

Sanjay Kumar, Chairman, ASRB

Dr. Sanjay Kumar obtained Master's and Ph.D. degrees from **G.B. Pant University of Agriculture and Technology, Pantnagar** and **Indian Agricultural Research Institute, New Delhi**, respectively. Joined CSIR-IHBT as Scientist in January 1990 and superannuated in February 2023 as the Director of the same institute. Received post-doctoral training at **Texas Tech University (USA)**, **Rothamsted Research (UK)**, and **Kansas State University (USA)**.

Research: Major contributions include discovery of a **novel carbon fixation pathway** and its transplantation in a heterologous system to **reduce photorespiratory losses** leading to photosynthetic gain and yield enhancement (**work lauded by international fraternity**), **discovery of autoclavable superoxide dismutase** from high altitude plant, its **characterisation and modification**, plant adaptation mechanism at high altitude, cloning of genes for secondary metabolite synthesis and imparting stress tolerance, deciphering the mechanisms of **thorn formation in rose, winter dormancy and drought stress in tea**, understanding **plant microbe interactions**. Contributed significantly on development of **nutraceuticals using traditional knowledge**, and **genome and transcriptome sequencing of Himalayan plants and microbes** to decipher adaptive mechanisms and **secondary metabolites synthesis**.

Guided 29 MSc/PhD students, holds several international patents and has 211 research/review articles, book chapters, edited book etc. Some of his key contributions have percolated to book and major reviews also.

Recognitions: Fellow of INSA, NASI, NAAS and Crop Improvement Society of India. Bestowed with prestigious **VASVIK Industrial Research Award**; **INSA Young Scientist Award**; **Certificate of Merit** in CSIR Leadership Programme; **R.D. Asana Endowment Lecture Award**; Professor **G.V. Joshi Memorial Lecture Award**; **Prof. Shri Ranjan Memorial Lecture Award**, **Ultra International Team Award** for contribution in **Essential Oil Industry**; **Outstanding Alumnus Award** of College of Basic Sciences and Humanities by G.B. Pant University of Agriculture and Technology, Pantnagar; **Dr. Subodh Kumar and Mamata Mukherjee Memorial Award** by SFE. Chairman/member of several Professional Committees and Task Forces, and served Editorial Board of several international journals.

New initiatives: As the Director of CSIR-IHBT, vitalised several initiatives for empowering society/farmers, which include successful procurement and introduction of **asafoetida and monk fruit in the country**, and introduction of **saffron, apple, cinnamon, liquorice, liliium and tulip in non-traditional** areas; technologies for waste management and Shiitake mushroom production. Promoted **aromatics in mountain farming** to make **Himachal as the top state in country** for production of **essential oil** of wild marigold. **Coordinated multi-institutional projects of CSIR** as Director of Agri, Nutri and Biotech Theme, as well as Nutraceuticals and Nutritionals Missions, for delivery of envisaged outcomes.

Entrepreneurship development: With emphasis on bioeconomy, the numbers of technologies and products surged to **85** during a much shorter period (2015-2023) and transferred several of them on priority for **products availability in the market**. These efforts lead to emergence of **56 Startups**, & **brisk increase in MoUs/ agreements/ MTAs** signed by the institute with entrepreneurs (**from 110 during 1984-2014 to 995 during 2015-2023**).

Catalysed inclusive development of the institute by mobilizing financial resources from varied agencies and linking with relevant state, national and international department(s)/ agency(ies)/ institute(s). With relentless approach for **quality science and technology** development, led CSIR-IHBT to attain **top position in the state** and among top **10 institutes of CSIR as per the SCImago rating**.