B. N. Bhargava (1919–2009)

Bhupendra Naik Bhargava passed away on 3 August 2009 at his residence in Delhi. He was 89 years old and leaves behind his wife, a son and a daughter.

After his M S from Ohio State University, Bhargava joined the services of India Meteorological Department at the Astrophysical Observatory in Kodaikanal as a Meteorologist. He was in charge of the Magnetic Observatory and the Ionospheric Recording Station at Kodaikanal. He took over as the Director of Colaba and Alibag Observatories, Mumbai in 1966 and continued there till his retirement in 1979. In 1971, the Colaba and Alibag Observatories were reconstituted as an autonomous research institute called Indian Institute of Geomagnetism (IIG) and he was the first Director of the Institute.

While at Kodaikanal, Bhargava was actively engaged in research dealing with magnetosphere and ionosphere. He took particularly keen interest in generating quality ionograms and magnetograms that can provide reliable and uninterrupted data. The archives of Kodaikanal ionograms are still considered a rich treasure by the global research community as it still provides useful data pertaining to the equatorial region of the world.

When he came as the Director to Colaba, research activity was somewhat sporadic. He streamlined the process by identifying young enthusiastic band of officers, provided them with enough material and topics for research and ensured that high quality scientific publications continued to emanate from them. After autonomy was granted, he and the other members of the Governing Council, gave direction to the new Institute by forming distinct groups each charged with separate responsibilities: observatory and data analysis, solid earth geophysics, upper atmospheric research, and instrumentation. Lateral induction was implemented at different levels to ensure that efficiency and proficiency did not suffer. Thus, from a largely data gathering centre, IIG became a premier centre of excellence for geomagnetic research in the country. Scientific research activities too were organized into data analysis, experimental and field work, theoretical studies, design and fabrication of instruments, and their maintenance.

Bhargava was instrumental in getting recognition for the Institute as a post-graduate research centre under Bombay University and several young researchers were able to obtain their Ph D degree while continuing with their assigned

responsibilities. His tenure as Director also saw rapid expansion of the magnetic observatory network in the country. Only three field stations: Alibag, Annamalainagar and Trivandrum were functional when he took charge. By the time of his superannuation, additional stations at Ujjain, Jaipur, Shillong and Gulmarg were in continuous operation providing invaluable magnetic data for researchers of the world. He was recognized for his many contributions by election to the fellowship of the Indian Academy of Sciences, Bangalore.

Bhargava also gave considerable importance to international collaboration. During his tenure, cooperative scientific research was significantly enhanced with (the then) USSR, Australia, USA and others. IIG was recognized as one of the significant contributors to the success of the MAGSAT (first magnetic satellite mission launched by NASA).

Solid earth geomagnetism, with its emphasis on field work, was firmly established with geomagnetic deep sounding across the country. Theoretical studies looked into aspects of instabilities in the ionosphere and magnetosphere, the phenomena of geomagnetic pulsations and substorms, etc. The high quality magnetic data from a network of Indian stations was analysed by a team to bring out several significant features of the low latitude geomagnetic field. Bhargava's own contribution to the understanding of quasiperiodic oscillations in the geomagnetic field was globally recognized. His team also extensively looked at the interaction between solar wind and geomagnetic changes.

More than anything else, Bhargava will be remembered for his seminal contribution in ensuring that IIG is an organization recognized all over the world and is one of the ports of call for any visiting space physicist to India. The team of researchers guided by him have carried his philosophy of work right until now and will continue to do so in the years to come.

'The demise of Bhargava has left a void in the geophysical community, which will be difficult to fill. All those who came in contact deeply mourn his loss and pray "May his soul rest in peace".'

B. R. ARORA[1,*]
G. K. RANGARAJAN[2]

[1]*Wadia Institute of Himalayan Geology, 33, GMS Road, Dehradun 248 001, India*
[2]*D-216, Park Side 3, Raheja Estate, Kulupwadi, Borivili (E), Mumbai 400 006, India*
**e-mail: arorabr@wihg.res.in*

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