

Faces & Places

AWARDS

ACFA and IPAC announce accelerator prizes

BNL



G-H Luo



Yulia Tsimikhina, Fermilab



Accelerator prize winners, from left to right, Derek Lowenstein, Gwo-Huei Luo and Sam Posen.

The Asian Committee for Future Accelerators (ACFA) and the 7th International Particle Accelerator Conference (IPAC'16) have named the winners of the ACFA/IPAC'16 Accelerator Prizes for outstanding and original contributions to the field. The recipients, selected by the ACFA/IPAC'16 Accelerator Prizes Committee, under the chairmanship of Shin-ichi Kurokawa, COSYLAB and KEK, will receive their awards at the IPAC'16 conference in Busan on 8–13 May.

Derek Lowenstein of Brookhaven National Laboratory (BNL) receives the Xie Jialin Prize for outstanding work in the accelerator field, with no age limit. In particular, he led the construction of the Alternating Gradient Synchrotron (AGS) Booster, which culminated in a world-record proton intensity in the AGS. He continued his leadership in overseeing the commissioning,

operation and upgrades of BNL's Relativistic Heavy-Ion Collider (RHIC), the world's first heavy-ion and polarised-proton collider. He was also instrumental in the establishment, at the AGS Booster, of the NASA Space Radiation Laboratory – a facility dedicated to the study of radiobiological effects important to human space flight to Mars or other planetary missions.

The Nishikawa Tetsuji Prize for a recent, significant, original contribution to the accelerator field, with no age limit, is awarded to Gwo-Huei Luo, of the National Synchrotron Radiation Research Center (NSSRC). He receives the prize in particular for his leading role in the management, construction and commissioning of the Taiwan Photon Source (TPS), which has exceeded its design goal as one of the world's brightest light sources. His dedication, broad expertise and leadership contributed

in a critical way to the success of the TPS, which had to satisfy a number of challenges including the use of superconducting cavities for high current and high RF power.

Last, the Hogil Kim Prize for a recent, significant, original contribution to the accelerator field – awarded to an individual in the early part of his or her career – goes to Sam Posen of Fermilab. He is recognised for recent important, original contributions to accelerator technology, especially to the development of Nb₃Sn-film-coated superconducting RF cavities. His achievements include developing a process for producing a special Nb₃Sn film on niobium and demonstration of its excellent performance in terms of the critical field and Q factor, which are expected to outperform traditional niobium cavities.

● For more about IPAC'16, see www.ipac16.org/.

Gianpaolo Bellini receives the 2016 Pontecorvo Award

Gianpaolo Bellini has been awarded the prestigious 2016 Bruno Pontecorvo Prize by the Joint Institute for Nuclear Research (JINR). Bellini is honoured for his “outstanding contributions to the development of low-energy neutrino-detection methods, their realisation in the Borexino detector, and the important solar and geo-neutrino results obtained in this experiment”.

Emeritus scientist of the Italian National Institute of Nuclear Physics (INFN) and full professor (now retired) at the University of Milan (Italy), Bellini is an experimental physicist in the fields of elementary-particle and astroparticle physics.

In the various experiments that he has carried out at major international laboratories, Bellini has achieved many

G Bellini



Gianpaolo Bellini.

important scientific results, including breakthroughs such as the first measure of the lifetime of a particle with charm by an exponential method, performed at CERN (the FRAMM experiment, in collaboration

with an INFN Pisa group). Since 1990, Bellini has designed, installed and managed the Borexino experiment (in the Gran Sasso Laboratory, Italy) as spokesman, for more than 20 years.

Over recent years, the Borexino collaboration has published many important results, including the first measurement of the total solar energy via neutrinos and of the neutrino fluxes produced by the various nuclear reactions in the Sun; the first measurement of the neutrino oscillation in a vacuum; and evidence of geo-neutrinos with more than 99.9999993% probability.

Currently, Borexino is working to obtain the first measurement of the important CNO cycle, and probe short-range (10 m) neutrino oscillations with an artificial neutrino source.

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OBITUARIES

Alice-Anne Martin 1926–2016

Alice-Anne Martin, known as “Schu” from her maiden name Schubert, passed away on 8 January.

