

President of the Czech Academy of Sciences Rudolf Zahradnik (left) presents the Academy's prestigious Ernst Mach Medal to CERN staff physicist **Ivan Lehrs** for his contributions to particle physics and detector technology.



At the opening of the "**Britain at CERN**" trade show, British ambassador to Switzerland Christopher Hulse (centre) and CERN Director General Chris Llewellyn Smith (left) admire the work of Lancashire Fittings, represented by Chairman Dick Wakelin.

At a meeting "**Around VIRGO**" at Pisa which looked at worldwide progress on gravitational wave detectors, left to right: Jean-Eudes Augustin of Lyon; Gerard Fontaine, head of astroparticle physics at the French CNRS; and Emilio Picasso of Pisa. Construction work has begun at Cascina, near Pisa, for VIRGO, a laser interferometer with two orthogonal 3 km arms. Multiple reflections in the arms will extend the optical length to 120 km. In its search for one of the most elusive effects in physics, gravitational wave detectors have to achieve new precision goals – the VIRGO mirrors will have to attain a reflectivity of 99.999% with surfaces true to a hundredth of a micron. VIRGO is funded by the Italian INFN and the French CNRS.



Charles Planner 1938–1998

Charles Planner, who joined the Rutherford Laboratory in 1961, died on 14 August after a two-year fight against cancer.

Charles started his career in accelerators on the 15 MeV Linac Injector for the 7 GeV Proton Synchrotron Nimrod, where he developed his expertise in radiofrequency (rf) system design and beam theory. During his career he contributed to the design of many accelerators, including HERA at DESY, the ESRF at Grenoble, the TRIUMF Kaon Factory design and the European Spallation Source study.

At Rutherford he was responsible for the rf system of the 70 MeV proton linac as a new injector for Nimrod. It is a tribute to its robust design that the repetition rate of this linac could be increased from 1 Hz to 50 Hz, with

little change, when it was used as the ISIS injector. On ISIS he was responsible for the injection system, the elegant rf shields in the ring magnets, the optics of the extracted proton beam and the development of extraction kicker magnets. His novel approach to the manufacture of the large but very thin (0.25 micron) foils needed for beam injection into ISIS has been a major success and typifies his work.

For the last few years he was group leader of the ISIS Linac and Radiofrequency Quadrupole linac (RFQ) Group concentrating on increasing the performance of the ISIS linac. His innovative and determined approach has led to developments in RFQ design codes and to the development of a beam-matching system between the ISIS ion source and the RFQ.

Workshops and conferences

- An International Workshop on "Electron-Positron Collisions from Phi to J/Psi" will be held at the Budker Institute of Nuclear Physics, Novosibirsk, Russia from 1–5 March 1999. It will bring together theorists and experimentalists interested in low-energy hadron physics.

More information from: e-mail "vepp99@inp.nsk.su"; fax 7-383-234-2163; tel. 7-3832-359833 (T Purlatz) or 7-3832-359734 (A Bondar); home page "http://www.inp.nsk.su/hippsi/".

- DIS99, the 7th International Workshop on Deep Inelastic Scattering and QCD will be organized by DESY Zeuthen from 19–23 April 1999, at the institute.

For more information see "http://www.ifh.de/~dis99/". E-mail "dis99@ifh.de". DESY-Zeuthen – DIS99, D-15738 Zeuthen, Germany. Fax +49 33762 77-413.

- The next "Workshop on small x Physics" will be held at Tel Aviv University from 15–19 June. This workshop follows those held in Saclay (1994), Cambridge (1995), Durham (1996), Madrid (1997) and Berlin (1998).

Further information at "http://www.tau.ac.il/~smallx".

- The Chicago International Conference on Kaon Physics (KAON '99) will be held on the campus of the University of Chicago, 21–26 June 1999. It follows a series of conferences of similar emphasis, formerly held at KEK, at Frascati, and most recently at the Orsay Workshop on K Physics, in June 1996. The symposium is being hosted by the Department of Physics and the Enrico Fermi Institute of the University of Chicago; Jon Rosner and Bruce Winstein are co-chairpersons. Attendance is by invitation only.

