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## **The initiation and evolution of research in physics in India since circa 1850 : A comprehension**

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I shall present a personal account of research in physics in institutions all across India from the creation of three affiliating universities by the East India Company (EIC) in the mid-nineteenth century to the establishment of University Grants Commission (UGC) after independence in 1953. The first education policy to regulate school and college education in Indian sub-continent was enunciated via the Wood's dispatch (1854), after the complete annexation (1849) of Maharaja Ranjit Singh's empire spanning the North West of India by EIC. The British teachers appointed to teach science in the colleges forming the nuclei of first three universities did not engage native students in any research activity until the enactment of common Indian Universities Act (1904) for the then five Universities of India. The said Act enjoined every university to appoint teachers and create faculties in different subjects, however, no additional support was provided to do so by the colonial government. Each university followed a different path, and it took nearly two decades to yield noticeable research output by the native teachers and their research students. Dr. J C Bose was the first native scientist to set up physics research laboratory in Presidency College Calcutta in 1894. The Indian Association of Cultivation of Science (IACS) had been set up by the medical doctor Dr. Mahendra Lal Sirkar in 1876, however, research activity in IACS was commenced by C V Raman only after 1908. The School of Physical Sciences in Calcutta got going with the innovative moves of the legendary Vice Chancellor Justice Asutosh Mukherjee.

The Indian Institute of Science (IISc.) at Bangalore had been established in 1909, however, its Department of Physics came into being after C V Raman became its Director in 1934. Meghnad Saha and S N Bose had commenced nurturing research students at Allahabad and Dacca, respectively from mid-1920s. Saha's students P K Kichlu and D S Kothari were inducted as faculty members in the universities at Lahore and Delhi, respectively. The Physics Honours School of Panjab University Lahore got going in 1934, and the MSc. classes in Physics in Delhi University were commenced in 1942. BHU, AMU and Andhra University had also established research oriented Departments by 1940. CSIR came into being in 1942 with Shanti Swarup Bhatnagar as its first Director. Homi Bhabha's TIFR commenced operation in Bombay in December 1945, Saha's Institute of Nuclear Physics at Calcutta was eventually established by him in 1949, and Vikram Sarabhai's Physical Research Laboratory (PRL) at Ahmedabad had come into being in November, 1947, all the three institutions had received financial support from CSIR in their initial phases. UGC Chairman S S Bhatnagar and Lok sabha Member Meghnad Saha passed away in 1955 and 1956, respectively, and it donned on Bhabha as Chairman Atomic Energy Commission (AEC) and Kothari as Chairman UGC to expand and strengthen the research in Physics in institutions and universities of independent India.

*End of write-up.*

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