Hired the year that CERN was founded, 1954, when the construction of the laboratory had not even begun, Schu first worked at the Villa de Cointrin (a historic building now within the grounds of Geneva airport) as a secretary. In this role, she typed the convention between CERN and the Swiss Confederation, prepared by Stéphanie Tixier, as well as some of the “Yellow Reports” that have marked key points in the laboratory’s history. For example, using a special typewriter with two keyboards – Latin and Greek – she typed the Yellow Report on the KAM theorem by Rolf Hagedorn.

Schu also worked with Felix Bloch, the first Director-General of CERN, and later became the secretary of Herbert Coblentz, the first CERN librarian. She was head of the team that edited the proceedings of the 1956, 1958 and 1959 international



Gérard Bertin

Alice-Anne “Schu” Martin.

conferences in Geneva.

In addition to a very rich professional life, Schu enjoyed representing CERN in skiing competitions organised by various international organisations, including the

UN, ILO, ITU and WHO. She won three such competitions, and was personally congratulated by CERN’s Director-General Cornelius Bakker.

In 1959, she was introduced by Julius Wess, one of the inventors of the theory of supersymmetry, to André Martin, a Parisian physicist, and very soon they were married. She then became the secretary of Pierre Lapostolle, who was head of the Synchro-Cyclotron Division. However, in 1963, when her husband was invited by Robert Oppenheimer to join the Institute for Advanced Study, she had to quit the Organization because, at that time, non-scientific staff were not allowed to take leave of absence.

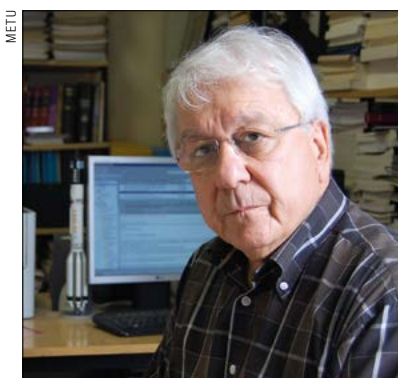
Upon returning to Geneva, she decided to devote herself to her children and family life. However, she kept in contact with CERN, in particular through the CERN Women’s Club, founded by Jenny Van Hove. All who knew her say she was a wonderful person.

● *André Martin.*

Namık Kemal Pak 1949–2015

A beloved teacher and influential scholar, Namık Kemal Pak passed away on 10 November in Ankara. He was one of Turkey’s leading theoretical particle physicists.

Born in 1949 in Samsun, Turkey, Namık Kemal Pak earned his BSc in physics from Ankara University, and his PhD from the University of California, Berkeley, in 1972. He held academic positions at the Lawrence Berkeley Laboratory, SLAC, CERN and ICTP. In Turkey, he started his career as a faculty member at Hacettepe University, and joined the Physics Department of Middle East Technical University (METU) in Ankara in 1982, where he became a full professor and worked ever since. He held many administrative duties in Turkey and represented the country at high levels in international committees, namely at NATO, OECD and ESF. Most importantly, he served as president of the Scientific and Technological Research Council of Turkey (TUBITAK) from 1999 to 2003, where he made substantial contributions to shaping science and technology policies, and promoting science in Turkey. He



METU

Namık Kemal Pak.

was one of the main figures in Turkey’s involvement with the LHC experiments. TUBITAK decided to fund the ATLAS and CMS experiments in 1996, when Namık Kemal Pak was its vice president. He was a member of The World Academy of Sciences, Academia Europaea, as well as of the Turkish Academy of Sciences from 1993 to 2011, and of the Science Academy in Turkey

from 2012 to 2015.

Throughout his career, Namık Kemal Pak made significant contributions to quantum field theory on a range of topics. From the late 1970s to the 1980s, he worked extensively on chiral effective Lagrangians in QCD. The work he did with H C Tze on the Skryme model and its “solitons” caused a revival of interest in the topic. Later, this led to identification of the topological charge of skrymions with the Baryon number, as demonstrated by A P Balachandran and his collaborators. In the 1990s and up until the beginning of the 2000s, even though Namık Kemal Pak was heavily involved in nationwide administrative duties, he continued to carry out research on various subjects, concentrating predominantly on phenomenological studies such as non-perturbative calculations using QCD sum rules, flavour-changing neutral currents in flavour physics (mainly B physics) including polarisation effects, various asymmetries within the Standard Model framework, as well as beyond non-supersymmetric

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scenarios like fourth-generation, extra dimensions, unparticles, and the minimal supersymmetric Standard Model and its abelian extensions. These topics are still active domains of research worldwide, which is only a part of what Namık Kemal Pak has done to make the METU high-energy physics group internationally recognised.

