

graduates in Indian industry through a one-year PG diploma course. The committee headed by Ramakrishna completed, within a span of two years, several tasks, including obtaining sanctions for grants, construction of laboratories and other facilities, planning and procurement of equipment, recruitment and training of faculty/technical staff, design of curriculum, and procurement of academic approval for the one-year PG diploma programme. CEDT became operational in February 1976, and it has now grown into a highly regarded centre of excellence in electronics design and technology.

Ramakrishna was the architect of a major re-structuring of academic programmes in IISc. This included introduction of a credit system based on unitization of courses, introduction of the semester scheme, examination reforms such as continuous internal evaluation followed by semester-end examination, award of numerical grade points, grade-point averages and letter grades, and fixing of norms for passing and for award of class/distinction. Other concurrent and related tasks included preparation of user-friendly documents/manuals, graduation of courses into 100/200/300 levels for UG/PG/research programmes, and design of IISc-wide Scheme of Instruction, syllabi and time-tables. Ramakrishna

conceived and formulated the entire package, held extensive consultations with other faculty members, and piloted the scheme through the academic and administrative bodies of IISc for approval and implementation. The new scheme, introduced in 1971, has proved to be beneficial to teachers and students alike, offering flexibility in academic work and enhancing the quality of academic programmes. All leading universities/academic institutions in India have adopted similar schemes following the reforms introduced by IISc.

Ramakrishna was a founder Fellow and former President of the Acoustical Society of India. He was elected to the Fellowship of the Indian Academy of Sciences in 1975. He was a Fellow of the Acoustical Society of America and the Institution of Electronics and Telecommunication Engineers, India, and a member of the International Commission of Acoustics from 1976 to 1981. He was the recipient of the Bhagawantham Award in 1984 for his contributions to acoustics, and the Raman Centenary Gold Medal in 1988.

Prior to his retirement from IISc in 1981, Ramakrishna went on deputation to Hyderabad in September 1980 as Vice-Chancellor of University of Hyderabad. He was responsible for the plan-

ning, design and construction of the Science Complex, the administrative building and other buildings of the then nascent University. On completion of this assignment in January 1986, he returned to Bangalore and immersed himself once again in the pursuit of his scientific interests, offering advice and consultancy in acoustical design of auditoria and other buildings, and reading voraciously. He was a regular invitee and an active participant in several scientific gatherings, enjoyed discussions with his students and former colleagues, and often quizzed them about current developments in their areas of expertise. His students and younger associates remember with warmth and gratitude, his role as a teacher, mentor, guide and philosopher. His passing away is a great loss not only to his family and friends, but also to the large community of his students and to the country, as there is no one to match his contributions to the field of acoustics.

G. V. ANAND

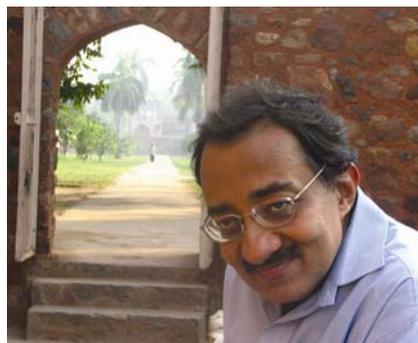
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## Rahul Basu (1956–2011)

Rahul Basu was one of the first students of George Sterman, an expert on strong interactions and the theory of quantum chromodynamics (QCD), at the State University of New York, Stony Brook, USA. Hence, from the very beginning, Rahul took up hard problems rooted in QCD, which needed a lot of insight and perseverance, such as factorization proofs for collider physics, resummation and higher-order corrections to physically observable processes. He also developed the expertise related to the associated software, and in fact, took a great interest in all things computational.

Rahul had wide-ranging interests, and moreover, a wide-ranging group of collaborators numbering more than 35 in all. Although he spent most of his professional career at the Institute of Mathe-

matical Sciences (IMSc), Chennai, his collaborators were dispersed all over India and the world. His most recent work (January 2011) was a part of a continuing collaboration with Patrick Aurénche, Rohini Godbole and Michel Fontannaz, a study of next-to-leading



order (NLO) corrections in various electro-production processes such as hadrons with large transverse energy, prompt photon production and neutral pion production. He had also worked on soft processes at NLO, such as jet-jet correlations at Tevatron energies and forward particle-jet correlations at the HERA collider. Along with Eric Laenen, Anuradha Misra and Patrick Motylinski, Rahul had earlier worked on the inclusion of the so-called soft-collinear effects in prompt photon production at HERA, and was currently working on an extension of this to the fragmentation component.

Rahul helped in the early development of factorization proofs for collider physics: his thesis was on factorization at higher twist of hadron-hadron scattering

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processes such as the Drell Yan process and he wrote one of the first papers on the effect of quark masses in jet physics.

Rahul's work included signatures at a future possible International Linear Collider, and at the Large Hadron Collider, as well as diverse topics of interest such as the dynamics of fermionic unparticles, high-energy cosmic ray spectrum, signatures of quark-gluon plasma, gluon confinement in a novel model with chromoelectric vacua, etc. He also worked on condensed matter topics such as high  $T_c$  superconductivity and anyon quantum mechanics.

Rahul played a key role in the Indian high energy physics (HEP) community. He was a regular teacher at the SERC advanced schools in particle physics

phenomenology, was on the organizing committee of several HEP meetings, both national and international; he was also an active and regular participant and organizer of the successful WHEPP series of workshops in high energy phenomenology. The entire community, at both the individual and institutional level, has greatly benefited by his energy and ability to organize meetings, schools, and other programmes involving students, teachers or fellow academics.

Quoting from the memorial message on the webpage of IMSc (<http://news.imsc.res.in/2011/03/in-memory-of-rahul-basu/>): 'Acerbic, opinionated, irreverent and argumentative – these were easy first impressions. But a deep concern for others, a genuine sense of fairness, and

his belief that scientific institutions must be ever conscious of their responsibilities as well as of their larger purpose lay at the core of his strongly held and vigorously defended views. Beneath the surface lay deep personal warmth, genuine affection and concern for others, accounting for his vast circle of close friends from around the world and in the institute where he worked for more than two decades.' We will all miss him.

I thank several collaborators for their inputs.

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