E-mail "KAON99@hep.uchicago.edu".

- FEL99, the 21st International Free Electron Laser Conference and 6th FEL Applications Workshop will be held on 23–28 August 1999 in Hamburg, Germany. The conference will cover scientific and technological aspects of Free Electron Lasers.

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Prof. Horia Ene, Romanian Minister of Research and Technology (second from left) visited CERN on 30 September. With him are (left to right): Atlas experiment spokesman Peter Jenni; CERN co-ordinator for Russia and other Eastern countries Nicholas Koulberg; Acting Director of Romania's International Agreements and Programs Division Iulia Mihail; Romanian physicist Petre Dita; Director General of Bucharest's Institute for Atomic Physics Voicu Lupei; and physicists Michaela Niculescu and Mihai Caprini. Bucharest's Institute for Atomic Physics is involved in the Atlas experiment.



US ambassador to Switzerland **Madeleine Kunin** and Political Officer David Jaberg inspect a model of the CMS experiment for CERN's LHC collider with CMS spokesman Michel Della Negra. The US is providing substantial in-kind contributions for LHC experiments.

Hadron therapy is increasingly attracting attention as a highly effective means of combatting cancer. CERN's "**Hadrons for Health**" exhibition recently visited Helsinki. At the opening were (right to left): Vice Rector of Helsinki University of Technology Paavo Uronen; CERN Director General



designate Luciano Maiani; Toivo Katila, responsible for the exhibition at Helsinki; Cecilia Jarlskog, responsible for Member State relations at CERN; Finnish delegate to CERN Council Risto Nieminen; Mona Grönstrand of Instrumentarium Oy; Helsinki Institute of Physics Director Eero Byckling. (Photo: Exhibition organizer Werner Kienzle.)

American Academy of Arts and Sciences

New members of the American Academy of Arts and Sciences include: William Bardeen of Fermilab; Darleane Hoffmann, Director of the Glenn T Seaborg Institute for Transactinium Science at Lawrence Berkeley National Laboratory; John Mather at NASA's Goddard Space Flight Center; Helen Quinn at SLAC; Pierre Ramond at Florida; and Miguel Virasoro, Director of the Abdus Salam Centre for Theoretical Physics, Trieste.



Bulgarian visit

The Bulgarian Minister of Education and Science Vesselin Metodieff visited CERN on 29 September.

Field theory, Fields Medal

The 1998 award of the prestigious Fields Medal for Mathematics reflects a continuing trend of mathematicians obtaining inspiration from theoretical physics.

The Fields Medal, officially called the "International Medal for Outstanding Discoveries in Mathematics", is awarded every four years at the International Congress of Mathematicians, and is widely considered the highest scientific award for mathematics.

The 1998 award went to Richard Borcherds of Cambridge, Maxim Kontsevich of the French Institut des Hautes Etudes, Timothy Gowers of Cambridge and Curtis McMullen, currently visiting Harvard.

Borcherds' award recognizes in particular his proof of the "Moonshine conjecture" which links "monster groups" - which have more elements than there are elementary particles in the universe - and elliptical functions. He employed many of the ideas of physics string theory.

Also an expert in string theory is Maxim Kontsevich, who has been motivated by the work of Richard Feynman and Edward Witten. He has proved a conjecture of Witten and shown the mathematical equivalence of different models of quantum gravity.

Witten, of Princeton's Institute for Advanced Study, has long spearheaded the challenge to achieve the ultimate objective of physics - a unified theory which encompasses quantum gravity, a quest which has had to invoke both bold new physics ideas and considerable mathematical sophistication. He won the Fields Medal in 1990 for mathematical advances (proving the so-called positive mass conjecture) using ideas of particle supersymmetry.

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