Namık Kemal Pak was always interested in science, technology and innovation policies. He edited several books and published a number of articles and reports. He also had a lifelong interest in philosophy and the history of science,

and reached several generations with his popular-science articles and talks.

The scientific community of Turkey is deeply saddened by the loss of Namık Kemal Pak. He will be remembered by his students and colleagues as a brilliant theoretical physicist, inspiring teacher, speaker, adviser, science policy maker and, without doubt, a scientist who shaped the scientific culture and the science and technology policies in Turkey. He will also be remembered for his excellent outreach talks to raise the public awareness of science. We will miss him greatly.

• Seckin Kurkcuoglu, Ismail Turan and Mehmet Zeyrek, METU/Ankara.

Dmitry Vasilievich Shirkov 1928–2016

Dmitry Vasilievich Shirkov passed away on 23 January in his 88th year, after a severe and long illness. Shirkov was an academician of the Russian Academy of Sciences and a world-renowned theoretical physicist. He was honorary director of JINR's N N Bogoliubov Laboratory of Theoretical Physics.

Shirkov achieved many fundamental results in various fields of theoretical physics. He elaborated methods to solve the kinetic equation describing the processes of neutron diffusion and moderation – of great importance in the theory of nuclear reactors. In quantum field theory, he developed the renormalisation group method, which remains one of his most significant achievements. Shirkov also made a significant contribution to constructing the general theory of the scattering matrix, and to developing a rigorous formulation of the method of renormalisation of ultraviolet divergences. These results were included in the book *Introduction to the Theory of Quantized Fields*, co-authored with N N Bogoliubov. The book is a classic of theoretical physics and is distributed in numerous countries. In his second book, *Dispersion Theories of Strong Interactions at Low Energies*, co-authored with V A Meshcheryakov and V V Serebryakov, Shirkov developed a new method to describe the low-energy scattering of strongly interacting particles. The application of quantum field theory methods to the theory of superconductivity was published in the book *A New Method in the Superconductivity Theory*,



Dmitry Vasilievich Shirkov.

which Shirkov wrote together with N N Bogoliubov and V V Tolmachev.

Shirkov initiated the development of analytical calculation systems on computers at JINR. Studies in this direction led to the world-famous results obtained by Dubna theoreticians in calculations of higher orders in perturbation theory in chromodynamics and supersymmetry theories.

Shirkov was fully devoted to science and had a rare sense of purpose and commitment. He demanded a lot from himself and his colleagues at the laboratory, and at the same time he remained a kind and thoughtful person. His passing is an irreparable loss to the world of science.

• JINR.

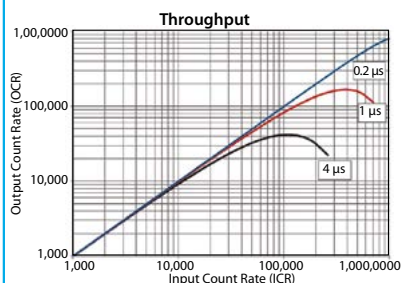
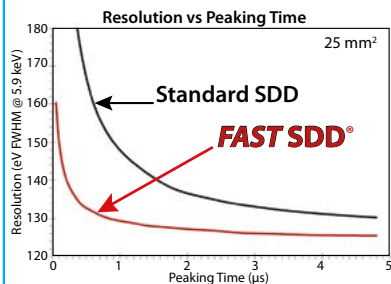
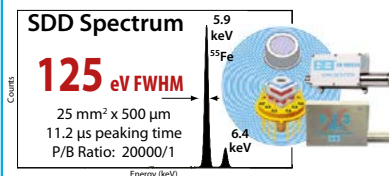
Silicon Drift Detectors

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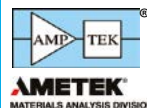
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