

Ranbeer Singh Rawal (1965–2021)

‘Life inevitably throws us curve balls, unexpected circumstances that remind us to expect the unexpected.’ These words of Carre Otis instantly struck to our minds when we heard about the untimely demise of Dr Ranbeer Singh Rawal, Director, G.B. Pant National Institute of Himalayan Environment, Almora at a relatively young age of 56 years on 23 April 2021 after battling COVID-19 infection and heart ailment post-recovery.

Rawal was one of the renowned conservation biologists of the country in present era, who made significant contributions to Himalayan biodiversity. He was born on 26 April 1965 in the small town of Gangolihat, Pithoragarh district, Uttarakhand, India. He completed his primary and secondary education from the Government School in Gangolihat. Later, he graduated from Kumaun University, Nainital and completed his M.Sc. degree in 1987 and Ph.D. degree in botany in 1991. In 1992, he joined G.B. Pant National Institute of Himalayan Environment as a DST Young Scientist. In 1997, he was promoted as Scientist B and thereafter, he worked in various capacities in the institute. In 2014, he became Head of Biodiversity Conservation and Management and Climate Change Division of the Institute. He guided young researchers and faculty with his experience, and played a pivotal role in the overall development of the Institute. In May 2018, the Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India (GoI) appointed him as Director of the Institute. A floristic ecologist and conservation biologist by training, Rawal contributed knowledge to Himalayan biodiversity during his nearly 30 years of service to the Institute and through his vast experience of field-based research. In the initial years of his career, Rawal was given the DST Young Scientist award to research on climate-sensitive timberline and snowline vegetation for the first time in the Indian Himalayan Region (IHR). During his tenure in the Institute, he had gained and contributed to various aspects of conservation biology such as assessment of sensitive plants and critical habitats; identification of conservation priorities; promotion of conservation education; researchers’ team-building; facilitating research of societal relevance; development of state-of-the-art infrastructure to promote conservation

outreach, etc. He also conceptualized and implemented long-term ecological monitoring (LTEM) of biodiversity in the IHR and established various LTEM plots at different altitudinal ranges (1000–3800 m amsl) in the region. Rawal along with his team established the Global Observation Research Initiative in Alpine Environments (GLORIA) in the high-altitude region of Uttarakhand. He also initiated augmenting



lead botanical garden for *ex situ* conservation and knowledge dissemination on threatened and endemic plants of IHR, and successfully conserved a number of threatened species in the Institute. Establishment of Nature Interpretation and Learning Centre is one of his pioneering works in the Institute. It now serves as an onsite training centre for a diverse group of stakeholders. He also started various programmes for promoting conservation education among teachers and students at the Institute. Among these, national nature camping programme, diversity our identity, diversity our heritage, conservation education, etc. are a few which sensitize and connect students towards nature. Such campaigns helped many students develop an understanding on environmental and socio-economic issues. He also gave a platform to the students to interact among themselves and with various other knowledge-bearers. Rawal also conceptualized and implemented a restoration programme across the sacred Kailash landscape in order to restore degraded land. He underwent extensive training on ‘regional ecosystem monitoring technology’ in Japan to learn contemporary techniques of research. He also had training on the ‘advance techno-management programme for mid-level scientists’ from Administrative Staff College of India

(ASCI), Hyderabad; ‘The Asia Europe Meeting (ASEM) training workshop on biodiversity climate change’ from the University of Brunei-Darussalam and in ‘Forest landscape restoration in the tropics’ from Yale School of Forestry and Environmental Science, USA. Rawal was instrumental in the planning and implementation of the Indian Himalayan Timberline Project, developing database on Plant Biodiversity for Indian Himalayan Region under the National Mission for Sustaining Himalayan Ecosystem, and planning, designing and implementation of Transboundary Landscape Conservation and Development Initiatives in Hindu Kush Himalaya. An author of more than 227 peer-reviewed international publications on biodiversity conservation, medicinal plants, seed technology, phytosociology and conservation education, Rawal edited 17 books, 13 popular articles, 6 manuals, 11 booklets/technical manuals, 5 popular booklets and 2 documentaries, and ably mentored 15 Ph.D. students. He coordinated and implemented many multi-institutional, multi-national and international research projects and programmes. He also coordinated some major programmes of GoI. He helped in the preparation of feasibility document of cold dessert biosphere reserves, and based on this, MoEF&CC, GoI designated the Cold Desert Biosphere Reserve in Western Himalaya. Rawal’s worthy contributions to some nationally and internationally important policy documents and reports have paved the way for addressing the key challenges through science–policy–practice interface.

Rawal implemented stakeholder-driven ecosystem management programmes which resulted in the augmentation of spring-water recharge and co-benefits. He also coordinated the Himalayan Young Researcher Forum – one of the platforms for dialogue among budding researchers across the Himalaya, and to identify synergies for networking and future collaboration.

