laboratory in the UK, and Fermilab. From the late 1970s, however, his research was concentrated at CERN.

His continuous participation in one of CERN's longest running experimental facilities started when he joined the European Muon Collaboration and in the early 1980s he set up a group in Warsaw to study the nucleon structure in deep inelastic muon scattering. He participated in the ground-breaking discovery in 1988 that the quark spins contribute little to the nucleon spin and he was a key contributor to the structure-function studies in the New Muon Collaboration, leading to the measurement that showed violation of the Gottfried sum rule.

In the 1990s, Jan focused on high-precision experiments of the polarized structure of the nucleon. Under his leadership the Warsaw group contributed to the first test of the Bjorken sum rule by the Spin Muon Collaboration and he was essential in studies of gluon polarization in the nucleon by the COMPASS experiment – an important step in understanding the quark/gluon structure of matter. For his colleagues Jan was the reference point for all aspects of physics in the domain of deep inelastic scattering.

Jan's group from the Soltan Institute made successful contributions to the NA48 experiment at CERN, with read-out electronics for the liquid krypton calorimeter. The group was also active in physics analysis, leading some studies of rare kaon decays and precise measurements of fundamental properties of neutral mesons. In particular, Jan was one of the main authors of the precision measurement of the mass of the η.

In addition to his research, Jan was chair of the Programme Advisory Commission for High Energy Physics of the Scientific Council of JINR and he was a member of the Scientific Council at DESY. He also chaired the High Energy Physics Commission at the Polish Atomic Energy Council.

In his home country, Jan was tireless in his outreach activities, publishing widely in the Polish media. Whenever CERN launched a new outreach initiative, the uptake in Poland was phenomenal, and Jan's hand could be seen behind the success. For example, a CERN educational CD was distributed free with a popular science magazine, and more recently, Jan played a vital role in making CERN's high-school teacher programme a great success in Poland. He was particularly proud of this work and justifiably so.

Jan was a delegate to CERN Council from December 2004, representing his country's interests powerfully and with great conviction. Although softly spoken, he knew how to carry an argument. Yet even in the most heated of debates, he was a model of politeness and courtesy.

Thanks to his natural kindness and sense of humour, his infinite patience and above all his extreme rigour and great integrity, exchanges with Jan were of a high standard and rewarding. The quality and accuracy of his judgments always made them an irreplaceable reference. Particle physics has lost not only an excellent physicist, but also a true gentleman.

Jan was to all of us more than a colleague. We will greatly miss his perceptiveness and sensitivity as well as his advice, and remember him as a precious friend. His colleagues and friends.