Rawal represented India in several international forums, including member of the Indian Scientific and Technologists team for exposure in South Africa and expert-level meeting of Shanghai Cooperation Organization in Beijing, Indian delegation in the Fourth World Conservation Congress at Barcelona in 2008, an expert group on biodiversity at the climate summit in Bhutan

in 2011, etc. He was a recipient of awards such as the ICFRE Award of Excellence in Forest Conservation, 2001; Science and Technology Excellence Award 2019–20 by UCOST Dehradun and Indian Science Congress 100th Platinum Jubilee Lecture award, 2014. Rawal was a life member of several learned societies and served as President of the Environmental Science Section in the Indian Science Congress 2020. As a IPBES lead author, he contributed for the regional and subregional assessment on biodiversity and ecosystem services of Asia-Pacific Regions. He also organized various events at global forums.

As Director of GB Pant National Institute of Himalayan Environment, Rawal made continuous efforts to develop wide partnerships and institutional collaborations to expedite the flow of R&D-based evidences for decision support on the environment and sustainable development issues

across the IHR. He was a great source of inspiration for many young minds and budding researchers working in the diverse fields of research and always available for guidance. Besides being an outstanding researcher, he was an exceptionally humble human being. With his sudden demise, the Institute has not only lost its Director, but also a committed scientist who had the vision to shape it leading to scientific excellence in the coming years. He initiated bringing together many institutions and organizations from academia and R&D across the Himalaya, towards addressing some of the key challenges of IHR. The contributions made by Rawal towards conservation and sustainable development of the IHR will always be remembered by the scientific fraternity. Rawal was a visionary and dynamic leader who established a strong organizational bond, was ready to accept new ideas, mentor youngsters, mod-

est and approachable, and a kind-hearted person, who will be remembered by all the staff members of the Institute.

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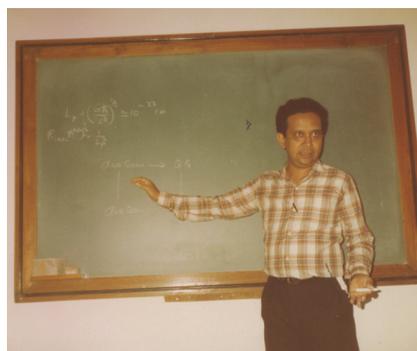
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Thanu Padmanabhan (1957–2021)

Thanu Padmanabhan, or Paddy as he was known to his friends, was born on 10 March 1957 in a lower middle-class family at Thiruvananthapuram, Kerala. His father, Thanu Iyer, worked in the Forest Department of the Government of Kerala. Lakshmi, his mother, was a home-maker. Paddy's father and several relatives of that generation were passionate about mathematics, especially geometry. It was in this ambience that Paddy grew up. Mathematics and chess were his primary passions in the early years. His father, and an elder relative, Neelakanta Sarma provided inspiration and guidance. They insisted on striving for excellence and maintaining a high level of integrity. The family credo was often summarized by Paddy as 'excellence is not negotiable'. This also reflected in the poster he had in his office: 'If you can't join them, beat them. Every time.'

School education was in Malayalam. Paddy studied at the Government Karamana High School in Thiruvananthapuram. He remained in the top group of students in his class, while being well ahead in mathematics and geometry. Chess remained a lifelong passion but Paddy dropped any thoughts of competitive chess at an early stage as he realized that he cannot devote enough time to both mathematics and chess competitions.

Paddy completed high school in 1972 and joined the Government Arts College in Thiruvananthapuram for pre-degree studies, as senior secondary studies were known at the time. The transition came with access to a library, and introduction to students with similar interests. Paddy came across the *Feynman Lectures in Physics*, and found physics to be more fascinating than pure mathematics. He worked through the five-volume *Berkeley Physics Course* at this stage.



Paddy joined Trivandrum Science Society, which was run by students from colleges in the city and financed by membership fees and donations. Members of the Society used the platform to learn and educate each other about different as-

pects of science, following their interests and going well beyond the curriculum. The process of self-study and peer learning was empowering, and this was something that Paddy tried to inculcate in students and younger colleagues. The society also provided pragmatic support by running help sessions for students, including preparation for the National Science Talent Search (NSTS) examination. This scheme of the Government of India was an earlier version of present-day schemes like INSPIRE and KVPY (Kishore Vaigyanik Protsahan Yojana), and was organized by NCERT (National Council for Educational Research and Training).

The NSTS fellowship included a handsome scholarship for pursuing a career in science. Paddy secured this fellowship and this permitted him to support his own studies. NSTS scholars were also expected to participate in a month-long summer camp each year, where they interacted with active researchers.

Paddy joined the University College, Thiruvananthapuram in 1974 for a B.Sc. degree. He and a few others had an informal self-study group which concentrated on theoretical physics, and in a span of about three years, Paddy managed to master the volumes of the *Course of Theoretical Physics* by Landau and Lifshitz. He